

Housekeeping and Laundry Service

Level-II

Based on March 2022, Curriculum Version I



Module Title: Laundering Linen and Guest Clothes

Module code: CST HLS1 M03 1222

Nominal duration: 58 Hour

Prepared by: Ministry of Labor and Skills

December, 2022

Addis Ababa, Ethiopia

Page 1 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
---------------	--	------------------------------------	------------------------------

Table of Contents

Acknowledgment	5
Acronym	6
Introduction to the Module	7
Unit one: The role of on and off-premise laundry	9
1.1 Differentiating on and off premises laundry.....	10
1.2. Laundry operation equipment.....	12
1.3. Types of laundry service	17
1.4. Laundry cleaning agent and chemical.....	19
1.5. Laundry documentation.....	23
1.6. Identifying linen items for laundry.....	26
1.7. Laundry staff roles	34
1.8. Laundry operation costs	36
Self-check-1.....	39
Unit two: Perform laundry procedure	40
2.1. Collecting items for laundry.....	41
2.2. Sorting laundry items.....	42
2.3. Selecting laundry methods	46
2.4. Checking and treating stained items	49
2.5. Using laundry cleaning agent and chemicals.....	58
2.6. Guide lines operating laundry equipment	62
2.7. Completing mending and minor repairs	64
2.8. Checking items following completion	67
2.9. Recording damaged linens and accidents.....	68
Self-check-2.....	70
Unit Three: Perform laundry functions.....	71
3.1. Sorting soiled cloths, linens and fabrics.....	72
3.2. Selecting laundry equipment, agents and supplies	73
3.3. Operating laundry equipment	74
Self-check-3.....	82
Operation sheet 3: Perform laundry functions.....	83
Lap Tests 3.....	85

Unit Four: Perform dry cleaning functions	86
4.1. Sorting items for dry cleaning process.....	87
When you Process laundry items.....	87
4.2. Laundry formulas	90
4.3. Applying cleaning agents and chemical in washer machine.....	91
4.4. Operating laundry equipment	94
4.5. Pressing and finishing processes.....	95
Self-check-4.....	98
Operation sheet 4: Perform Dry cleaning functions	99
Lap Tests 4.....	101
Unit Five: Iron laundered items	102
Checking ironing equipment.....	102
5.1 Sorting washed items for ironing.....	103
5.2 Checking ironing equipment	104
5.3. Setting temperature on ironing equipment	109
5.4. Checking cloths before ironing	109
5.5. Ironing laundry items	110
Self-check-5.....	116
Operation sheet 5: Iron laundered items	117
Lap Tests 5.....	119
Unit Six: Process laundered items.....	120
6.1 Post-cleaning laundry activities	121
6.2. Internal records and billing	121
6.3. Delivering laundered in-house and guest clothes	125
Self-check-6.....	126
Unit Seven: Complete laundering process.....	127
7.1. Packaging and presenting laundered items	128
7.2. Storing laundered items.....	129
7.3. Cleaning and storing laundry supplies and agents	130
7.4. Replenishing laundry supplies and agents.....	131
Self-check-7	132
Unit Eight: Reduce negative environmental impacts	133
8.1. Using energy, water and other resources.....	134

8.2. Disposing wastes and hazardous substances	135
Self-check-8.....	138
Reference	139

Acknowledgment

Ministry of Labor and Skills wish to extend thanks and appreciation to the many representatives of TVET instructors and respective industry experts who donated their time and expertise to the development of this Teaching, Training and Learning Materials (TTLM).

Page 5 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1
			December, 2022

Acronym

TVET ----- Technical vocational education and training
 TTLM -----Teaching training learning material
 LAP ----- Learning activity performance
 MSDS----- Material safety data sheet

Introduction to the Module

Soiled and dirty cloths originating from various operations are cleaned through the facility created in-house or out-sourced. In this lesson, various factors involving laundering is outlined which include the steps from collection to processing, washing systems, machines used in laundering including procedures relating to washing, wash cycle, use of detergents and other agents, drying, pressing and finishing and the equipments necessary to do all these. Details are also provided in this module concerning the washing procedures to follow for various types of fabric such as cotton, silk, wool and synthetics. This module is designed to meet the industry requirement under the Housekeeping and Laundry Service occupational standard, particularly for the unit of competency: Laundering linen and guest clothes.

This module covers the units:

- The role of On and off premise laundry
- Perform laundry procedure
- Perform laundry functions
- Perform dry cleaning functions
- Iron laundered items
- Process laundered items
- Complete laundry process
- Reducing negative environmental impacts

Learning Objective of the Module

- Differentiate On and off-premise laundry
- Apply laundry procedure
- Apply laundering functions
- Perform dry cleaning functions
- Iron laundered items
- Process laundered items
- Complete laundering process
- Reduce negative environmental impacts

Page 7 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1
			December, 2022

Module Instruction

For effective use this modules trainees are expected to follow the following module instruction:

1. Read the information written in each unit
2. Accomplish the Self-checks at the end of each unit
3. Perform Operation Sheets which were provided at the end of units
4. Do the “LAP test” giver at the end of each unit and
5. Read the identified reference book for Examples and exercise

Page 8 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1
			December, 2022

Unit one: The role of on and off-premise laundry

This Unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Differentiating on and off premises laundry
- Laundry operation equipment's
- Types of laundry service
- Laundry cleaning agent and chemicals
- Laundry documentation
- Identifying linen items for laundry
- Laundry staff roles
- Laundry operation costs

This unit will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this unit, you will be able to:

- Differentiate between on and off premises laundry
- Identify Laundry operation equipment's used for on premise laundry
- Understand Types of laundry service that exist within the industry
- Identify Laundry cleaning agent and chemicals
- Perform Laundry documentation used to monitor, control and charge for items
- Identify linen items that laundered on premise laundry
- Describe Laundry staff roles employed on premise laundry
- Establish Laundry operation costs apply in the industry

1.1 Differentiating on and off premises laundry

1.1.1 Introduction

In any hotel establishment, a lot of dirty linen accumulates in the various units and departments. It is essential to ensure a continuous supply of linen, which is well laundered, so that operations can be carried out smoothly and efficiently. Linen is an expensive item, so how it will be laundered requires serious consideration. People involved in handling linen should have some knowledge of the process. Moreover, the Housekeeper and Linen keeper should have a good rapport with the Laundry Manager. Although it is essential that good quality linen be purchased, the life of the linen depends on the care of linen in use and the treatment it gets at the laundry.

- **The principles of laundering are:**

1. Removal of dirt and stains from the linen articles
2. Restoring linen articles to their original appearance as far as possible.

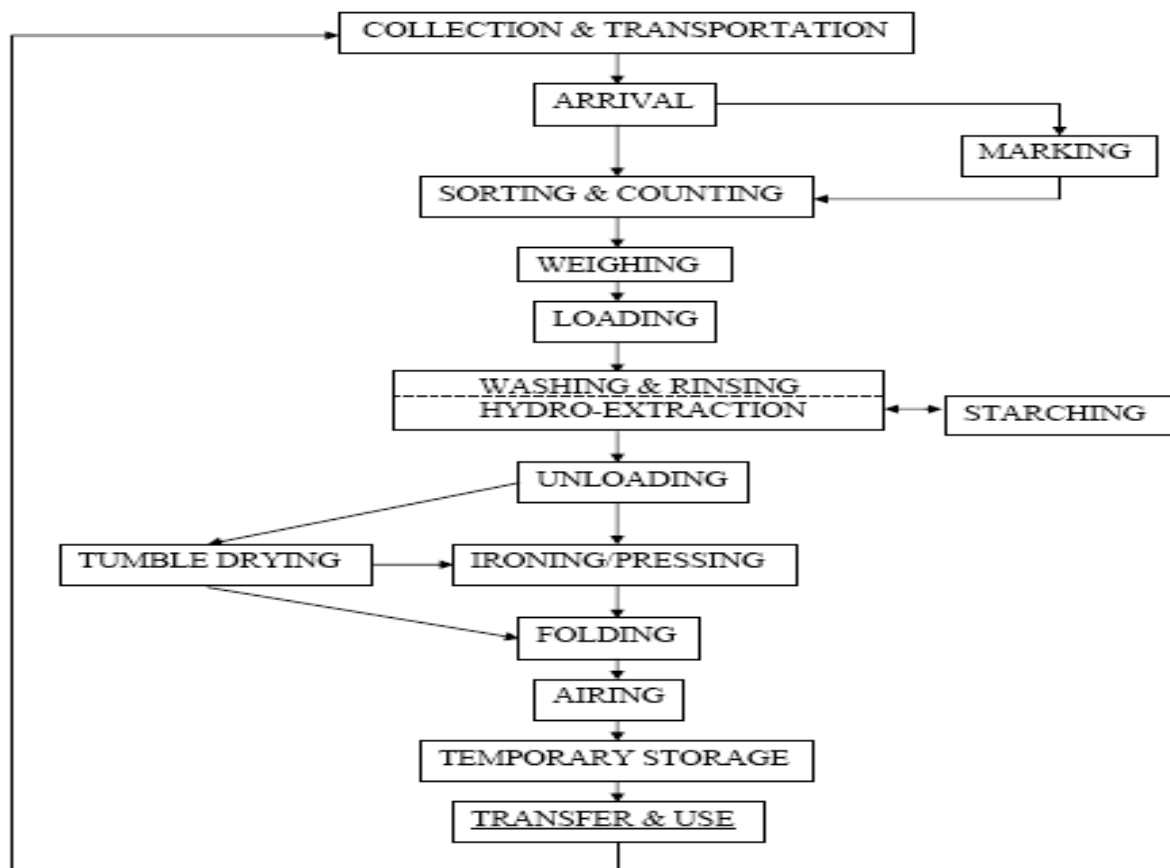
- **A good laundry facility ensures the following:**

- ✓ careful handling of linen articles while laundering
- ✓ correct processing and use of a suitable laundry agent
- ✓ while materials are kept white, excessive bleach is not used
- ✓ proper counting and records maintained to avoid shortages of linen
- ✓ speedy operations to meet with operational requirements
- ✓ Sound policies regarding damages or loss.

A commercial or off-premises laundry refers to laundering activities performed outside the establishment i.e. given on a contract basis to specialists in the field. In a rare circumstance, the laundry is contracted and on-premises. An on-site or on-premises laundry, however, refers to laundering activities carried on within the establishment by staff employed by the hotel.

Page 10 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

1.1.1 Flow process chart for industrial laundering



1.1.2 Advantages and disadvantages of an on-premises laundry

Advantages

- Time taken for laundering is reduced because transportation is eliminated.
- Linen is readily available especially in the case of emergency requirements.
- Control over the wash process and the laundry agents used making the wear and tear on linen comparatively much lesser.
- Pilferage is reduced.
- The 'par' stock required is reduced.
- Revenue is earned from guest laundry.

Disadvantages

- Cost of equipment and its maintenance is fairly high.
- Related expenses like printing of forms, employee taxes, water taxes, energy costs and insurance are high.
- More staff that is technically qualified and adequate space is required.
- Must be justified by an adequate amount of linen.

Page 11 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------



Figure 1.1.2 on and off prime's laundry

1.2. Laundry operation equipment

Identify the equipment that may be found in an on-premise

- **Laundry Tumble dryers**

These are used to dry towels primarily and can again vary largely in their capacity – from 5 kg to 80kg.

- **Flatwork feeders**

Used to assist in feeding sheets and table linen on to the flatwork ironer they are comprised of a series of clips which automatically feed sheets on to the ironer

- **Flatwork ironer**

This is a machine that irons and dries sheeting and table linen in one pass.

- **Flatwork folder**-this is attached to the flatwork ironer and is pre-programmed to mechanically fold sheets and table linen. The folding mechanism can be switched off when ironing small items like napkins.

- **Roller irons.**

These are found in small laundries for ironing small items like napkins and pillow cases. Larger versions can be used for ironing sheets. The item is passed through the ironer and returned to the operator for manual folding. The final result is inferior to the larger flatwork ironer but in motels where the sheets are a blend of 50%polyester and 50% cotton the result may be satisfactory.

Page 12 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

They are labor intensive. They would not usually be suitable for ironing sheets made of 100 % cotton

- **Towel folding machines**

These are machines where dry clean towels are fed manually on to the towel folder and automatically folded. They may be single lane or multi-lane. The towel folding machines can be pre-programmed for producing different folds.

- **Presses**

Hot head presses are used mainly to press clothes but can also be used to press small items like napkins and pillow cases. Pressing in this way however is labor intensive and not recommended for large quantities.

The following is a list of the main types of additional equipment needed if processing hotel soft furnishings guest dry cleaning and staff uniforms.

A. Poly mark machine

This is a machine that is used to identify guest garments by attaching heat stamp labels on to each garment. These labels withstand the laundry and dry cleaning processes but can be easily removed and do not damage the garments if used correctly.

B. Spotting board

This is a specially designed table used for spotting garments prior to being washed or dry cleaned. Stains are treated according to their classification with specific spotting chemicals. The spotting table uses a steam hose which can be used to assist in the removal of stains and can also generate air to dry the fabric after stain removal. It is operated by using foot pedals. This piece of equipment should only be used by experienced and trained staff.

C. Dry cleaning machine

This is a machine that is used to dry clean items that cannot be washed in water. They operate similarly to a washing machine but use a solvent to clean. The main solvent in use today is Perchloroethylene. The machine cleans and dries the garments in one cycle.

D. Different types of presses

These are many and varied. There are presses designed specifically for pressing trousers and others designed to press shirts.

E. Small trolleys and weigh scale

Page 13 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1
			December, 2022

- ✓ Trolleys are needed to collect guest dry cleaning bags from guest rooms and also for sorting garments into categories for washing and dry cleaning. A scale is needed to ensure machines are not overloaded.
- ✓ Mobile trolley with hanging rack for delivering guest items back to the rooms
- ✓ Sorting table for receiving and marking items
- ✓ Shelves or pigeon holes for sorting and collating finished items
- ✓ Shirt folding machine this is a template that can be used to fold shirts and tee shirts only.



WASHER- is a machine designed to clean laundry, such as clothing, towels and sheets. The term is most applied to machines that use water as primary cleaning solution, as opposed to dry cleaning.



DRYER or TUMBLE DRYER- is used to remove the moisture from a load of clothing and other textiles, generally shortly after they are cleaned in a washing machine. Most dryer consist of rotating drum called a tumbler through which heated air is circulated to evaporate the moisture from the load. The tumbler is rotated relatively slowly in order to maintain space between the articles in the load.



SPOTTING TABLE- for removal of spots/stains of garments used with spotting chemicals



HYDRO EXTRACTOR- for extracting moisture from linen. It removes excess water from the linen.



FLAT WORK IRONER- for ironing flat sheet, linen pillow case and other flat linen



STEAM PRESSER- for pressing delicate fabrics like wool, silk, etc.



LAUNDRY CART- used for delivery of guest laundry



IRONING TABLE- used for pressing garments



IRON- used for ironing /pressing garments to remove wrinkle after washing.

Types of hanger



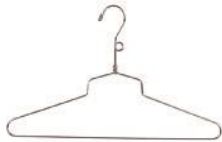
Satin Padded Hanger



Scarf Hanger



Plastic Gripper Hanger



Metal Hanger



Suit with non-slip



Anti Theft Hanger



Suit Hanger



Combination Hanger



Dress/Shirt Hanger



Six Tier Slack Hanger



Belt Hanger



Plastic Hanger



Quilt Hanger

Figure 1.2.1 Laundry operation equipment's

1.3. Types of laundry service

Laundry Services means washing, drying, starching, or ironing laundry for a fee. Laundry services also includes services provided with or incidentally to the rental of clothing, apparel, or other fabrics.

Page 17 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

The types of laundry service as follows:

1. Express (Urgent) service

The philosophy at Express Laundry is simple to provide customers with the very best service at the right price, and this is something the team firmly believes in at every stage of their contact with customers. Express Laundry is often able to help out where others can't; whether because a customer wants something at short notice or because a problem has arisen and Express Laundry's flexibility and experience can provide a solution. In hotel guest stay time if the guest need express laundry service he/she must pay double (2 times) hotel tariff.

2. Normal (ordinary) services

It is a source of revenue in hotels and may serve as a means of preventing them from washing clothes and hanging them out to dry in hotel guest rooms. Laundry service may be Normal (Ordinary) or Urgent (Express) and provide Dry-cleaning, Washing and Ironing. If the guest wants normal or ordinary laundry service the guest will pay normal hotel tariff.

3. Involvement of outside agencies/laundries

Some hotels have resorted to outsourcing their laundry operations. In truth, this merely shifts the costs of doing laundry from your utility and staff expenses to having a new vendor to pay and manage on a regular basis. For some, shifting laundry to being a task handled by an outside agency can be a great solution.

Page 18 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1
			December, 2022



Figure 1.3.1 Laundry service signage

1.4. Laundry cleaning agent and chemical

Types of cleaning agents and chemicals used in an on-premise laundry

A. Water: Water by itself is not a good cleaner but the chemicals that are added to the water make it a medium to allow the chemicals to penetrate the soil and hold it in suspension. Water also allows the chemicals to be transported to the wash load and to carry away the soiled solution. It is an excellent rinse aid. Water quality is important in determining which washroom chemicals will be chosen. Water may have a high iron or calcium content or even a high volume of vegetable dyes from plants located by the supplying dam. All these minerals will affect the effectiveness or not of washroom chemicals chosen. Water testing must be carried out at regular intervals by a reputable company. The results of the water testing must be shared with the chemical supplier who will consider these findings when recommending the choice of chemicals necessary to produce good wash results. Hard water will have an impact on the type of detergents selected and the cleaning quality of the linen will decrease if unsuitable chemicals are chosen. Water treatment of the boiler may be necessary by a qualified company.

- B. Water temperature:** Washing at a temperature of 70C for approximately 25 minutes will kill most bacteria in hotel linen (except spores). This is known as thermal disinfection. This temperature is however not recommended for woolens or synthetic fabrics.
- C. Alkalies :** Most soil in linens is acidic in nature and alkalis are used in the first part of the wash cycle to neutralize the soils in the linen prior to the main washing process. They also assist the detergent to "wet" the linen, thereby penetrating the soil and holding it in suspension. Alkalies also assist in converting fats and oils to soap so that they become water soluble.
- D. Builders:** Builders can be added to both alkalis and detergents. Their function is to assist in water softening and to increase the function of the detergent to get better wash results. Common builders include phosphates, silicates and carbonates.
- E. Detergents:** These are used to wash the linen, allowing water to penetrate the soil and hold it in suspension before rinsing. All detergents used in a commercial laundry are synthetic, combined with builders to allow fats to emulsify. Detergents have a high tolerance to hard water and can be efficient at all temperatures. They are more suitable for commercial laundering than soap which can produce a film when used in hard water
- F. Chlorine bleaches:** These are used to white linen and remove residual stains. Chlorine bleaches must only be used on white linen. Chlorine bleaches if used in excess can cause fabric damage and loss of tensile strength in linens. They also act as a sterilizing agent leaving linen in a sanitary condition. Chlorine bleaches are available in both liquid and powder form. The most common chlorine bleach is oxidizing bleaches these can also be used to remove stains. Examples include hydrogen peroxide and sodium per borate. Sodium hypochlorite
- G. Antichlor:** These are used to inactivate any residual traces of chlorine bleaches and they prevent linen from yellowing. Some contain an optical brightener which makes white linen seem whiter by increasing light reflection. They are usually added to the second rinse cycle with a high water level.
- H. Fabric softeners:** These are used to soften towels and reduce lint, but are also used in the wash cycles of sheets to assist in the ease of ironing by reducing static electricity on the flatwork ironer. They are absorbed into the fabric and form a protective coating. They make towels softer to the feel and also assist the washman as linen will be easier to pull from the washing machine when emptying.

Page 20 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1
			December, 2022

I. Starch: Starch is added to the final rinse in the washing of cotton table linen and chefs' jackets to present a crisp and fresh appearance. Starch lays down a protective barrier on the fabric to help prevent stain absorption. This makes stain removal in the next wash cycle easier. Starch should never be used for sheeting due to the stiffness and itch factor!! Care must be taken not to over use. It is usually in a powdered form and must be pre-dissolved. Starch will not be absorbed by polyester fibers.

J. Sours or Acids: These are added in the final rinse to neutralize residual alkalis. If alkalis are not removed, white linen can turn yellow or grey. Some sours also contain optical brighteners.

- **Precautions when handling chemicals**

- ✓ All chemicals must be treated with respect. If they are not used, stored or handled correctly, all chemicals have the potential to be hazardous to long term health and compromise daily safety in the workplace. It is important as an employee to know all aspects of the chemicals before you use them:
- ✓ Every chemical is designed for a specific purpose. Each chemical that is manufactured must have a technical bulletin and a Material Safety Data Sheet (MSDS)
- ✓ The technical bulletin will have specific information on recommended usage and packaging size, along with a description and characteristics of the product

The M.S.D.S. of each chemical contains lots of critical data. It seems like too much information but it contains:

- ✓ Hazardous nature of the chemical
- ✓ The composition of the chemical
- ✓ Long-term health exposure consequences
- ✓ Safe handling
- ✓ Product information
- ✓ A copy of all MSDS (Material safety data sheet) must be available for staff to read and also in case of an emergency such as an accidental spillage. They must be available for the emergency services so that they know what they are dealing with should there be a fire or leak.
- ✓ It is important to use the correct personal protective clothing and equipment when handling chemicals.

Page 21 of 140	Ministry of Labor and Skills	Laundering linen and guest clothes	Version -1
	Author/Copyright		December, 2022

This should always be readily available and of the correct size for individual employees:

- Safety goggles or face masks
 - The correct protective gloves
 - Protective clothing and footwear
- ✓ When handling chemicals it is important to always wash your hands after handling them and never to smoke, eat or drink.
 - ✓ Never mix chemicals at any time. To do so may cause a chemical reaction which may give off toxic gas and may harm your health. The action of mixing will also negate the action of a chemical e.g. Alkali + Acid = neutral.
 - ✓ Always clean minor spills up immediately to prevent falls and slips. This may be possible by hosing down the spill to the nearest drain or using a mop and bucket.
 - ✓ Always use chemicals at the correct dilution rates. To use a chemical that is too strong will damage the linen and increase costs because of over usage (less is best).
 - ✓ Always add chemicals to water and not water to chemicals. If some should spill, there will be less harm this way.
 - ✓ Always store chemicals correctly at the right temperature and preferably in a secure area
 - ✓ Always use correct equipment for transporting and lifting chemical drums
 - ✓ Chemicals must always be correctly labeled for easy identification and never stored in soft drink bottles
 - ✓ Empty chemical drums must be disposed of as per local regulations.
 - **The most common dry cleaning solvents in use today are:**
 - ✓ Perchloroethylene

This is a non-flammable chlorinated solvent it should be stored in a cool dark place when not in use, it is instrumental in removing solvent soluble soil such as oils and greases etc. It may however also dissolve decorative items on clothing such as sequins, beads, some buttons and synthetic trims. This is the most common dry cleaning solvent in use.

✓ **White spirit**

Is an original dry cleaning fluid and has been widely used for many years. With the outlawing of fluorocarbons for environmental reasons, it is regaining popularity. It is paraffin based spirit, has good grease removal properties but is flammable.

Page 22 of 140	Ministry of Labor and Skills	Laundering linen and guest clothes	Version -1
	Author/Copyright		December, 2022

✓ **Hydrocarbon**

Is a petroleum-based solvent which is flammable, It is more suitable for use on delicate garments but needs a longer wash cycle to allow it to work

Pre-spotting chemicals used on the spotting table usually include the following:

- ✓ Ink remover (for wet and dry ink)
- ✓ Protein remover (for blood, faces, egg, milk, perspiration and soil stains on collars)
- ✓ Paint, oil and grease remover (for paint, lipsticks, oils and greases)
- ✓ Rust remover (for residual blood stains)
- ✓ Tannin remover (for coffee, tea, red wine and some fruit juices)
- ✓ All-purpose spot remover (for general light soiling stains) Most chemical companies who provide spotting board chemicals will also provide a stain removal guide chart which can be pinned to the wall for easy reference

1.5. Laundry documentation

Hotel laundry management includes the handling of all laundry operations at a property. Laundry management oversees the collection, cleaning, and distribution of laundry and documentation. This includes the distribution of bed sheets and towels, the retrieval of soiled articles of laundry from guest rooms and facilities, and the sanitizing and washing of laundry items before redistribution. It's an ongoing cycle that takes the right space, equipment, employees, and planning. The management strictly works on document preparation and handling, those templates uses for laundry operation and documentation.

Page 23 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1
			December, 2022



LAUNDRY AND DRY CLEANING

Garments collected before 9.00am will be returned after 6.00pm.

Laundry & Dry Cleaning Service available Monday-Saturday.

A five hour Express Service before 1200 @50% extra charge.

Please note that on some local and public holidays there will be no service available.

The Hotel cannot be responsible for shrinkage or colour fastness. In case of loss, the Hotel will be liable for no more than 5 times the cost of cleaning the article. We cannot guarantee to remove all stains successfully.

Name: _____ Room: _____ Date: _____

LAUNDRY	Price	Guest Count	Control	£	p	DRY CLEANING	Price	Guest Count	Control	£	p
Shirt Hang/Fold	£5.50					Suit (3-piece)	£13.00				
Brief/Boxer Shorts	£2.10					Suit (2-piece)	£12.00				
Underslip/Vest	£2.50					Dress Suit	£13.00				
Socks	£2.10					Trousers/Jean	£6.30				
Trousers/Jean	£7.00					Jacket	£6.75				
Blouse	£5.50					Overcoat	£11.00				
Nightgown/Pyjamas	£5.00					Raincoat	£15.75				
Handkerchief	£1.50					Sweater	£5.50				
Panties	£2.50					Dress	£7.90				
Bra	£2.10					Evening Dress	from £16.00				
Dressing Gown	£5.00					Skirt	£6.00				
T-shirt	£4.50					Pleated Skirt	£8.00				
Sports/Sweat Shirt	£5.50					Blouse	£5.50				
Sports Shorts	£4.00					Waistcoat	£3.70				
Tracksuit	£9.50					Ties	£3.50				
						Silk Shirt	£8.75				
						Shorts	£4.00				
PRESSING ONLY						PRESSING ONLY					
Suit (3-piece male)	£8.50					Dress	£5.70				
Suit (2-piece male)	£7.50					Evening Dress	£11.00				
Trousers/Slacks	£3.55					Skirt	£4.50				
Jacket	£4.45					Suit (female)	£7.50				
Shirt/Blouse	£3.75					Pleated Skirt	£7.50				
Sub-Total						Sub-Total					
						TOTAL				£	

Special Instructions

An additional cost may be accrued for any delicate items.
Unless an itemised list is sent with laundry, the hotel count takes priority.
These prices are inclusive of VAT. Total charge will be added to your account.

1.5.1 Laundry and Dry cleaning receipt

Page 24 of 140	Ministry of Labor and Skills Author/Copyright	Laundrying linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

BUSINESS LOGO

LAUNDRY LIST

Client ID :

Client Name :

Received Date :

Estimated Finished Date :

# of Pieces	Gentlemen	Price			Amount	Remark
		Laundry	Dry Clean	Pressing		
	Bed Cover – Big					
	Bed Cover – Small					
	Blazer					
	Blouse					
	Doll – Big					
	Doll – Small					
	T-Shirt					
	Trousers					
	Shorts					
	Jeans					
	Gown					
	Long Dress					
	Wedding Dress					
	Ties					
	Curtain – Big					
	Curtain – Small					
	Coats					
	Top Coat					
	Carpet – Big					
	Carpet – Small					
	Luggage – Big					
	Luggage – Small					
	Towel – Big					
	Towel – Small					
	Socks					
	Pajamas					
	Handkerchiefs					
	Jacket					
	Suit					
	Dress Suit					
	Skirts					
	Raincoat					
	Hat					
	Sweater					
TOTAL						

Signature :

1.5.2 Laundry washing and dry cleaning requirement list 1

Page 25 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1
			December, 2022

New York, NY 10022

For Service, Press "O" and ask for Front Desk

NAME: _____

DATE: _____

ROOM #: _____

DRY CLEANING

Guest Count	Our Count	GENTLEMEN'S LIST	CLEAN & PRESS	PRESS ONLY	Amount
		Shirt (Polo/Snap)	11.00	10.00	
		Printed T-Shirt	10.00	9.00	
		2-Piece Suit	24.00	22.00	
		3-Piece Suit	32.00	30.00	
		Sport Jacket	13.00	12.00	
		Slacks	12.00	11.00	
		Overcoat	36.00	35.00	
		Raincoat (waterproof)	36.00	35.00	
		Jacket, Outer	26.00	25.00	
		Tie	16.00	15.00	
		Vest	9.00	8.00	
		Sweater	12.00	11.00	
		Shorts, Outer	12.00	11.00	
		Jogging Suit	21.00	19.00	
		Other			

Guest Count	Our Count	LADIES LIST	CLEAN & PRESS	PRESS ONLY	Amount
		1-Piece Dress	21.00	20.00	
		Blouse	14.00	13.00	
		Blouse-Silk	15.00	14.00	
		2-Piece Suit	24.00	22.00	
		Slacks	12.00	11.00	
		Skirt	13.00	12.00	
		Sport Jacket	13.00	12.00	
		Long Coat	36.00	35.00	
		Jacket, Outer	26.00	25.00	
		Sweater	12.00	11.00	
		Raincoat (waterproof)	36.00	35.00	
		Scarf	13.00	12.00	
		Other			

LAUNDRY

Guest Count	Our Count	GENTLEMEN'S LIST	Amount
		<input type="checkbox"/> Starch <input type="checkbox"/> No Starch	
		Shirt on Hanger	10.00
		Shirt (Box)	10.00
		Shirt - Hand finish	14.00
		Shirt- Tuxedo	16.00
		Shirt (polo)	10.00
		Slacks (washable)	12.00
		Shorts (washable)	11.00
		Pajamas	16.00
		Undershirt	4.00
		Undershorts	4.00
		Socks, pair	4.00
		Handkerchief	4.00
		Bathrobe	16.00

Guest Count	Our Count	LADIES LIST	Amount
		Blouse	13.00
		Slacks/Jean	12.00
		Bathing Suit	15.00
		Bath Robe	14.00
		Slip	9.00
		Bra	5.00
		Panties	4.00
		Negligee/Night Gown	12.00
		Pajamas	16.00
		Pantyhose	7.00
		Socks, Pair	4.00
		Handkerchief	4.00
		Other	

1.4.3 Laundry washing and dry cleaning requirement list 2

1.6. Identifying linen items for laundry

Linen is a textile made from the fibers of the flax plant. Linen is very strong, absorbent, and dries faster than cotton. Because of these properties, linen is comfortable to wear in hot weather and is valued for use in garments.

Linen is a sustainable fabric made from flax fibers. The flax plant has been cultivated in just about every country in the world and has been used to make fiber for over 6,000 years. To extract the fibers, the plants are either cut or pulled by hand from the ground (it's said that pulling creates finer linen). The seeds are then removed through a process called winnowing or ripping, followed by getting, which removes the plant stock from the fibers. Once the fibers are

separated to collect the longest pieces, which can be up to nearly 8 inches long, they are then spun into yarn and eventually woven into fabric.

1.6.1 Difference between Linen and Cotton

On many levels, linen and cotton are similar fabrics, one made from the fibres of the cotton plant, the other from fibres of the flax plant, which has many of the same qualities as cotton. While cotton fabric is derived from the fibres in the bolls that grow around the plant's seed heads, linen is made from fibres in the stems of the flax plant.

Although they are similar fabrics, linen does have some advantages over cotton, and also some deficits. Linen can be two to three times stronger than cotton, and it dries at a much faster rate a quality that helps it dissipates heat faster. But it is also more expensive than cotton, and it has less elasticity, so it tends to wrinkle more than cotton.

1.6.2 The Benefits and Uses of Linen

Because of its porous nature, linen has natural heat and moisture-wicking properties that make it a good conductor of warmth and a popular fabric to use for clothing or bedding in the summer. The natural fibres also hold dye colours better than some other materials, and thus the fabric is available in almost any imaginable colour. Linen is also naturally anti-bacterial, which made it a popular choice for bandages for centuries and a favourite for window treatments and accessories such as accent pillows. Linen remains every bit as popular and smart a choice for home decorating accessories as it was when it was first discovered centuries ago.

1.5.3 Types of Linen Fabric

Linen fabric is often categorized into four major types:

- **Damask linen:** This is a very ornate and delicate form of linen fabric woven on special looms. The fabric resembles fine embroidery. It is generally used in craft items rather than for apparel and other uses.
- **Plain-woven linen:** This relatively rough-textured fabric is often used in hand towels and bath towels. It is a surprisingly durable fabric.
- **Loosely woven linen:** This utilitarian form of the fabric is often used in reusable diapers and crafting/staining cloths. It is not a very durable fabric.

Page 27 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1
			December, 2022

- **Sheeting linen:** This closely woven form of the fabric is commonly used in apparel and bedding. It has un textured, soft surface. The thread count is generally quite high, making for a very durable, dense fabric.



COTTON- is made into every known woven and knitted structure and every weight, from the flimsiest muslin to the heaviest canvass.

Cotton is the true “miracle fiber”. It is the fiber of democracy: it can be anything it wants to be, ambitious or humble, and its qualities can be enjoyed by rich and poor alike.

CARE: Cotton clothes, bed sheets, and table cloths can be laundered on the regular wash cycle, unless the care label indicates otherwise or less the article in question is delicate in some respect.

LINEN- one of the world’s oldest fabric, made from fibers from the stalks of the flax plant. Linens are fit for royal boudoirs and fragile, bandages, everyday sheets and other ordinary items. Flax is remarkably strong, durable, and functional fiber.

CARE: Laundering linen differ from laundering

Page 28 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

cotton in several respects. First, bleaching will usually be unnecessary, and chlorine bleach should usually be avoided. Second, shorter or gentler agitation is called for. Third, linen is best dried out of the dryer. In laundering any type of off-white linen, be cautious about the use of laundry detergents.



SILK- a natural fiber discovered in China 5,000 years ago, obtained by on winding cocoons of the silkworm larvae. Silk strong but have no delicate appearance and generally have a sheer.

CARE: silk does not attract or hold particles of dirt readily because it is so smooth. But it is perhaps the most readily stainable of all fibers. Most care labels for silk recommended dry cleaning. Silk is significantly weaker when wet and because it is a protein fiber like wool, is vulnerable to alkalis, even mild ones. Recommend only hand-washing in cool water with gentle soap or detergent.



WOOL- fiber from fleece of domesticated sheep. Wool fabrics are warmest of all natural fiber and resilient.

CARE: Wool tends to hold dirt. Because of wool's elasticity, wool garments should be allowed to "rest" for twenty-four hours in order to return to their proper shape before they worn again. It should also be left to rest a few days after dry cleaning or washing. Wool fabrics are usually dry-cleaned. Even washable it requires careful laundering. Do not iron wool: press it, using a damp press cloth. Ironing wool dry will make its fibers brittle and damage them.



ACETATE- cellulose- based synthetic fabrics lustrous, moderately absorbent, often in blend. Acetate is weak fibers and fabrics made of them have poor abrasion resistance. Acetate fabrics become significantly weaker when wet, which means that they must usually be dry- cleaned.

CARE: dry cleaning is usually recommended for acetate fabrics because fibers are fragile, lose strength when wet, and is highly temperature-sensitive. When laundered, either gently machine-washing or hand laundering will be recommended. Lukewarm water, not hot, is usually recommended –or acetate fabrics will shrink and wrinkle- and mild soaps or detergent. Bleaches may also be useful on white fabrics that are blends of acetate with other fibers that do not

stay white. Colored acetate fabrics should not be soaked because they will bleed.



POLYESTER- the most widely used synthetic fiber from petroleum products. Nearly as strong as nylon, it is a chameleon that can imitate silk, serve as pillow stuffing and blend with most other fiber. Polyester is the queen of fabric.

CARE: Polyester fabrics may be dry-cleaned or laundered. Because polyester fiber often holds static electricity, it also tends to attract and hold dirt and lint. Any ordinary laundry detergent can be used to launder it, and any ordinary household bleach can be used. Fairly warm water is safe to use. To reduce wrinkling, set the machine on the permanent-press cycle or manually set it for slower spin speeds and final cool down rinse. Drying polyester in dryer is recommended because the fluffing helps prevent wrinkling, but clothes should be removed promptly from the dryer or wrinkles may be set in.



VISCOSE RAYON – rayon is expensive, soft, and comfortable & dyes well. Viscose rayon fabric may stretch when it gets wet and shrink as it dries, and may even stretch and shrink with changes in atmospheric humidity; thus it is usually a poor choice for draperies.

CARE: furnishings made of rayon fabrics should be sure to check care labels before purchasing. Many inexpensive pieces of rayon sportswear may require the inconvenience of hand-washing or the expense of dry cleaning. High wet-modules rayon's, however, are usually machined washable.

Launderable viscose rayon should be handled very gently during laundering. It is more vulnerable rayon to all sorts of chemicals than cotton, including alkaline laundry solutions. It should usually be hand-washed in mild detergent and warm water, then squeezed- not wrung or twisted to remove excess water, unless the garment care label explicitly permits machine washing.



NYLON- formerly a trade name, now generic term for strongest synthetic fiber. Pure nylon fabrics are durable but non-absorbent, which may make them uncomfortable, especially in warm weather.

CARE- care labels usually recommended laundering nylon, although in principle it is dry-cleanable. But nylon is somewhat difficult to launder well. As hydrophobic fiber, it holds oily soils and stains rather tenaciously but at the same time needs gentle treatment. You can use ordinary soap or detergent to launder nylon. Always wash white nylon separately from any colored fabrics, no matter how pale, because of strong propensity of white nylon to pick up any hint of color and turn dingy. Bleaching is usually unnecessary. If you need to use bleach, you might try oxygen bleach. Does not use chlorine bleach; it tends to yellow nylon.

Page 33 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------



SPANDEX- better known by its support trade name, Lycra- it's the highly stretchable synthetic fiber that has found its way into many of today's fabrics, where tiny amount vastly increase comfort.

CARE- spandex is almost found in blended fabrics that include much more of the other fiber than of spandex, it is important to read the care and content labels carefully. A rule of thumb in laundering blends, aside from following care instructions, is to use the most conservative procedures required by any fibers present. All spandex can be both dry-cleaned and laundered. They are machine-washable with ordinary soaps and detergents in warm, not hot, water: high heat will damage the elasticity. Wash whites separately. Spandex fibers do not shrink in water, but some will lose elasticity and weaken if exposed to hot water. Avoid high temperatures in the dryer and on the iron. If ironing is necessary, iron quickly on a low setting.

1.7. Laundry staff roles

The laundry staff roles as follows:

- **Sorter**

This is the name given to the people who sort the soiled linen which arrives at the laundry. Linen needs to be sorted into different categories as it will be washed on different wash cycles, at different temperatures and with different water levels. Towels, for example, are usually more heavily soiled than sheeting. Sorters must also sort out any rubbish from linen such as tissues, soap or guest clothing which may have been inadvertently stripped

Page 34 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

From the bed along with the sheets, it is not uncommon to find cutlery or food scraps amongst table linen. If these items find their way into the washing machines, they can cause damage to those machines and also to the linen being washed. Sorters may also be responsible for weighing the linen so that washing machines are not overloaded.

- **Washman**

This is the person who loads and unloads the washing machines with the correct amount of linen of one category. They may also take on the role of operating the tumble dryer. When sheets are removed from the washer they are then transported to the ironing section and may need to be laid out or “roped “ ready for feeding on to the ironer

- **Tumbler dryer operator**

This person will load and unload the dryers and transport towels and bathrobes to the folding section within the laundry.

- **Feeder**

These are the people who place sheets, pillow cases and table linen onto the feeding part of the machine that then rolls the linen on to the flatwork ironer for drying and ironing.

- **Ironer operator**

This person removes the ironed and folded goods off the flatwork ironer and stacks the linen into piles ready for transport back to the guest floors and restaurants.

- **Towel Folder**

This person feeds dried clean towels on to a machine which then folds the towels in a preprogrammed fold. They record the counted linen.

- **General wash hand**

This person would circulate in all sections of the laundry and work wherever there is a need or a pressure point.

- **Dispatch clerk**

The dispatch clerk will check the quantities and quality and ensure the necessary paperwork is completed before the linen is delivered back to where it comes from or laundry is returned to the guest room, depending on the system that is used within the laundry. They may even be responsible for delivery of clean linen back to the guest floors or in-house linen room.

Page 35 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

- **Truck driver**

A truck driver will only be needed where linen is processed for other hotels or in an off-site laundry

The processing of laundered items requiring dry cleaning:

- **Marker/sorter**

This is the task of receiving, checking, marking and sorting all garments that pass through for either laundering or dry cleaning. Garments need to be checked for quantity and for items possibly left in pockets such as tissues, pens or coins. They are then marked for each guest so that items can be identified once processed, sorted into different wash loads or dry cleaning and per fiber care label.

- **General laundry hand**

This person would place items in the washing machines, assist in matching guest items after they have been processed and may also assist in pressing or collection and delivery back to the guest room

- **Dry cleaner**

This person is extremely well-trained in all aspects of dry cleaning including spotting and pressing. They must have an excellent knowledge of fibers and fabrics, stain recognition and their removal. This task must be performed by a qualified person only

- **Pressers**

As the name implies, they would press all items that need pressing. This would constitute 95% of all items processed in the laundry/dry cleaning section.

- **Dispatch clerk**

As previously mentioned this person would check for the quality and quantity of the finished product and ensure all paperwork has been completed prior to being returned.

1.8. Laundry operation costs

How much does a laundry service cost? Laundry services will have various pricing structures, but most companies or hotels will charge by the dollar, pound and domestic rate. Commercial laundry costs are one of the most persistent challenges for professional laundry operators. While clients abound and profits run high, seemingly unseen costs continually threaten the prosperity enjoyed by every operator. For businesses entering the industry, what are the operational costs that can be expected? How can these be managed?

Page 36 of 140	Ministry of Labor and Skills	Laundering linen and guest clothes	Version -1
	Author/Copyright		December, 2022

The most common laundry costs:

Utility costs

Unsurprisingly, one of the largest contributors to commercial laundry costs is the expenditure on utilities. This is especially significant where certain clients in hotel facilities impose stringent processing standards. Here, linen is required to be processed at certain temperatures and undergo a specific number of wash cycles – all of which consume a significant amount of gas, electricity, and water. The tracking of utility usage is an obvious place to start in order to control these costs. Measuring utility usage makes it easier to make data-driven choices that cut down on consumption without compromising the quality of service.

With regard to electricity and heating, sourcing power from more renewable sources is a strategic way to cut down on utility costs. Given the growing affordability of solar panel systems and other types of solutions, reducing electricity bills is now just a smart investment away.

Labor costs

Labour is another significant area in which laundry costs mount up. While most of the intensive work is undertaken by washers and dryers, humans are still needed to perform the rest – folding, loading, and delivering. For larger operations, these costs can increase during peak hours and should be proportional to the textiles being processed. Despite this, however, labour costs in the commercial laundry industry, while unavoidable, are fairly predictable – especially once shifts are finalised and slotted in.

Maintenance costs

Other laundry costs that can prove significant are maintenance costs. Given that businesses in this sector rely heavily on washer, dryer and finishing equipment, regular maintenance is necessary, both to maintain the quality of service and to remain cost-efficient. This is especially significant when considering that fact that these machines are often in constant operation throughout the day! Even high-end systems, which are built to meet the high demands imposed on commercial laundries, can take a hit if they're forced to operate constantly without maintenance.

Many operators believe that maintenance is best left for when machines suffer some kind of damage or interruption. This, however, can prove to be very costly given that repair charges will be stacked on top. Being proactive about maintenance is effective in keeping costs low and ensuring a longer machine lifespan.

Page 37 of 140	Ministry of Labor and Skills	Laundering linen and guest clothes	Version -1
	Author/Copyright		December, 2022

Key takeaways

When it comes to minimising laundry costs, staying ahead of industry trends and best practices is usually a good way of cutting down on expenditure. As noted above, by moving toward renewable power sources, investing in energy-saving washers and dryers, and tracking resource usage patterns – perhaps through a comprehensive laundry production management system – reducing expenditure to enjoy greater profits is easier than ever!

Page 38 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

Self-check-1

Test-I: Multiple choices

Instruction: Choose the right answer for the given question. You are provided 2 minute for each question and each point has 2 Points.

- When washing in a top-loader using liquid detergent, you should first fill with water, then add soap, then add clothes. A. True B. False
- Which of the following is the last step in the wash cycle of a load of laundry?
A. Extract B. Break C. Flush D. Rinse
- When washing in a top-loader using liquid detergent, you should first fill with water, then add soap, then add clothes.
A. True B. False

Part-II Matching

Instruction: select the correct answer form the given choice. You have given 2 Minute for each question. Each question carries 2 Point.

“A”	“B”
-----1. Polyester fabrics	A. from fleece of domesticated sheep
-----2. Silk	B. loads and unloads the washing machines
-----3. Washer man	C. “Miracle fiber”.
-----4. Wool	D. dry-cleaned or laundered
-----5. cotton	E. discovered in China
	F. American fiber

Test II: Short Answer writing

Instruction: write short answer for the given question. You are provided 5 minute for each question and each point has 2 Points.

- What is the difference between on and off premises of laundry? (2)
- What are the laundry equipment's? (2)
- Explain the Cleaning agents and chemicals? (2)

Unit two: Perform laundry procedure

This Unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Collecting items for laundry
- Sorting laundry items guide line
- Selecting laundry methods
- Checking and treating stained items
- Using laundry cleaning agent and chemicals
- Guide lines operating laundry equipment
- Mending and minor repairs
- Checking items following completion
- Recording damaged linens and accidents

This unit will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this unit, you will be able to:

- Collect items for laundry
- Identify Sorting laundry items guide line
- Select laundry methods
- Check and treat stained items
- Apply laundry cleaning agent and chemicals
- Identify Guide lines operating laundry equipment's
- Mend and minor repairs
- Check items following completion
- Record damaged linens and accidents
- Collecting items for laundry

2.1. Collecting items for laundry

2.1.1 Pick-up guest clothes

When a guest makes a request for guest laundry and dry cleaning service, the guest will usually ring or call Housekeeping, Reception, laundry or the porter sections. Every hotel must have a defined procedure for the collection of guest laundry and all relevant staff must be aware of this procedure so that the service is seamless. It is not uncommon in hotels for the waiter who delivers the room service breakfast to be handed laundry by the guest.

The waiter must also know how to handle this situation. It is common practice, for example, that guests will hand in laundry for processing the night before to the night porter or to Reception when the laundry or Housekeeping is closed. It is absolutely imperative that these laundry items are delivered to the correct location the following morning so that they may be processed. It is not uncommon for the night porter to go off duty and overlook these items and Housekeeping will receive a call the next evening from the guest to say he has not had his laundry returned. After a thorough search of all areas, the unwashed laundry is then found at the porter's desk, causing inconvenience to the guest and embarrassment for the hotel for the lapse in service!

Answering the telephone Always answer the telephone in line with your hotel's procedures using the correct phrases and the guest name wherever possible.

- ✓ Always greet the guest with a pleasant voice. ("Good morning Mr. Jones")
- ✓ Always identify the department and yourself ("Laundry department, Mary speaking")
- ✓ Advise the guest of when the items will be collected. ("John will be along shortly to collect your items Mr. Jones – please leave them on the bed if you are leaving the hotel")
- ✓ Answer any questions that the guest may have in relation to the service e.g. "What time will my laundry be returned?" or "Is it possible to have the zip replaced on my trousers?"
- ✓ Have a thorough knowledge of the services that are available to the guest (a two hour pressing service, for example, may incur a surcharge).

If collecting items from the guest's room:

- ✓ Always knock on the door (or ring the bell) and identify yourself (the guest may be undressed early in the morning)
- ✓ Knock again before entering the room. As you enter the room, always identify yourself in a loud and clear voice ("Good morning, laundry service")
- ✓ Collect the items quickly and leave the room making sure the door is locked
- ✓ Check in each of the bags that there is a completed laundry docket and secure the bag closed so no items can fall out

Page 41 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

- ✓ If the guest has not completed a laundry docket, write the room number/name on the outside of the bag to identify where it came from
- ✓ Place the bags in your trolley for delivery to either the in-house laundry or the point of collection.

2.2. Sorting laundry items

Linen is usually sorted according to:

- ✓ Dry soiled linen is easier and quicker to sort than damp linen as linen that has been washed may become twisted in the wash.
- ✓ All linens must be sorted by fiber type. Sheets and tablecloths may be constructed of 100% cotton, or a polyester/cotton blend or 100% linen fiber. Tablecloths may also be constructed of 100% polyester. Sorting by fiber type helps to expedite production by washing all same items together.
- ✓ Linen must also be sorted by the degree of soiling. Kitchen cleaning cloths, for example, will be much greasier than those used by Housekeeping staff to clean the rooms. As such they will need to be washed separately with a much harsher wash formula
- ✓ Colored linens are sorted separately from white linens
- ✓ it is necessary to open out linen to ensure there is no waste within it that may get into the washing machine. Shaking, however, should be kept to a minimum so airborne bacteria will not be dispersed into the atmosphere
- ✓ Linen used in hotels is often referred to as "flatwork" as most of it is finished on a flatwork ironer.

Sorting laundry is a four-step process

Sorting in hospitals, the infection risk necessitates the need for using gloves when sorting out linen. Gloves may also be used when handling hotel linen. Sorting is carried out according to the type of fabric and item, color as well as the degree and type of soil and cloth Tag. Sorting is done to separate those articles that need dry cleaning from those that will go through the normal wash process. Those that need mending or stain removal will be separated so that they can be dealt with accordingly. Also, different articles take a different wash process in terms of temperature of water, type of laundering agent, length of wash cycle, whether hydro- extraction should be done and if so, the length of the hydro-extraction cycle. It takes less effort to pre-sort linen than to post-sort washed linen which is 50% heavier in weight due to water retention. Post-sorting is often essential in healthcare processes.

Page 42 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

1. Sort by color

Separate whites, colors and darks into three piles — or maybe four, if you have pastels too light to wash with bights that you'd rather not mix with your whitest whites. When sorting pay special attention to lightly colored synthetics, which can more easily pick up dyes from other fabrics during washing, Note that items with more than one fabric, such as a cotton shirt with velvet trim, might not fade or bleed equally. Just a little of that dark velvet trim could tint your whole wash load.

2. Sort by dirtiness

Sorting by color might not solve all your laundry dilemmas. You also need to sort by level of dirtiness. A pair of white shorts stained with mud and grass shouldn't be tossed in with your more pristine whites, because those non-stained whites will pick up the soil in the wash water.

3. Sort by type

There's another factor to consider when sorting laundry — fabric type. To group loosely knit garments together for a gentle cycle wash, and put together items you know will give off a lot of lint. Extremely bright, color-saturated garments should also be grouped together. And here's a piece of laundry advice we didn't expect: mixing small items such as socks with larger items like towels ensures that items move more freely in the washtub, and therefore get cleaner.

4. Sorting by cloth tag:

Washing



Max Temperature 60C/140F – Bed linen, towels, and some underwear



Max Temperature 60C/140F, gentle cycle - Bedlinen, towels and some underwear



Max Temperature 50C/122F, gentle cycle - Polyester, cotton/polyester, polyester/cotton



Max Temperature 40C/104F - Cotton



Temperature 40C/104F, gentle cycle - Acrylics, acetate, nylon, tri-acetate, cotton/acrylic, poly/viscose



Max Temperature 40C/104F, gentlest cycle - Wool and wool mixtures



Max Temperature 30C/86Fm gentle cycle



Hand wash



Do not wash



A short line under any of the above indicates reduce cycle, moisture, and/or heat

Drying



Tumble Dry



Do not Tumble Dry



Drip Dry



Hand dry after removing excess water



Dry flat after removing excess water

Ironing



Hot 220C/392F - Cotton, linen, viscose



Warm 150C/302F - Polyester mixes



Cool 110C/230F - Acrylic, nylon, acetate,
tri-acetate



Do not iron

Bleaching



Chlorine bleach may be used



Do not use chlorine bleach

Dry Cleaning



Dry cleaning



Dry clean in any solvent



Use fluorocarbon or petroleum solvent only



Do not dry clean



In all cases, if an X is through the symbol it means DO NOT USE



Figure 2.2.1 sorting laundry items by colour

2.3. Selecting laundry methods

Laundry Equipment and Methods Edith Cares and Helen jeffr yes Department of Home Economics Washing can be made one of the pleasant tasks of homemaking if the laundry room is a cheerful and convenient place in which to work, if the equipment is well selected and arranged, if the work is carefully planned, and if the washing methods used give satisfying results. The purpose of this circular is to give information which will make it possible for homemakers to solve their laundry problems more successfully

Selection of equipment

✓ **Mending basket**

Since small holes and rips grow larger when clothes are washed, a few stitches before washing mean fewer stitches afterwards. A mending box with thread, needles, and scissors kept in the laundry room will save many steps.

✓ **Sorting equipment**

A container for soiled clothes is a necessary part of the laundry equipment. In some homes a clothes chute which empties into a clothes bin takes care of the soiled clothes. In other homes, a large hamper or basket is used, and the clothes are sorted into smaller baskets or on papers spread on the floor.

✓ **Stain-removal equipment**

The removal of stains is made simpler if one or two small enameled basins, two or three medicine droppers, and pads of cheese cloth are kept near a clean, flat surface where the spotted articles can be spread out.

✓ **Tubs**

Page 46 of 140	Ministry of Labor and Skills Author/Copyright	Laundrying linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

Laundry tubs are of two kinds, stationary and portable. The stationary tubs, usually constructed of soapstone or enameled iron and having permanent plumbing connections, are very convenient but more expensive, Galvanized iron tubs with legs may be purchased, and are more convenient to use than tubs which rest on a bench because they can be moved about easily. A second advantage is that these tubs may be drained from The bottom directly into a floor drain, into a pail, or, by means of a hose, into a more distant outlet

Washing machine

A washing machine is one of the most important labor-saving devices used in the home. Since it is expected to give good service for at least ten years, it should be selected with care. The following questions should be considered.

Laundry stove

Unless the water is heated by a furnace or by a gas, electric, or kerosene water heater, a stove will be a necessity. Even though there may be a water heater, a stove will be an added convenience, as there may be times when part of the white clothes should be boiled, and starch must be made.

Accessory washing equipment

The following pieces of equipment are either necessary or very helpful:

1. A hose for filling the tubs and the washing machine eliminates the necessity of carrying water.
2. A thermometer for testing the temperature of the water is helpful, especially when colored cottons, silks, and woolens are being washed.
3. A boiler is necessary if the water must be heated on the stove.
4. A large plunger and a hand wringer will help to save time and energy if the washing must be done by hand.
5. A wash board or stiff brush for giving extra rubbing to extremely soiled parts of garments is helpful.
6. A smooth stick or two large wooden spoons are convenient when handling hot clothes.
7. A low table on casters for holding the clothes baskets saves much stooping.
8. Two or three clothes baskets which are light and easy to handle are necessary.
9. A pan and spoon for making starch save steps to the kitchen.
10. An outdoor clothes line should be provided if possible. A portable clothes rack which is sturdy and smoothly finished will facilitate indoor drying.
11. Clothes pins smoothly finished and strong, are necessary if the clothes are hung outdoors.

Page 47 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

Ironing board

A good ironing board, whether it is portable or built into a cabinet, should be strong and substantial. Before buying an ironing board, make sure that it will be perfectly steady while in use and that the framework underneath will not interfere with the ironing of the garments. The padding for an ironing board should be firm but not hard, should yield to the iron and yet not be soft. Felt padding, quilted table padding, or several thicknesses of outing flannel may be used. It is possible to buy ready-made pads and muslin covers, or to make these at home

Hand iron

When selecting an electric iron, one should observe the following points:

- ✓ It is more economical to buy an iron of standard make which has a satisfactory guarantee than to buy a cheap, unguaranteed iron.
- ✓ A thermostatic heat control is a decided help in ironing, especially when the garments being ironed are of sheer cotton, silk, synthetic fabrics, or wool.
- ✓ Irons with a high-power rating (800 to 1,000 watts) are more satisfactory than irons with a low-power rating. Irons with lower watt ratings must be used where battery plants, as on many farms, supply the electricity.
- ✓ Light-weight irons with a high-power rating give good results and are convenient to use.
- ✓ A good iron has a smooth ironing surface and beveled edges.
- ✓ An iron with a large handle will be less tiring to the hand over a long ironing period than an iron with a small handle.
- ✓ Some irons have a heel rest on the back which is a time and labor saver. Instead of being lifted up to a stand on the end of the board when it is not needed, the iron may be turned on end. In purchasing an iron with a heel rest, the buyer should be certain that the iron rests on the supports and not on the plug. Gasoline irons are a boon to women whose homes have no electricity. These irons should be purchased from a reliable company and the directions for their use followed carefully.

Page 48 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

Ironing machine

While an ironing machine is not a necessary piece of laundry equipment, it is very desirable, for it saves both time and energy. The advantage of the ironer lies in the fact that it may be used without difficulty while the worker is in a sitting position, and that its large heated surface speeds up the ironing of flat pieces such as sheets and tablecloths. There are two types of ironers-the rotary and the presser. On the rotary ironer, the article is ironed as it passes between the revolving roll and the heated shoe. On the presser ironer, the article to be ironed is spread on the stationary padded surface or board and is ironed when the heated shoe is pressed down from above.

2.4. Checking and treating stained items

2.1.1 General Tips for Stain Removal

- **Act quickly:** Fresh stains make stain removal an easy task. Give yourself the upper hand by treating stains as promptly after they happen as possible.
 - **Follow stain-removal directions:** Follow the directions on any stain removal products you use that's how the products were intended, so it's best to adhere to the directions for stained clothes.
 - **Test in a hidden area:** Test any stain removal methods on a hidden seam or another inconspicuous spot, just to make sure no damage is done.
 - **Doesn't mix stain removal products:** Mixing different chemicals that can be present in different stain removal products can accidentally cause toxic odors and poor results on your fabric.
 - **Wash stain-treated items:** Remember to thoroughly wash items that have been treated with stain removal products. This way, you ensure that both the product residue and stain residue are removed
- Be patient:** Stain removal can take time so be patient. Once finished, you may need to thoroughly check the garment before drying to determine if a repeat treatment is necessary.
- **Protect against future stains:** Once the item is clean, consider treating it with a fabric protect ant spray (or carpet protect ant spray) to stop future stains before they start.

Page 49 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

2.1.2 Supplies to Keep on Hand

1. **Water:** water is the first line of defense in treating stains, fresh or dried.
2. **Oxygen bleach:** Oxygen-based or all-fabric bleach is a gentle bleaching agent that removes stains, whitens and brightens laundry, and is safe for use on almost all washable whites and colored fabrics. Because of its chemical ingredients, it works more slowly than chlorine bleach, is less corrosive and damaging to fibers, and is more environmentally friendly.
3. **Enzyme-based stain remover:** Natural or processed chemically, different enzymes target specific soils and break the soil into smaller molecules to be washed away. For most stains, choose a well-rounded stain remover like Carbonate Pro Care Laundry Stain Scrubber.
4. **Hydrogen peroxide or white vinegar:** Hydrogen peroxide is a great laundry agent that can be used to remove stains. Distilled white vinegar is another option, a powerhouse cleaner and stain remover. You can use it mixed with other products or by it self to remove many types of stains.
5. **Dish soap:** Surprisingly, dish soap is great for fighting oil-based stains. Plus, it is mild enough to use even on fine fabrics, such as silk and wool.
6. **Laundry soap bar:** Ivory are pure soaps that work very well in cutting through body soil on collars and cuffs.
7. **Rubbing alcohol:** Removes ink from fabrics and leather.
8. **Chlorine bleach or laundry disinfectant:** Chlorine bleach is a harsh stain remover and should only be used as a last resort. A disinfectant could also be useful in stain removal. It is required to kill most types of bacteria, viruses, and mold/mildew spores.
9. **Soft-bristled brush:** Use to work stain remover into fabrics.
10. **White cotton cloths:** Always use a white cloth or paper towel to blot away and treat stains to avoid accidental dye transfer during cleaning.

How to Remove Blood Stains from Clothes

- **When to treat a bloodstain:** Right away, if possible, sponge a wet bloodstain with cold water.
- **How to treat machine-washable:** For fresh stains, soak in cold water, then launder. For dried stains, pre treat or soak in warm water with a product containing enzymes, then launder. These types of laundry products are often recommended for protein-based stains, such as blood. Check the labels for this ingredient, as most enzyme products will promote their ability to remove these stains.

- **How to treat non washables:** Flush the stain with cold water. Apply diluted white vinegar to the stain with an eyedropper. Rinse the spot with cool water

How to Remove Blood Stains from Clothes

- **When to treat a bloodstain:** Right away, if possible, sponge a wet bloodstain with cold water.
- **How to treat machine-washable:** For fresh stains, soak in cold water, then launder. For dried stains, pretreat or soak in warm water with a product containing enzymes, then launder. These types of laundry products are often recommended for protein-based stains, such as blood. Check the labels for this ingredient, as most enzyme products will promote their ability to remove these stains.
- **How to treat non washables:** Flush the stain with cold water. Apply diluted white Vinegar to the stain with an eyedropper Rinse the spot with cool water

Removing Coffee or Tea Stains on Fabric

When to treat a coffee or tea stain: Sponge with cold water right away, if possible.

How to treat machine-washable: Soak the stain in cool water. Pre treat with a prewash stain remover, a liquid laundry detergent, or a paste of detergent and water. Launder with chlorine bleach, if safe for the fabric, or color-safe bleach (Target).

How to treat non washables: Apply diluted white vinegar to the stain with an eyedropper. Flush the spot with cool water.

2.1.3 Common Stains and Removal Techniques



Butter

Butter is an oily substance which can best be removed in the dry/wet cleaning process. However, for light stains, pre-treat with a liquid laundry detergent. Place the stain face down on clean paper towels. Apply liquid detergent to the back of stain. Replace paper towels frequently. Allow air dry, then rinse. Launder in hottest water safe for that fabric. Before drying, inspect the fabric, and repeat the treatment and washing if the stain remains.

Page 51 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------



Candle Wax

Candle wax consists of a wax and a dye; both are easily removed by a professional dry/wet cleaner. You may be able to remove the wax, but removing the dye in the wax without ruining your garment is the hard part. For a small area, try hardening with ice, then removing surface wax with a dull knife. For the remaining wax, place stain between clean paper towels and press with a warm iron. Replace paper towels frequently to absorb more wax and to prevent transferring the stain. Place stain face down on clean paper towels. Sponge the remaining stain with "Shout" or "Spray and Wash", blot with paper towels. Let dry, then launder. Note: If any color remains, re-launder with a bleach that is safe for the fabric.



Cheese/Cream Sauce

Fresh stains should be soaked and agitated in cold water before washing. If stain is dried or old, scrape or brush off any crusted matter and soak for up to several hours in cold water, using a detergent or an enzyme solvent. Launder in warm (not hot) water. If stain remains, soak an additional 30 minutes and rewash.



Chocolate

A dry/wet cleaner can pre-treat your garment to easily remove this stain in the dry/wet cleaning process. As a home remedy, treat the stain with a pre-wash spray or pre-treat with a product containing enzymes. Launder. If stain remains, re-launder with a bleach that is safe for the fabric.



Coffee - (plain or with sugar/sweetener) - Your professional dry/wet cleaner will use a tannin remover before cleaning. In an emergency situation, flush stain immediately with cool water or soak for 30 minutes in cool water. Blot, don't rub, the stain with detergent and launder. Launder with bleach that is safe for the fabric. Do not use soap (bar, flake, or detergents containing natural soap), since soap can make a stain permanent. With cream - Cream is an oily substance that is best removed by dry/wet cleaning. For a home remedy, flush stain immediately with cool water if possible or soak for 30 minutes in cool water. Sponge stain with a dry/wet cleaning solvent. Air dry. Blot, don't rub, with detergent, then launder with bleach that is safe for the fabric. Do not use soap (bar, flake, or detergents containing natural soap), since soap could make

a stain permanent or at least more difficult to remove. Pre-treat or soak older stains with an enzyme product, then launder.



Cooking Oil

Light stains can be pretreated with a spray stain remover, liquid laundry detergent, or a detergent booster. Place heavy stains face down on clean paper towels. Apply cleaning liquid to the back of stain. Replace towels frequently. Let air dry, rinse. Launder in hottest water safe for that fabric. Before drying, inspect, and repeat the treatment and washing if the stain remains.



Dye Stains

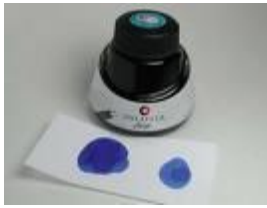
Dye stains can be very difficult to remove. Soak the garment in a diluted solution of an all-fabric bleach, but check the garment care label for color fastness first. If use of bleach is acceptable, soak, then rinse. If the stain remains and the garment is colorfast, soak the entire garment in a diluted solution of liquid chlorine bleach and water.

Caution: Chlorine bleach may change the color of the garment or cause irreversible damage. Therefore, it is important to check for color fastness before using. If the stain does not come out within 15 minutes of bleaching, it cannot be removed by bleaching, and any further exposure to bleach will weaken the fabric. To check for color fastness to liquid chlorine bleach, mix 1 tablespoon of bleach with 1/4 cup of water. Use an eyedropper to put a drop of this solution on a hidden seam or pocket edge inside the garment. Let it stand two minute, then blot dry. If there is no color change it is safe to use the product. Bleaches have directions for doing colorfastness tests. There are a number of dye removers, such as one from "Rit", which are available in drug and grocery stores. However, dye removers can take out fabric colors as well as the stain.



Treat the stain with a pre-wash spray or pre-treat with a product containing enzymes. Launder. If stain remains, re-launder with bleach that is safe for the fabric.

Gravy



Ink (solvent soluble)

Ink stains can be difficult to impossible to remove. This stain is best removed by a professional dry/wet cleaner. However, if you must try it yourself, you generally need to act fast to have a chance. Sponge the area around the stain with alcohol before applying it directly on the stain. Next, place the stain face down on clean, white, paper towels. Apply alcohol to the back of the stain. Replace towels frequently. Continue until no further ink is removed. Then rinse thoroughly. Rub with heavy duty liquid detergent and launder in hottest water safe for fabric, with a strong bleach safe for fabrics. Instead of alcohol, you could try using dry cleaning solvent, such as Carbonate, Energize, or Goddard's. (Be sure to read and follow the instructions on the product label. These products are toxic) Also, try a hidden inside seam first, to be sure the garment dye won't be removed. Some inks on white fabric may be removed with a dye stripper. You should be able to find this in areas where package dyes are sold. For stains on colored fabrics, check for dye stability in a hidden area before using.

Ink (permanent) - Permanent inks are almost impossible to remove. This stain is best attempted by a professional dry/wet cleaner. However, if you must try it yourself, you generally need to act fast to have a chance. The first step is to force water through the stain before it dries to remove excess ink. Allow to dry. Sponge the stain with dry cleaning solvent (read the directions carefully, it is toxic). Allow the fabric to dry. Work a liquid detergent into the stain with your finger. Rinse. Soak the stain in warm water with 1 to 4 tablespoons of household ammonia. Rinse and repeat if stain is lessening. Launder. Some inks on white fabric may be removed with a dye stripper. Follow package instructions. For stains on colored fabrics, check for dye fastness in a hidden area before using.



Place face down on paper towels. Sponge area with dry cleaning solvent, or use a pre-wash soil and stain remover. Replace towels frequently; rinse. Work light-duty liquid detergent into the stain until outline is removed. Launder. Repeat treatment if needed, using an all-fabric bleach, because it is less damaging to colors and fabric. Use liquid chlorine bleach for tough stains, if fabrics are

Lipstick

colorfast to bleach.



Make-up

Place face down on paper towels. Sponge area with dry cleaning solvent, or use a pre-wash soil and stain remover. Replace towels frequently; and rinse. Work light-duty liquid detergent into the stain until outline is removed. Launder. Repeat treatment if needed using an all-fabric bleach, because it is less damaging to colors and fabric. Use liquid chlorine bleach for tough stains, if fabrics are colorfast to bleach.



Mildew

Mildew is a growing organism that must have warmth, darkness, and moisture to survive. Mildew actually eats cellulosic fiber and can also damage manufactured fibers, causing permanent damage and weakening of fibers and fabrics. To treat mildew first brush or shake off mildewed area. Pretreat stain with heavy-duty liquid detergent. Then launder in hot water with heavy duty detergent and bleach safe for fabric. Let dry in the sun. Badly mildewed fabric may be damaged beyond repair. Old stains may respond to flushing with dry cleaning fluid, i.e., Carbona, Energize, Goddard's (but, carefully read and follow the instructions on the label, these are extremely toxic)



Milk

Fresh stains should be soaked and agitated in cold water before washing. If stain is dried or old, scrape or brush off the crusted matter and soak in cold water using a detergent or an enzyme pre-soak. Launder in warm (not hot) water. If stain remains, soak an additional 30 minutes and rewash. On dry clean only items, see your local dry/wet cleaner.



Nail Polish

For stains from nail polish, apply nail polish remover to the back of the stain while laying the fabric on white absorbent towels. Replace towels frequently. Then rinse and launder. Never use nail polish remover on acetate, triacetate or modacrylic, as they will dissolve.



Odors

Your professional dry/wet cleaner can remove most odors in the normal process of dry/wet cleaning. For washable garments, most odors should be removed by normal laundering. For stubborn odors sprinkle the clothes with baking soda, let stand, and then vacuum. Launder.



Perspiration

Perspiration, if allowed to stay in fabric, will permanently stain and weaken the fabric. Aluminum chlorides in antiperspirants will also weaken the fabric under the arms. Controlled use of antiperspirants and frequent washings immediately after wear can minimize this type of damage. Wearing an undershirt or perspiration pads, can also keep stains off your shirts or blouses. These types of stains can be difficult to remove. The buildup of aluminum chloride or zinc salts may be impossible to remove. Old stains are more difficult to treat because they have been set, particularly from being heated in the dryer. For washable fabric, treat light stains with a liquid detergent and then launder. Pre-treat heavy stains with a pre-wash stain remover. Allow to stand 5 to 10 minutes. Launder using an all-fabric bleach. If fabric has discolored, you might try treating fresh stains with ammonia and old stains with vinegar.



Rust

Removing rust stains can be difficult. Rust stains cannot be removed in normal laundering. Your professional dry/wet cleaners have access to rust removing chemicals that are not available to the consumer. Small stains may be removed with a few drops of a retail rust remover. Follow package instructions. Do not let dry between applications. Rinse thoroughly and launder with a liquid laundry detergent and oxygen bleach, following directions. Do not use chlorine bleach, chlorine bleach will make the stains permanent.



Salad Dressing

Most oil-based stains can be easily removed by your professional dry/wet cleaner. In an emergency, light stains can be pre-treated with a spray stain remover, liquid laundry detergent, or a detergent booster. Place heavy stains face down on clean paper towels. Apply cleaning liquid to the back of stain. Replace paper towels frequently. Rinse. Let air dry for a few minutes. Launder in hottest water safe for that fabric. Before drying, inspect, and repeat the

(oil-based)

treatment and washing if the stain remains.



Smoke, Soot

Your dry/wet cleaner has special odor-neutralizing chemicals to make your garments smell clean and fresh. At home, shake off excess soot outdoors. Launder in washing machine using a heavy-duty phosphate-based detergent or heavy-duty liquid detergent - as recommended by manufacturer, one cup of water conditioner, and 1/2 cup of all-fabric bleach. Use water setting appropriate for the fabric. Air dry. Inspect for smoke odor. Repeat as necessary. Three or four washes may be needed for cottons and cotton blends.



Tar

Don't try to remove this stain at home. Dry/wet cleaners have solvents to dissolve tar that are not available for home use.



Tea

(plain or with
sugar/sweetener)

Your professional dry/wet cleaner will use a tannin remover before cleaning. In an emergency situation, flush stain immediately with cool water; or soak for 30 minutes in cool water. Blot, don't rub, the stain with detergent, then launder. Launder with bleach that is safe for the fabric. Do not use soap (bar, flake, or detergents containing natural soap), since soap can make the stain permanent. With cream - Cream is an oily substance that is best removed by dry cleaning. For a home remedy, flush stain immediately with cool water if possible; or soak for 30 minutes in cool water. Sponge stain with a dry cleaning solvent. Air dry. Blot, don't rub, with detergent, then launder with bleach that is safe for the fabric. Do not use soap (bar, flake, or detergents containing natural soap), since soap could make the stain permanent or at least more difficult to remove. Pre treat or soak older stains with an enzyme product, then launder.



Urine

If the care label in your garment says Dry clean-only, do not attempt a home remedy. On washable fabrics, soak stain in cool water. Pre treat with pre-wash stain remover, liquid laundry detergent, or a paste of powdered detergent and water. Launder in hottest water safe for the fabric, using a bleach safe for that fabric. Do not use soap (bar, flake, or detergents containing natural soap), since soap could make stain permanent or at least more difficult to

remove.



Wine

Your dry/wet cleaner uses special chemicals to remove the tannin found in red wine from your garments. At home, soak stain in cool water. Pre treat with pre-wash stain remover, liquid laundry detergent, or a paste of powdered detergent and water. Launder in hottest water safe for the fabric, using a bleach safe for that fabric. Do not use soap (bar, flake, or detergents containing natural soap), since soap could make stain permanent or at least more difficult to remove. Note: Older stains might respond better to treatment with an enzyme product, than regular laundering

2.5. Using laundry cleaning agent and chemicals

Laundry detergents and chemicals can also affect human health considerably. While they serve the necessary purpose of hygiene, their use can also introduce harmful substances such as allergenic fragrances and preservatives to indoor rooms. Cleaning agents and laundry detergents are therefore subject to specific legal provisions.

A Laundry detergent composition is a formulated mixture of raw materials that can be classified into different types based on their properties and function in the final product. The different classes of raw materials are surfactants, builders, bleaching agents, enzymes, and minors which remove dirt, stain, and soil from surfaces or textiles gave them pleasant feel and odor. The physico-chemical properties of surfactants make them suitable for laundry purposes. Laundry detergent has traditionally been a powdered or granular solid, but the use of liquid laundry detergents has gradually increased over the years, and these days use of liquid detergent equals or even exceeds use of solid detergent.

Dispenser and Manual Feed

- A. **Manual feed** laundry machines are those where the user is responsible for manually measuring out and inserting their chemicals into a laundry machine. You will see these in some smaller hotels and motels.
- B. **Dispenser feed** laundry machines receive their chemicals automatically, in precisely portioned doses, from chemical delivery systems to save time and money on wasted

Page 58 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

product that can occur with manual feed machines. These are most prominent in large scale institutional or correctional facilities, hotels, resorts, nursing homes, and more.

The primary agent for cleaning laundry by breaking up and removing dirt / stains
Available in three forms

1. Liquid

- ✓ Can be used in dispenser feed or manual feed machines
- ✓ Concentrates great in all water temperatures
- ✓ Can be cumbersome to store
- ✓ May not be as cost effective as other options.

2. Powder

- ✓ Can be used in manual feed machines
- ✓ Have a longer shelf life than liquid so you can really buy in bulk
- ✓ Diluting with your own water may be more cost effective than liquid
- ✓ Requires warm water to dissolve

3. Solid

- ✓ Can be used in dispenser feed machines
- ✓ Goes straight from the package to the dispenser to eliminate accidental mixing and mishandling

Types of Commercial Laundry Chemicals and Detergents

- ✓ **Pre Spotters:** Used to treat stubborn laundry stains before the normal laundering process.
- ✓ **Detergent Boosters:** Used in conjunction with detergent or water to help break up heavy soil loads while also conditioning water for the best results.
- ✓ **Neutralizers:** Used to control the pH of linen to minimize potential skin irritation while also removing residual alkali and mineral deposits to prevent yellowing and graying that's caused by high mineral levels in the water. Also known as a "souring agent"
- ✓ **Bleaches:** Used for stains not removed during the wash cycle, and also for whitening and brightening clothing Available in two general types
- ✓ **Chlorine Bleach:** Primarily used for brightening white linens, but not safe on all types of fabrics.

Page 59 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

- ✓ **Oxygen Bleach:** Sometimes known as "color-safe" bleach, it is safe for use on almost all fabrics.
- ✓ **Fabric Softeners:** Softens laundry while reducing static cling and wrinkles



Laundry detergent- the best stain remover for practically all types of textile “stains” is plain detergent and water.



Bleaches- are used in stain removal to render the staining material colorless and invisible, as well as to help actually remove it.



Ammonia- which is alkaline, is sometimes used to neutralize acid substances. Apply ammonia to fresh perspiration stains or stains from antiperspirants, which tend to be acidic.



Solvents- use appropriate solvent-based cleaners to remove non water soluble substances. It can remove enamel paint or varnish with turpentine but not with plain soap and water.



Fabric Softener- it uses to soften the fabrics and prevent static. It can also used to keep clothes smelling good while being store.







Acids- used on rust, oxides and mineral deposits. If the clothes hanger leaves rusty marks on the shirt apply a solution of lemon juice with water vinegar mixed with water, then rinse thoroughly and launder.



Color Removers- may be used on certain white fabrics. These contain sodium hydrosulfite, a strong bleaching agent.

2.1.4 Guide lines using laundry chemicals and detergents

Table 2.5.1 Protective Clothing and Equipment

<ol style="list-style-type: none"> 1. When working in the laundry, the correct clothing and equipment must be used at all times. 2. Rubber gloves, and any other PPE indicated by product labels, must be worn when sorting laundry, cleaning the premises and handling chemicals. 3. Disposable gloves and aprons must always be worn when handling items contaminated with anybody spillage. 4. Eye protection must be worn when dispensing chemicals and changing the auto-dosing containers. 	   
--	---


Personal Hygiene

To maintain hygiene at the appropriate level, laundry staff must wash their hands:

1. When entering or leaving the laundry
2. After removing gloves
3. After cleaning

4. After handling used, infected or fouled laundry
5. Before handling clean laundry (wet or dry)
6. Before taking a break

Table 2.5.2 Effective Hand Washing

<ol style="list-style-type: none"> 1. Wet hands under running water 2. Apply soap –liquid soap is best if available 3. Wash vigorously for 10-15 seconds, ensuring that all surfaces are washed, using the six-step technique illustrated 4. Dry thoroughly with a disposable paper towel or a clean cloth towel 5. Make sure hands are not re-contaminated when disposing of towel. 	
---	--

2.6. Guide lines operating laundry equipment

Laundry can seem tiring and never-ending, especially if you don't have the right tools and supplies. When you have what you need, like a washer, dryer, and detergent, even a large load of laundry can feel more manageable. Once you've got the basics, the other things you add to your laundry room will depend on how much space you have. A fully stocked laundry room includes an iron, laundry boosters, drying rack, and more. All of these tools make laundry time a much easier chore. Before and after using any laundry equipment follow manufacturer operating instruction.

1. Washing machine

The most essential tool in your laundry room is your washing machine. While many fancy machines are available with multiple settings, you need a machine that will fit in your laundry room and handle your hotel needs. Clean your washing machine regularly to remove smelly odours; it will extend its life, and the time it can serve you and your laundry.

Page 62 of 140	Ministry of Labor and Skills Author/Copyright	Laundrying linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

2. Dryer

Some people may prefer to hang their laundry to dry, but there is no doubt that an automatic clothes dryer is a modern convenience. Keep the dryer clean; check it often to ensure no debris or crayon stains are on the interior drum. Clean the lint trap regularly.

3. Drying rack

Drying rack is a simple tool for draping and drying delicate clothing. Some fabrics or types of clothing can't dry in the dryer due to the high heat or the tumbling action. These items may be listed on the tag as "hang to dry." A drying rack is a convenient item that allows these pieces of clothing to dry safely.

4. Iron

If your laundry room has space, storing your iron there is a natural fit. Many like to iron their clothes directly when they come out of the dryer. It is an efficient practice since clothes will have fewer wrinkles straight from the dryer and take less time to iron. One of the significant ironing mistakes that people make is trying to iron overly dry clothes; slightly damp garments are easier to iron.

5. Ironing board

One of the best ironing board options for a laundry room is a fold-out ironing board that can be tucked away when not in use. There are also some people who prefer to lay an ironing board across a countertop in their laundry room. A good ironing board is one that has plenty of mesh or metal holes to allow air to penetrate through it, reduce your ironing time and give you better results.

6. Sink a sink in the laundry room isn't a luxury most people have, but it is a wonderful one to consider when you are remodelling or building a laundry room. A sink in the laundry room allows you to treat stains, hand-wash clothes, and keep the laundry room neat and tidy.

- **Laundry detergent**

Good laundry detergent is a must for your laundry room. There are many types of laundry detergent—powder, liquid, and pods. No matter which you prefer, liquid laundry detergent is great to have around since it does double duty as an effective spot pre-treated for stains.

- **Stain remover**

Stains happen; when they do, you'll want your laundry room prepared. From grass, red wine, and other dried-up, set-in stains, it's helpful to have a few different types of stain removers on hand to deal with them. Stain removers come as sprays, gels, or sticks.

- **Baking soda**

Keep a box of baking soda in the laundry room to remove odours and stains. Baking soda also brightens and cleans your laundry. It's an amazing little cleaner. Help yourself out by having a box or two of baking soda stored in your laundry room.

- **Laundry additives**

In addition to stain removers and baking soda, other laundry additives can help make washing and drying all those loads a breeze. Add bleach, fabric softener, scent boosters, vinegar, and other products to your shelves as needed.

2.7. Completing mending and minor repairs

In the on-premises laundry world, downtime isn't an option. No matter if it is a hotel, long-term care facility or athletic club, the laundry doesn't stop. When a machine in the laundry goes down, it's not just a problem; it's a major issue.

Just think about the soft, fluffy towels and robes that spas rely on. When the laundry fails to make its daily throughput because of equipment issues, those fresh robes stop making it into rooms and service grinds to a halt. While distributors like us do all we can to get facilities up and running as quickly as possible, we all know that small delays can back up production. This is why having some spare parts on hand and staff that's able to make small repairs is so important.

DRYER PARTS

Dryers are far simpler to keep operating just by having additional belts and lint screens on hand and being able to swap them out. Inspection is key. Check the belts for wear every couple of months.

Where on-premises laundries typically fall short and end up having to call for service is by not getting a handle on lint. Nothing can be costlier to productivity and efficiency than failing to address lint. Managers should have staff use a shop vacuum to clear lint from around the burners, vents and the laundry in general.

Page 64 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1
			December, 2022

Starving the machine of make-up air can lead to serious problems, not the least of which is inefficiency. If the tumble dryer isn't pulling make-up air from outside, it will take air from inside the building—basically, air that the property has already paid to cool or heat will be used to dry the linen.

The perils of not taking care of the relatively small task of lint control were apparent at one school we visited for a service call. Their tumble dryer was not working. Upon investigating the issue, we found two inches of lint caked around the inside and burners.

The end result of not staying on top of the lint for this laundry was costly, as the wire harnesses in the unit were actually melted—the lint had started on fire. This underscores the need to have someone on staff responsible for making sure lint is cleaned regularly. In this case, no one on staff had this task and it was never taken care of.

Maintenance is the key

While laundries should have someone on staff able to make small repairs, such as belts and valves, as already mentioned, maintenance can head off a number of situations before they become larger problems requiring repairs.

This is where systems that can be configured to send reminders to staff and log maintenance items, such as when bearings were greased, can be valuable assets. They can also help identify areas where staff training is required to avoid machine repairs. For instance, frequent out-of-balance machine errors can be a sign that staff is under loading washer-extractors.

Page 65 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

The washing machine

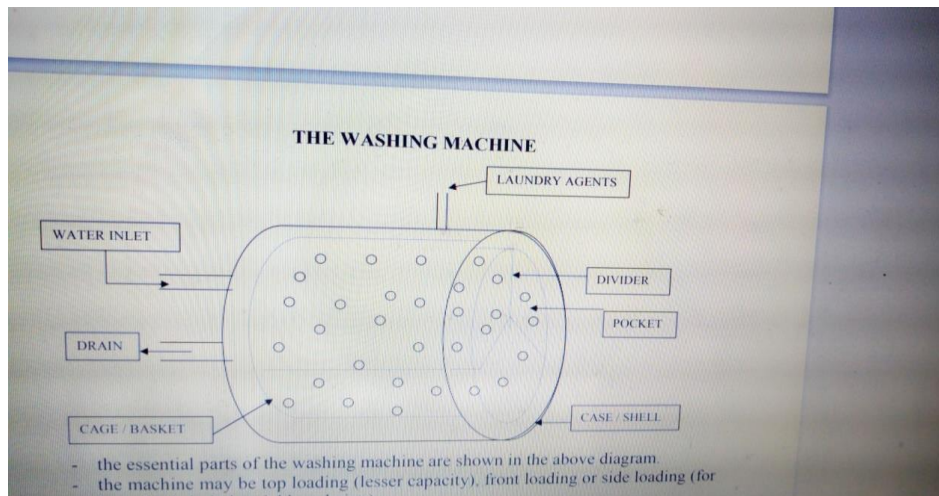


Figure 2.7.1 washing machine inside parts

The essential parts of the washing machine are shown in the above diagram.

- ✓ The machine may be top loading (lesser capacity), front loading or side loading (for large loads in industrial laundering).
- ✓ The machine rotates for 15 seconds in one direction, stops and reverses direction for 15 seconds. This prevents the 'roping' of linen in the drum. - the speed of rotation of the drum depends on the diameter and ranges between 40 to 60 r.p.m.
- ✓ Centrifugal action of the drum causes friction between the clothes thereby suspending dirt.
- ✓ The water level is referred to as 'dip'.
- ✓ The temperature of water ranges from 30° C to 95° C - machines operate on manual switches, dial settings, computerized cards or on computer panels.
- ✓ Modern machinery have sensors that can gauge the length of cycle, level and temperature of water, amount of laundry agent and when it should be added in the wash cycle as well as the type of drum action, for a specific wash load.
- ✓ Industrial machinery have a control panel which displays the stage in the wash cycle in progress, the time remaining for the completion of the cycle, the temperature of water and the chemical in use
- ✓ Machines which carry out washing as well as hydro-extraction are called washer extractors. Hydro-extractor Modern hydro-extractors work on the centrifugal action and

Page 66 of 140	Ministry of Labor and Skills	Laundrying linen and guest clothes	Version -1
	Author/Copyright		December, 2022

the procedure is usually part of the wash cycle. The drum rotates at high speed (at least ten times the wash speed) and the clothes are pressed against the sides of the drum and water passes out through the perforations and out through the open drain.

Mending of guest clothes

1. Check clothes items that been laundered before pressing, if needs repair.

If you do not found anything, ask your trainer to provide you cut fabrics, where you can practice mending. e.g. (attach buttons & hemming) b. If you found stitches rip out on laundered clothes, ask your trainer assistance.

2. Prepare materials needed a. Scissors b. Thread c. Buttons d. Hand needle
3. Replace buttons, if needed
4. Fasten clothes accessories, if needed
5. Replace rip-out stitches found on clothes using hand stitches.

2.8. Checking items following completion

following completion of laundering process we must Check the quantity to ensure that the amount of laundered linen tallies with the amount of soiled linen articles sent and as well as inspection of the quality of wash.

Cleaning Guide after use of washing machine

1. Maintenance of external surfaces Use soft, dry cloth
2. For a soft dirty surfaces, use a soft cloth dipped in a mild soap and water solution
 - A. Maintenance of internal surfaces
 - B. Splash water on wash and spin tubs, especially after spin drying starched clothes
 - C. Do not use brush or polishing powders. Never use alcohol or paint thinner

To clean the drain filter

- ✓ Remove the drain filter with a screw driver
- ✓ Splash water to remove dirt and lint
- ✓ Place back the drain filter
- ✓ Failure to place back drain filter can cause clogging of hose

To clean the overflow filter

- ✓ Pull the lint filter upward
- ✓ Turn the lint filter inside out and wash it through the faucet and Return the lint filter to its former position

2.9. Recording damaged linens and accidents

The ultimate goal of a well-run laundry is to obtain optimum results in terms of appearance, odor and feel. Regarding appearance, the linen must be snow-white (white items) and free from wrinkles and spots caused by staining. The odor must be fresh and clean, not stale and musty. For the feel, the articles should be smooth and velvety, not coarse or rough. Record any damage arising from the laundering process should be notified to appropriate persons according to enterprise procedures.

Table 2.9.1 Damage advice form

<p>HOTEL</p> <p>Laundry Department</p> <p>DAMAGE ADVICE</p>	
<p>Name of guest: _____</p>	
<p>Room no.: _____ date: _____ Time: _____</p>	
<p>We are constrained to return to you the attached laundry items in as much as we have noticed the following on the garment when it was sent to us for laundry.</p>	
<p>() discolored area or spot</p> <p>() stains</p> <p>() with shrinkage</p> <p>() has shiny patches</p> <p>() not fit for the processing you requested (i.e. not for machine wash but for dry cleaning to avoid damage.)</p>	<p>() double creases</p> <p>() deformity</p> <p>() worn-out</p> <p>() with cut/tears</p>
<p>As these are in excess of what is normal, we cannot guarantee that the garment will be laundered/Dry cleaned/Pressed to your satisfaction. Please let us know what would like us to do.</p>	

All accidents and damage linens should be reported to your supervisor. It should also be recorded in the accident and damage linen book. The information required will be date and time, description of the damage linen or accident, the staff involved and the supervisor in attendance.

Proper use of the hazard signs

Hazard warning signs are used to warn staff and customers to a potential danger. They are very important and the guidelines for their use must be strictly adhered to. Hazard warning signs are most commonly used during cleaning operations or when spillages occur and can be placed directly at the problem area.

Before cleaning commences, hazard warning signs must be in place. Cleaning can cause floors to become slippery and cleaning machines with electrical cords can be dangerous to people in the immediate area. However, a hazard warning sign can easily tell people to stay away and therefore avoid injury.

It is important that hazard warning signs:

- ✓ Are placed where the hazard is
- ✓ Are sufficient in number to indicate where the hazard starts and finishes
- ✓ Be placed in a position that they are not a hazard
- ✓ Be the correct types of hazard sign to warn staff and customers what the hazard is.

Safety Inspections

It is very important to carry out regular safety inspections, to identify any potential safety hazards. For example,

- ✓ Worn or threadbare floor coverings may cause pedestrians to trip and fall;
- ✓ Lights not working, particularly in areas where natural light may be at a minimum and therefore visibility,
- ✓ Poor; inadequate or inappropriate storage facilities for laundry agents and equipment.

The list is endless and the potential safety hazards too numerous to list here. This makes the need for regular safety inspections even more important in the operation of any establishment. If potential safety hazards are detected, these must be reported and corrected as soon as possible.

Page 69 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1
			December, 2022

Self-check-2

Test-I: Multiple choices

Instruction: Choose the right answer for the given question. You are provided 2 minute for each question and each point has 2 Points.

- When washing in a top-loader using liquid detergent, you should first fill with water, then add soap, then add clothes. A. True B. False
- Which of the following is the last step in the wash cycle of a load of laundry?
A. Extract B. Break C. Flush D. Rinse
- When washing in a top-loader using liquid detergent, you should first fill with water, then add soap, then add clothes.
A. True B. False

Part-II Matching

Instruction: select the correct answer form the given choice. You have given 2 Minute for each question. Each question carries 2 Point.

- | “A” | “B” |
|-------------------------|--|
| -----1. White vinegar | A. Removes ink from fabrics and leather |
| -----2. Rubbing alcohol | B. Is great for fighting oil-based stains. |
| -----3. Mending | C. Very difficult to remove. |
| -----4. Dye stain | D. Used to remove stains |
| -----5. Dish soap | E. Attach buttons on clothes |
| | F. Pressing clothes |

Test II: Short Answer writing

Instruction: write short answer for the given question. You are provided 5 minute for each question and each point has 2 Points.

- Define laundry and list two types of laundry equipment? (2)
- Write at least three types of Commercial Laundry Chemicals and Detergents? (2)
- Explain the difference between ironing and pressing? (2)

Page 70 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1
			December, 2022

Unit Three: Perform laundry functions

This Unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Sorting soiled cloths, linens and fabrics
- Selecting laundry equipment, agents and supplies
- Operating laundry equipment's

This unit will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this unit, you will be able to:

- Sort soiled cloths, linens and fabrics
- Identify laundry equipment, agents and supplies
- Select laundry equipment, agents and supplies
- Operate laundry equipment's

3.1. Sorting soiled cloths, linens and fabrics

Sorting is carried out according to the type of fabric and item, color, cloth tag and type of soil. Sorting is done to separate those articles that need dry cleaning from those that will go through the normal wash process. Those that need mending or stain removal must be separated so that they can be dealt with accordingly. Also, different articles take a different wash process in terms of temperature of water, type of laundering agent, length of wash cycle, whether hydro extraction should be done and if so, the length of the hydro extraction cycle. In hospitals, the infection risk necessitates the need for using gloves when sorting out linen. It takes less effort to pre-sort soiled linen than to post-sort washed linen which is 50% heavier in weight due to water retention. Post-sorting is often essential in healthcare processes.

How to sort laundry before washing

You can wait until there is a mountain of laundry and the sorting will be tedious. Or, since you know that there will be dirty clothes and linens that need to be cleaned each and every day, you can make it simple by sorting laundry as you take off clothes or use each item.

Use separate laundry hampers or a laundry hamper with sorting sections in your closet, bathroom or central laundry area. If the hamper doesn't have labels, you should add them and even post the rules for how to sort laundry so kids can help. One section should be for whites, one section for dark colours, one section for light colours, and one section for dry clean only.

Even if you have to do a bit of last-minute decision making when the load is pulled from the hamper, pre-sorting will speed up your laundry routine and help ensure your efforts are successful. Pre-sorting is particularly helpful if you must use a community laundry room or Laundromat where space is often at a premium. **Guide of sorting as follows:**

Read the Label

If you are very familiar with your regular laundry, you probably won't have to do this step every time. But if you are teaching a child how to do laundry, it is a very important step. Read the care label on each item in the hamper. The label will tell you whether an item can be machine washed, what water temperature to use, and how to dry the fabric. Place all clothes that are labelled, “wash separately” or “hand wash” into a separate pile.

Page 72 of 140	Ministry of Labor and Skills	Laundering linen and guest clothes	Version -1
	Author/Copyright		December, 2022

If you are a novice on how to do laundry and see a tag that says “dry clean only”, believe the label and place it in a bag to take to a professional dry cleaner. With some experience, you will learn that some items labelled as dry clean only can be hand washed. You'll also learn how to use a home dry cleaning kit in your dryer.

Sort by Color

Once the hand wash and dry clean only clothes are separated, sort the remaining washable laundry by colour. Whites, pastels, light gray, and white background prints will go in one pile. Dark colour clothes—black, red, navy, brown, dark gray—go in another pile

Sort by Fabric

Sort each pile one more time by type of fabric. For instance, in the white/light colour pile separate towels and sheets from blouses, slacks, and underwear or lingerie.

In the dark colours, separate t-shirts and jeans from lighter weight items like blouses and dress shirts. If you have dark towels or blankets, separate them from clothes to reduce lint, never wash lint-producing fabrics and lint-attracting fabrics together! Washing by each colour and fabric type allows you to use the correct water temperatures and keeps drying cycles simple.

Wash Heavily Soiled Items Separately

Not everyone will need to do this step but if you have heavily soiled items with ground-in dirt or oily stains like motor oil or lots of cooking oil stains, sort as usual but wash these items separately. This will prevent heavy soil from red positing on other clothing. It will also prevent the transfer of strong odours to other fabrics.

3.2. Selecting laundry equipment, agents and supplies

3.1.1 Selecting of equipment and agents for dry cleaning and washing process

- ✓ Select items according to cleaning process required and urgency of the item
- ✓ Select laundry methods according to textile labeling codes and based on fiber and fabric, dye fastness and amount of spoilage
- ✓ Check items for laundering for stains and treat stains using the correct process.
- ✓ Select cleaning agents and chemicals according to manufacturer instructions and specific laundry equipment.
- ✓ Select Operate laundry equipment according to manufacturer instructions.
- ✓ Select laundry agents and supplies according to laundered item requirement sheet/format filled by guests or other department needs.

Page 73 of 140	Ministry of Labor and Skills	Laundering linen and guest clothes	Version -1
	Author/Copyright		December, 2022

3.3. Operating laundry equipment

3.1.2 Operating laundry equipment the following are general procedures you should use when operating any general laundry machinery:

- ✓ Always check that the power is switched on before use and that all utilities are connected (water, steam or gas) at the beginning of your shift
- ✓ Always check that the machine is clean and empty before loading and that nothing has been overlooked
- ✓ Since the last cycle
- ✓ Always check the drains are clear (washing machines) and the lint trap has been cleaned (in tumble dryers)
- ✓ Check all switches are in working order and not broken
- ✓ Check that all doors on washing machines and tumble dryers can be locked
- ✓ Always use the correct wash programmed for the items you are washing
- ✓ Make sure all chemical drums and pumps are in working order and there are sufficient chemicals for the day
- ✓ Always weigh wash loads according to the machines used wherever possible so they operate at full capacity. Never overload or under load a washing machine or dryer. This practice will result in an inferior wash result and may damage linens. It is also uneconomical
- ✓ Never remove protective guards off machines. These are designed as a safety feature if something malfunctions
- ✓ Always use the ironer at the correct speed and temperature for the items being ironed. A temperature that is too low or an ironer that is too slow will not dry or iron items correctly. They may need to be passed again through the machine which will slow down the whole finishing process
- ✓ Never use the ironer if there are damaged tapes or belts. Report this immediately so that they may be repaired promptly
- ✓ Always use the safety functions on hot presses and make sure all press pads are clean and in good repair
- ✓ Report any items that malfunction to your supervisor and ask for assistance if you are not sure
- ✓ Never stand in water – always clean up spillages immediately

- ✓ Always wear the correct protective equipment and clothing with which you have been issued
- ✓ Correctly follow all handling and usage instructions for all chemicals.

Proper way of operating washing machine

1. Dose correctly. Follow the instructions on the packaging of your laundry detergent, like Ariel Matic Liquid.
2. Load the laundry. Open the door and place the laundry in the machine.
3. Choose the temperature.
4. Select the right spin cycle.
5. Close the door and press go.
6. Unload clothes

3.1.3 Operating laundry equipment

In any residential establishment, a lot of dirty linen accumulates in the various units and departments. It is essential to ensure a continuous supply of linen, which is well laundered, so that operations can be carried out smoothly and efficiently. Linen is an expensive item, so how it will be laundered requires serious consideration. People involved in handling linen should have some knowledge of the process. Moreover, the Housekeeper and Linen keeper should have a good rapport with the Laundry Manager.

Care of laundry equipment

• Washing Machine

1. Do not under or overload the machine.
2. Ideally the machine should be two thirds full.
3. Daily clean the machine.
4. Weekly run the machine empty on the hottest wash with no detergent.
5. Check hoses yearly for cracks and bubbles. Replace as needed to avoid leaks.
6. Turn the machine off at the wall at the end of the day.

• Tumble Dryer

1. When using a tumble dryer, it must never be opened and /or unload without completing cool down, this is a major cause of fabric damage.
2. Always set time and temperature
3. Always remove items from tumble dryer at the end of the cycle (danger of fire/creasing).

Page 75 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

4. Fold and drape items immediately
5. Never leave items in basket (spontaneous combustion/creasing).
6. Turn off at the wall at the end of the day.
7. Never put items on top or sides (danger of fire).
8. Do not leave running and unattended for long periods, e.g. at night.
9. Clean filter with a soft brush at least once daily (wear the PPE mask).
10. Daily wipe top, side and door
11. Weekly vacuum the lint screen and drum carefully using soft brush attachment on the hose.

- **Steam Press**

1. Only trained staff should use the steam press
2. It must be switched off between uses.
3. Displays a “hot surface” sign where machine is left unattended but still hot.
4. At the end of the day, ensure the press is turned off and the thermostat is set to ‘O’
5. Change the cover weekly and wash at 65 Celsius.
6. Clean the sole plate weekly
7. Do not iron poly cotton bedding tablecloths or napkins.

- **Hot Irons and Ironing Boards**

1. Do a visual electrical check before use.
2. Store a hot iron safely it cools.
3. Don’t leave unattended and still turned on
4. Display a ‘hot surface’ sign as necessary.
5. Clean regularly
6. Board- ensure the covers are fitted correctly
7. Do not iron any poly cotton bedding, tablecloths or napkins.

Laundry process

1. Collection & Transportation

Collection of linen may be done in the Linen Room, if the laundry is off-site but is usually in the laundry itself, if the laundry is on-premises. During collection, all Accessories that cannot be washed such as metal items; epaulettes, etc. should be removed at the time of collection. Certain

Page 76 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

linen items are collected separately. For example, kitchen uniforms or dusters are separately collected, as are butchery aprons and dusters, because they have a specific type of soil. Likewise, in a hospital, linen from the surgical ward would be collected separately.

2. Arrival

On arrival, linen must be dealt with as quickly as possible. There must be a separate Section for guest laundry that is usually handled by the most experienced staff. Processing linen for laundering as quickly as possible is necessary:

- ✓ To ensure that linen items are available as and when required.
- ✓ To avoid transfer of stains and prevent stains from becoming permanent.
- ✓ It does not provide a breeding ground for bacteria and pests.
- ✓ To prevent the formation of mildew on damp articles particularly bath linen.
- ✓ To avoid the possibility of linen getting misplaced or lost.

3. Sorting

In hospitals, the infection risk necessitates the need for using gloves when sorting out Linen. Gloves may also be used when handling hotel linen. Sorting is carried out According to the type of fabric and item, colour as well as the degree and type of soil. Sorting is done to separate those articles that need dry cleaning from those that will go through the normal wash process. Those that need mending or stain removal will be separated so that they can be dealt with accordingly. Also, different articles take a Different wash process in terms of temperature of water, type of laundering agent, Length of wash cycle, whether hydro- extraction should be done and if so, the length of the hydro-extraction cycle.

4. Marking

Marking may be temporary (guest laundry) or permanent (monogramming of hotel linen). It is the temporary marking that is carried out at this stage. Most good Establishments have a marking machine that attaches a heat sealed tape in an in conspicuous place. The tag has scope for six characters and is intended to indicate the initials of the guest as well as the room number. It provides a clear identification

And correct billing, and although it does not come off in the normal wash process, it can be peeled off if so desired.

5. Weighing carried out to conform to the capacity of the washing machine.

(Overloading)

Page 77 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1
			December, 2022

There is no or low centrifugal action because the linen articles are too tightly packed in the drum and there is inadequate friction and the deeply imbedded soil is not removed so the wash process is ineffective. Certain synthetics develop creases as Results of overloading that are difficult to get rid of in the subsequent ironing process. Repeated overloading can cause the machine to breakdown.

(Under loading)

In this case, there is centrifugal action but inadequate friction because the linen Articles are too far apart and there is wastage in terms of time, labour, laundry agents, water and power.

6. Loading

Loading often done manually or with a certain degree of automation

7. Washing

This process is designed to perform **three** basic functions:

- A. Removal of soil
- B. Suspension of soil

Suspending Agent

The role of the suspending agent in cleaning is to hold the dirt in suspension and prevent it from re depositing onto the surface of the article. It plays a crucial role in the laundry agent due to the amount of time that the clothes rotate in the machine while the dirt is in suspension. The suspending agent is carboxyl methyl cellulose.

C. Discharge of the soil from the machine to the drain

In the wash process, the following factors must be considered:

1. Length of cycle:

If the cycle is too short, the linen will not be cleaned. If the cycle is too long, there will Be unnecessary wear and tear and the clothes may actually become dirtier as a result of re deposition of soil.

2. Temperature of water:

If the temperature of water is too high, it is likely to damage the linen. If the Temperature is inadequate; the chemicals will not work effectively.

Page 78 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

3. Water level:

Incorrect ‘dip’ levels can alter the concentration of the laundry agents rendering them Ineffective. In case of a gentle action the water level is usually higher forming a protective envelope to the delicate linen.

4. Type and amount of detergent and when it will be dispensed in the wash cycle:

This is also a crucial factor that affects the quality of wash deciding which laundry Agent should be used is dependent on the nature of the fabric being washed. Too little detergent will result in an incomplete cleaning process. And too much may remain as a residue after the rinse cycle is complete. It is important that the laundry agent is introduced into the wash cycle at the appropriate time if it is to have the required action.

5. Mechanical action:

This refers to the centrifugal action brought about by the movement of the drum that Causes friction between the linen articles and is radically affected by overloading or under loading as well as the speed of the drum.

8. Rinsing

Once the wash cycle is completed, rinsing becomes essential. Rinsing is carried out at least twice and the purpose of this stage is to:

1. Remove residue of laundry agents, which might show as patches on the linen after Ironing or irritate the skin.
2. Remove suspended dirt, which remains in the carry over liquor in the load at the end of the wash.
3. Lower the temperature of the wash load by using a cold water rinse or alternatively reducing the temperature of water in consecutive rinses. A running rinse with an open drain is more effective but a larger volume of water is utilized.

9. Hydro-extraction

Is the removal of excess moisture through centrifugal action and is equivalent to wringing in hand washing. The absorbency of the fabric affects the length of the cycle (6 to 8 minus.) And the residue of moisture (10% to 30 %) Draining must precede hydro-extraction and hydro-extraction must precede tumble drying. Some articles cannot be hydro-extracted so there is a pumping action to draw out the water from the linen load. Too short and extraction time will increase the Drying time and may hinder the proper operation of finishing equipment. The most

Page 79 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

Efficient extraction for cottons takes place at temperatures higher than 38° C but Lower than 55° C so that they are not too hot to handle. Polyesters and blends should Be extracted at a temperature below 38° C to prevent wrinkling. The compact mass of hydro-extracted clothes is referred to as ‘cheese’.

10. Unloading

Transferring washed linen from the hydro-extractor to the Tumble Dryer is a difficult task because of the added weight of moisture. Articles may be manually removed and put into trolleys. Tilting and dumping machines reduce the physical effort of manual unloading. A laundry cart can be positioned under the door and a push button Operated to rotate the cylinder and empty its contents. Alternatively, the machine can Unload onto a conveyor belt that will transport the linen to the next set of operations.

11. Tumble Drying

This process is capable of rendering the linen completely dry by blowing hot air Ranging between 40° C to 60° C onto the articles as they are slowly circulated in the rotating drum. For articles that are susceptible to damage by heat, there is the option of simply airing by circulating air at room temperature. To avoid wrinkles and the Risks of spontaneous combustion, many dryers have a cool-down cycle at predetermined intervals. The process of tumble-drying creates a good deal of wear and Tear on the fabric as particles of lint come off the fabric in the drying process. The Time taken is approx. 30 min Depending on whether the article is to be completely or partially dried.

12. Finishing (ironing and pressing)

For those articles that require a pressed finish, ironing and pressing are usual, but there is also other finishing equipment. Articles like blankets, towels, candle wick Bed spreads, hosiery, etc. that do not require a pressed finish are only tumble-dried.

13. Folding

Can be done by machine but in most cases is carried out completely manually or at Least the finishing folds are done manually. The use of a folding stand helps minimize this otherwise very labour-intensive operation. Manual folding makes it possible to achieve the desired fold as well as ensure quality control. Employees in this area are The one ones who ‘reject’ stained linen and are a good source for ascertaining what Types and quantities of stains commonly occur. This is an important stage in the Processing of laundered linen as it can be the ‘bottleneck’ in an otherwise efficient Laundry operation. Correct folding is important to the appearance of the article and Makes it convenient to store and use.

Page 80 of 140	Ministry of Labor and Skills	Laundering linen and guest clothes	Version -1
	Author/Copyright		December, 2022

14. Airing

This is essential prior to storage, especially if the articles are to be stored in closed Shelves. It ensures that any moisture that is likely to cause mildew will be got rid of.

15. Storage

Should be properly done in a well–designed storage space Linen should be allowed a rest period to recuperate before it is used again. The life span of linen is greatly increased if proper rotation of stock is carried out, thereby ensuring a ‘rest period’ between uses. As a general rule, at any given time, approximately 50% of the total Linen inventory should be on the shelves, 25% in use and 25% in processing. The Storage area must be isolated from the soiled linen and kept clean

16. Transfer

The linen is issued to the unit/department for use. Since transfer of clean linen is usually done by linen trolleys, it is important to keep the trolleys clean.

17. Use

The linen is utilized for the necessary function intended and the cycle begins all over again.

Page 81 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

Self-check-3

Test-I: Multiple choices

Instruction: Choose the right answer for the given question. You are provided 2 minute for each question and each point has 2 Points.

- During the wash cycle, an optional step is to add a high-alkaline _____ product.
 - Fabric softener
 - Sizing
 - leaching
 - Break
- Which one of the following forms is used to track condemned linen?
 - Linen discard form
 - Maintenance work order
 - Amenity form
 - Housekeeping communication form
- Which one of the following information is NOT available in guest laundry list?
 - Type of laundry service
 - Guest room number
 - Any special instruction by guest
 - Guest room rates

Part-II Matching

Instruction: select the correct answer form the given choice. You have given 2 Minute for each question. Each question carries 2 Point.

- | “A” | “B” |
|--------------------------|--|
| -----1. Do not over load | A. fold linen Stored in closed Shelves |
| -----2. Storage tips | B. attach buttons on cloths |
| -----3. Airing | C. Always kept clean |
| -----4. Mending | D. Care of laundry equipment |
| -----5. Sorting | E. Ironing |
| | F. According to the type of fabric |

Test II: Short Answer writing

Instruction: write short answer for the given question. You are provided 5 minute for each question and each point has 2 Points.

- What is the first step of laundry process? (2)
- Write the three basic functions of washing? (2)
- Explain the use of laundry washing? (2)

Page 82 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1
			December, 2022

Operation sheet 3: Perform laundry functions

Operation Title: Wash soiled linen and fabric using laundry washer and dryer machine

Purpose: To Sort soiled cloths, linens and fabrics
To select laundry equipment, agents and supplies
To operate laundry equipment's

Conditions or situations for the operations:

- ✓ Safe working area
- ✓ Proper operating tools and equipment
- ✓ Appropriate working PPE

Equipment Tools and Materials:

- Different type of fabrics
- Hotel linens
- Uniforms
- Water
- Energy source
- Dryer machine
- Stain remover
- Laundry Detergents
- Laundry chemicals
- Washers/extractors
- hangers
- Basin
- Pails, dippers and laundry brushes
- Washing boards
- Spotting gun
- Sorting baskets and shelving
- Softener
- Bleach

Steps in doing the task

- Step 1: Wear appropriate PPE
- Step 2: Prepare equipment's, chemicals and materials
- Step 3: Check the cleanliness and condition of washing machine
- Step4: Sort laundry items
- Step5: Weight soiled clothes
- Step6. Load the item in laundry machine
- Step7. Set the cycle selector to wash/rinse
- Step 8. Turn on the faucet /use pail water to fill the wash tub with water up to the appropriate level
- Step 9. Chose close type indicator

Page 83 of 140	Ministry of Labor and Skills Author/Copyright	Laundering linen and guest clothes	Version -1 December, 2022
----------------	--	------------------------------------	------------------------------

Step10. Soak soiled cloth, drain, rinse and fill clean water

Step11. Add detergent

Step12. Set wash timer and wash

Step13. Rinse washed item and drain

Step14. Put clothes into the spin tub and spinner cap securely

Step15. Set spin timer and spin the item

Step16. Put the spin item to the laundry basket

Step17. Drain the soiled water

Step 18. Clean washing machine after use

Quality Criteria: Assured performing of all the activities according to the procedures

Precautions:

- ✓ Wearing proper PPE for the duty
- ✓ Make working area hazard free
- ✓ Do not over load the washer
- ✓ Fill the water level according to instruction
- ✓ Check the power supply voltage

Lap Tests 3

Name: _____

Date: _____

Time started: _____

Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks accordingly.

Task 1: Perform wear appropriate PPE

Task 2: Perform sorting laundered linen and fabrics

Task 3: Perform Wash and spin laundry item using washing machine

Task 4: Perform Dry the washed item by dryer

Task 5: Perform post washing activities

Unit Four: Perform dry cleaning functions

This Unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Sorting items for dry cleaning process
- Laundry formulas
- Applying cleaning agents and chemical in washer machine
- Operating laundry equipment
- Pressing and finishing processes

This unit will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this unit, you will be able to:

- Sort items for dry cleaning process
- Apply Laundry formulas
- Identify cleaning agents and chemical to apply in washer machine
- Operate laundry equipment
- Perform Pressing and finishing processes

4.1. Sorting items for dry cleaning process

When you Process laundry items

Sort items according to cleaning process required and urgency of the item:

- ✓ Select laundry methods according to textile labeling codes and based on fiber and fabric, dye fastness and amount of spoilage
- ✓ Check items for laundering for stains and treat stains using the correct process.
- ✓ Use cleaning agents and chemicals according to manufacturer instructions and specific laundry equipment.
- ✓ Operate laundry equipment according to manufacturer instructions.
- ✓ Complete mending and minor repairs as required.
- ✓ Check items following completion of laundering process to ensure quality cleaning.
- ✓ Record any damage arising from the laundering process and notify appropriate persons according to enterprise procedures.
- ✓ Complete ironing or pressing and finishing processes

How to sort items for dry cleaning

Sorting is one of the most important steps in laundering. While you sort, you should:

1. Look for spots and stains and treat them before washing.
2. Close zippers, hooks, buttons, etc. to prevent snagging.
3. Remove all items from pockets.
4. Tie sashes and belts loosely to prevent tangling.
5. Look for tears, rips, etc. and repair them before washing.
6. Sort clothes into loads of the correct size for the washer.
7. Identify special-care or hand-washable items and keep them separate, including non color fast items

Sorting is done by:

A. Color

- White, or white background with pastel figures
- Solid or print pastels
- Medium and bright colors
- Dark colors

- **Color fast ness**

Colorfast means the fabric maintains or keeps its color without fading or bleeding (running) onto other fabrics.

- **Non color fast**

Means the colors in the fabric may fade or bleed onto other fabrics when wet.

B. Type and weight of fabric

- Loosely woven, knitted, and sheers
- Lint producing: towels, sheets, terry cloth, etc.
- Tightly woven, heavy fabrics

C. kind and amount of soil

Heavily soiled items should be washed separately

Polyesters pick up oily stains and should not be washed with items which are soiled with oily or greasy stains.

D. size

Mix large and small items in each load for better cleaning and movement of items in the washer. The laundry process

The steps of the laundry process are as follows

1. Sort the clothing this includes understanding care labels and consumer information
2. Pretreat stains and heavily soiled areas Fresh stains are easier to remove than old stains
3. Mend or repair Mending articles before washing to keep torn area from getting larger
4. Operate the washing machine

A. Select the wash water temperature

- ✓ Hot water sets stains, shrinks clothes, fades colors, costs more
- ✓ Warm water causes little damage to clothing.

- ✓ Cold water protects fabrics, prevents shrinkage, prevents fading, allows stains to remove easily, and works best with detergents, costs less.

B. Select the rinse water temperature

- ✓ Warm water reactivates the detergent and causes the clothing not to rinse thoroughly.
- ✓ Cold water allows the rinse cycle to work the best.

C. Select the water level and agitation cycle

- ✓ Use the regular setting for medium and heavy weight fabrics.
- ✓ Use the delicate setting for lightweight fabrics or delicate items.

D. Select laundry products

- ✓ Chlorine (liquid) bleach is mainly used on white cotton fabrics
- ✓ Powdered bleach can be used safely on other fabrics.
- ✓ Chlorine (liquid) bleach should be added to the wash water and mixed thoroughly before the clothes are in the washer. The bleach should not be poured directly on the clothing.
- ✓ Always use the amount of detergent recommended on the box or less—too much detergent is difficult to rinse out and makes the clothing sticky and dull in color.
- ✓ Don't use extra detergent for extra-dirty clothes—wash them twice instead.

5. Handle fabrics carefully to reduce the need for ironing

- Using fabric softeners or conditioners helps to eliminate wrinkling.
- Take the clothes out of the dryer immediately when dry, while they are still warm; fold or hang.

6. Operating the dryer

A. Selecting the temperature

- High heat damages clothing
- Medium heat does less damage than high heat
- Low heat is least damaging but takes longer to dry clothing

B. Selecting the time

- Special care and delicate items only need about 10 to 15 minutes of drying time on a low temperature.

- An average load of clothing requires about 25 to 30 minutes of drying time
- Heavier items, such as towels and jeans, require a longer drying time

7. Ironing or pressing

- If you aren't sure what temperature to use, start with a lower temperature and increase it until the wrinkles are out.
- Moisture or steam helps remove wrinkles

4.2. Laundry formulas

While the four basic variables for achieving good cleaning result processing time, water temperature, chemical action and the washer's mechanical action are mainstays, even they must make room for additional factors, both internal and external to an operation. Finding the right mix of chemicals, resources and procedures is often a combination of careful orchestration and constant vigilance.

While washing machines undoubtedly save a lot of time and effort, it doesn't mean that hand-washing can't produce effective results. In fact, with the help of a good laundry detergent for hand washing, it's one of the best methods to gently clean your clothes. This particularly applies to pieces marked "hand wash only." Yes, we know that many modern laundry machines do feature a program mimicking hand washing – but a manual treatment is still the best risk-free choice for the most sensitive garments

Using mild detergent is essential for hand-washing, as it will protect both your skin and treated fabrics. If possible, try to avoid harsh surfactants formula containing nonionic surfactants. For washing sensitive fabrics such as cashmere and wool, look for detergents with lanolin which also acts as a softener. Innovative no-rinse formulas are another good option – less treating means less stress for the gentle fibers

Suitable Detergent Best for Machine Washing

Most detergents are suitable for use in a washing machine. However, some users prefer liquid over powder detergent, due to its solvency. Even highly concentrated liquid detergent formulas contain a substantial percentage of water, resulting in a fast and complete dissolving during the washing cycle. Powder detergents, on the other hand, might leave a residue and clog the system over time. Still, contrary to the common belief, modern, quality detergent powder formulas rarely provoke any issues.

If the washing system works properly, then the risk of damages caused by residue build-up ranges from minimal to none also, liquid detergents contain animal fats that, if not dissolved properly, might clog up lines and valves in the same manner as powder formulas.

Problems caused by laundry detergent build-up are rarely severe and typically require only detailed cleaning and minor fixes. One thing that you can do to ensure great results is never to overload the drum. Leave enough space for items to move freely, rubbing and cleaning each other, and let detergent dissolve without getting trapped. Moreover, avoid pouring laundry detergent directly into the drum unless entirely necessary.

Concentrated detergent formulas require smaller doses than regular economy packs. It is therefore strongly recommended to stick to the instructions provided on the package. Enzymes featured in the ingredients list allow machine washing in lower temperatures, in shorter cycles, requiring less water at the same time. Apart from saving your time and utility bills, such laundry detergents are also environmentally friendly. Detergent pods are multifunctional and ideal for everyone who would rather avoid dealing with precise dosing. However, they also allow less versatility of use, since their design is limited to machine washing.

4.3. Applying cleaning agents and chemical in washer machine

Everyone's heard of the laundry tricks that can miraculously remove stains and restore old garments. Most of us are not good at these tricks and we often barely remember to stain-treat a shirt before washing it. But keeping our washers in good condition is a different story. Laundry additives can harm or help your washer, and even the longevity of your clothes. Today we're here to talk about the top five laundry additives that improve the maintenance of your washer and clothes.

Types of agents and chemicals used in washer machine

- **Borax**

Borax is an alkaline mineral salt and natural scrubbing powder. It is used traditionally to make homemade soaps and it washes clean out of everything. On a molecular level, borax is sodium borate – a compound of sodium, boron, hydrogen, and oxygen molecules and forms naturally as crystals after the repeat evaporation of seasonal lakes. It is a glass-safe scrubbing powder, and it's also great to sprinkle into your laundry.

✓ **Scrubbing Powder**

Borax crystals dissolve into tiny sharp molecules in water. When agitated with your laundry, it scrubs the fabric and the inner tub of the washing machine at the same time. Anything that has been building up in the fibers or on the enamel will be scrubbed without damaging the source material. Then the borax washes out clean in the rinse cycle.

✓ **Sudsing Agent**

The small crystals also serve to agitate the soap in your washer. Detergent scrubs against borax like the pores in a sponge and it creates sudsing. That sudsing is the chemical cleaning action that dissolves dirt and grime on clothing – and on the inside of the washer. It also counteracts the anti-sudsing effect of hard-water minerals.

✓ **Mold Killer**

Very conveniently, the sharp particle of borax in wash-water is also killer to tiny mold spores and growing colonies. Mildew and mold growth anywhere in your laundry system will be killed more quickly with borax in the mix.

• **Vinegar**

White vinegar is one of the universal home cleaning solutions. It is acidic yet non-toxic, and it's very affordable to keep a half-gallon in the cabinet for everything. It's also a very powerful laundry additive, especially if you've been having trouble with scent, stiffness, or mold.

✓ **Mineral Dissolver**

90% of homes in America run hard water – which means they contain hard minerals like calcium and magnesium. So much that it leaves a white powdery scale on everything. This includes your washer, the inside of pipes, and your clothing fibers. Vinegar dissolves mineral scale, so the occasional cup of vinegar in a full or empty load of laundry is very beneficial to fight hard water.

✓ **Bacteria Killer**

The acidic nature of vinegar is bad for bacteria. From body sweat to dirty jobs, washing your clothes with vinegar will help to sanitize the load and keep the washer clean.

✓ **Mold Killer**

Vinegar's acidic content also kills mold, which is a plant and natural growth. If you have a mildew problem with the washer, both wash with vinegar and run vinegar in your laundry loads.

✓ **Odor Killer**

Most people think vinegar smells strongly, but that smell is gone by the end of the laundry cycle. It also takes other strong smells with it. Wash with vinegar to remove lingering odors in clothes or the washer.

- **Baking Soda**

Baking soda is another mineral salt, sodium bicarbonate. This is made of sodium, carbon, oxygen, and hydrogen. It can be found in natural crystals but it is now mostly manufactured by combining soda ash and carbon dioxide. Baking soda is alkaline, so it reacts with acids and neutralizes them. This is why it fizzes with vinegar and kills odours.

- ✓ **Scrubbing Powder**

Baking soda alone is a natural dissolving salt, therefore a good scrubbing powder. It is non-toxic, thus safe to bake with, but is used in greater quantities as a cleaning agent.

- ✓ **Odor Killer**

Most odors are actually acids – hence the sharp smell. Because Baking soda neutralizes acids, it is an extremely effective odor killer. This is why baking soda actually kills odors instead of just masking them.

- **Lemons**

Citric acid is a great cleaning product. Lemons and lemon juice are like vinegar, but we enjoy the smell. Lemon juice is a long-time favourite as a laundry additive.

- ✓ **Stain Treatment**

Many stains can be treated with lemon juice. Lemons have a slightly bleaching and antiseptic quality. Lemon juice will lighten clothes and help to sanitize dirty laundry.

- ✓ **Laundry Scenting**

If you don't want your laundry to smell faintly of machinery, lemon juice is a great additive for faintly and naturally scenting clothes and lightly sanitizing the inside of the washing machine.

- **Essential Oils**

Many people add essential oils to their laundry in one of several forms. Depending on how you choose to do this, it could be helpful or potentially harmful to the laundry or machine. Never simply add raw drops of essential oil to the empty washer bin or directly to the cloth. Remember that oil can be staining if applied directly.

- **Scented Detergent**

You can use essential oils to scent plain or homemade detergent. Diffused into detergent, it is a great scenting agent and will not leave an oily stain or drips.

- **Scented Dryer Balls**

Wool dryer balls are reusable replacements for dryer sheets. They both diffuse static and give your laundry an extra fluffing tumble. A few drops of essential oil into dryer balls can scent them and your laundry in the final phase.

- **Myriad Natural Effects**

Some essential oils have additional benefits that may pass through when in use. Tea tree, for example, fights fungus, lemongrass kills other odor, and the natural mint scent contains menthol. Taking care of your clothes and washer at the same time is the key to a long low-maintenance life. Fight back mold, sanitize heavy wash loads, and scent your clothing for a pleasant-smelling lifestyle all with just a few smart laundry additives. If you have any serious washing machine concerns or if the usual home remedies aren't solving a lingering odour or performance issue, contact us for professional appliance repair services in your area.

4.4. Operating laundry equipment

4.4.1 Dry cleaning

This is a process by which textiles are cleaned using a solvent other than water. This solvent is usually an organic liquid that acts first to remove the layer of grease which bonds most grease particles to the surface and then to carry this dirt away. The solvents commonly used are:

- Per-chloro-ethylene
- Tri-chloro-tri-fluoro-ethane

The solvent after dry cleaning is removed first by centrifugal action followed by evaporation. The solvent being expensive is filtered off and recycled. Darker colored articles are dry-cleaned after the lighter colored ones. All articles require to be aired after the dry-cleaning process. Where Per-chloro-ethylene is not suitable, a system called Aquatex (from Iowa Techniques) is used. It involves the use of bio-degradable chemicals and water and a controlled stage-by-stage drying temperature that restores the article to its original condition.

As technology vendors strive to automate every face of operations, computerized laundry systems have been in use since the mid-eighties. Some hotels are experimenting with Windows based laundry software and ozone washing. G.A. Braun has developed a cutting edge, interactive

PC video-conferencing product called Serview that enables qualified technicians to provide customer and support service through contemporary two-way high speed audio and video conferencing. Ozone is a powerful oxidizer and ozone washing is an energy efficient system that can cut laundry costs by 50%. Ozone washing became popular in the US in the mid-eighties. It is carried out by mass injecting ozone into the laundry system via the cold water lines. The resulting ozonated water facilitates the breakdown of insoluble dirt's leading to a whole host of benefits. Ozone washing, the brainchild of Guest Care Inc., cuts detergent use by 60%. It reduces the need for hot water and can cut energy costs by 80%. Little hot water, reduced chemicals and shorter wash cycles greatly extends the life of linen.

4.5. Pressing and finishing processes

Laundry pressing is a process in which the moisture out of clothing is forced out by external pressure. The pressed water is removed to let it dry faster and reduce wear from rubbing against other clothes.

A laundry press is an appliance being used more and more for a busy lifestyle. The invention of the washing machine has made this process easier, but not everyone can afford to have one in their home. With a typical hand-held iron, it takes time to get out all those wrinkles we put there ourselves throughout our day with normal wear and tear on clothes; using something like a laundry press will help you enjoy that freshly pressed look no matter what your schedule looks like!

A modern person's life often doesn't leave us much time for things such as cooking or house cleaning – which means doing these chores yourself after work hours is just wishful thinking most days. Thankfully though, some innovators came up with appliances designed specifically to make chores such as laundry pressing a whole lot faster and easier to accomplish. The laundry press is just one of these but has proven to be the best for most people.



Figure 4.5.1 Pressing process

4.5.1 Objects of Pressing /Ironing

Pressing or ironing has different types of objects which are mentioned below:

1. Removal of unwanted creases and crinkles,
2. Shaping,
3. To apply creases where necessary,
4. Under pressing,
5. Final pressing.

1. Removal of unwanted creases and crinkles:

Various types of unwanted creases and crinkles arise during manufacturing the garments. These may be formed due to the washing of garments. Pressing or ironing is done here to remove those unwanted crinkles and creases from the garments.

2. Shaping:

In the apparel dart and seam are used for proper shaping to the wearer. Pressing is done here to increase the beauty and attractiveness of the created shape by using dart and seam. In some cases, it needs to shrink or stretch of garments parts for shaping.

3. To apply creases where necessary:

In the garments manufacturing industry, pressing or ironing is done for applying a creasing effect in the apparel to increase the beauty. Also pressing or ironing is done before sewing the garments to increase the beauty and proper sewing.

4. Under pressing:

Before sewing the garments, some parts needed minimum pressing to sewing easily and beautifully which is called under pressing. In the readymade garments industry, under pressing is done for making coats, jackets, and trousers.

5. Final pressing:

After making the garments, pressing is done finally before folding which is called final pressing. Pressing or ironing is done here to increase the beauty of garments and to impart a flat appearance to the clothing.



Figure 4.5.2 finishing final result

Self-check-4

Test-I: Multiple choices

Instruction: Choose the right answer for the given question. You are provided 2 minute for each question and each point has 2 Points.

1. Which one of the following is the purpose of care labeling code?
 - A. It defines the method of laundering.
 - B. It defines the method of wearing.
 - C. It defines the method of storing.
 - D. It defines the method of packing.
2. Which one of the following information is NOT available in guest laundry list?
 - A. Type of laundry service
 - B. Guest room number
 - C. Any special instruction by guest
 - D. Guest room rates
3. A guest called informing that he would want to send his laundry for washing and would want the item to be delivered to him on the same day. Which service should the Attendant recommend?
 - A. Normal service
 - B. Express service

Part-II Matching

Instruction: select the correct answer form the given choice. You have given 2 Minute for each question. Each question carries 2 Point.

- | “A” | “B” |
|-------------------------|--|
| -----1. Color | G. Chemicals used in washer machine |
| -----2. Borax | H. Laundry Sorting mechanism |
| -----3. washing | I. Done by machine and hand |
| -----4. Dry cleaning | J. Fabric maintains or keeps its color |
| -----5. Color fast ness | K. Done only by machine |
| | L. Using a solvent other than water |

Test II: Short Answer writing

Instruction: write short answer for the given question. You are provided 5 minute for each question and each point has 2 Points.

7. What is the dry cleaning? (2)
8. Write the two solvents commonly used in dry laundry? (2)
9. List three sort items for dry cleaning techniques? (2)

Operation sheet 4: Perform Dry cleaning functions

Operation Title: Wash soiled linen and fabric using laundry washer and dryer machine

- **Purpose:** To Sort items for dry cleaning process
To apply cleaning agents and chemical in washer machine
To operate laundry equipment
To Apply Pressing and finishing processes

Conditions or situations for the operations:

- ✓ Safe working area
- ✓ Proper operating tools and equipment
- ✓ Appropriate working PPE

Equipment Tools and Materials:

- Dry cleaning fabrics
- Water
- Energy source
- Dry cleaning laundry machine
- Stain remover
- Dry cleaning Detergents
- Dry cleaning Laundry chemicals
- Washers/extractors
- hangers
- Basin
- Pails, dippers and laundry brushes
- Washing boards
- Spotting gun
- Sorting baskets and shelving
- Softener
- Bleach

Steps in doing the task

- Step 1: Wear appropriate PPE
- Step 2: Prepare equipments, chemicals and materials
- Step 3: Check the cleanliness and condition of washing machine
- Step4: Sort laundry items
- Step5: Weight soiled clothes
- Step6. Load the item in laundry machine
- Step7. Set the cycle selector to wash/rinse
- Step 8- Perform Un load the washed cloth on hamper/basket

Step 9- Perform Pressing and finishing processes

Quality Criteria: Assured performing of all the activities according to the procedures

Precautions:

- ✓ Wearing proper PPE for the duty
- ✓ Make working area hazard free
- ✓ Use the Wright cleaning chemicals

Lap Tests 4

Name: _____

Date: _____

Time started: _____

Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks accordingly.

Task 1: Perform wear appropriate PPE

Task 2: Perform sorting item for dry cleaning

Task 3: Perform dry cleaning laundry functions

Task 4: Perform Pressing and finishing processes

.

Unit Five: Iron laundered items

This Unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Sorting washed items for ironing

Checking ironing equipment

- Setting temperature on ironing equipment
- Checking cloths before ironing
- Ironing laundry items

This unit will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this unit, you will be able to:

- Sort washed items for ironing
- Check ironing equipment
- Set temperature on ironing equipment
- Check cloths before ironing
- Iron laundry items

5.1 Sorting washed items for ironing

Sorting is the easiest part of washing clothes, right? Wrong. Sorting is the most difficult and time-consuming part of laundry. If done incorrectly sorting ruins clothes and can damage machines. When done properly sorting saves invaluable time, energy, and money. There are **six** main things to look for when sorting laundry. Actually placing the clothing in the proper pile is only one of them.

- **Check clothing tags.**

Read the tags thoroughly to determine how the clothes should be washed dried and ironed. Most items will have mainly normal washing instructions. You might be surprised though that you have items that are meant to be hand washed or not dried in the dryer. Pay attention to fabric type. Set these items aside in their own “Special Care” pile

- **Turn clothing right side out.**

Make sure none of the legs of your pants, or arms of your shirts are stuck in the garment improperly. If you are washing overalls, take the time now to clasp the latches of the overalls to their proper buttons, keeping them from getting broken, stretched or ripped. If you had any clothing tags that instructed you to wash the clothing inside out, make sure you remembered to do so.

- **Check all pockets.**

It is best to have a bowl nearby to hold the contents of your pockets. Failing to check pockets can leave some nasty surprises, like lipstick, cell phones, important paperwork, or even money.

- **Check for sewing repairs.**

Make sure there are not any loose threads, rips, button repairs, or other sewing repairs. If you find any, repair them before you wash the clothes. Washing them with problems will only make the problems bigger.

- **Check for stains.**

They will need to be pretreated or soaked before washing and drying. If you dry a stain, you will most likely have a stain for life.

- **Sort the clothing.**

There are many different methods to sorting. Some people sort by color. Others sort by fabric type. There are some adventurous souls who actually never sort clothing. Your sorting method will likely be determined by the size of your family and contents of your wardrobes. Here are some of the sorting categories that may demand special attention. Make sure there are not any loose threads, rips, button repairs, or other sewing repairs. If you find any, repair them before you wash the clothes. Washing them with problems will only make the problems bigger.

5.2 Checking ironing equipment

Ironing equipment any task, ironing included, is made significantly easier and more pleasurable with the correct tools and accessories. Most people would agree that ironing is not a well-loved chore, but why does it get such a bad rap? The thing that gets most people hot and bothered is that ironing takes too long, and even after all the effort, they still don't get it quite right so, what if we told you ironing could be easier, take up less time, and also be oddly satisfying with the right ironing equipment? It's time to bury old ironing habits of decades gone by and catch up with the latest ironing tools and shortcuts that make it sweet and simple.

- **Quality Steam Iron**

What exactly should you look for in a quality steam iron? Firstly, don't feel bamboozled by all the fancy features, one thing counts above all else, and that's steam output. The more steam your steam iron creates, the faster you'll slice through those wrinkles and be done with your laundry pile. In my experience, one steam iron stands out above the rest, the Rowena Steam Force, but depending on your budget, you may want to check out the runners-up for your perfect fit, check them all out here.

- **Ironing Board with Iron Holder**

This is another essential tool that comes with a seemingly endless amount of options, so let's cut to the chase. There are 2 main considerations when buying an ironing board. Firstly, and most importantly, it should be comfortable. If the ironing board is at the correct height, you won't add

backache to your ironing experience. The size and width of your board will also make ironing easier. For average clothes ironing, a 14 inch width is perfect, but if you’re ironing larger items like bedding, then an 18 inch board will mean more ironing coverage with less repositioning.

Secondly, an iron holder makes placing your iron down safe and simple. It is designed to withstand the full heat of the iron’s soleplate and because you can place the iron down face first, the chance of it falling is drastically reduced.

- **Ironing Board Cover (Padded)**

A quality ironing board cover is designed to withstand repeated exposure to the heat and steam created by the steam iron. The lining is also a key component in reducing the amount of time you spend ironing as it reflects the heat and steam that neutralizes wrinkles.

The best ironing board cover is one that is well padded. You don’t need to buy the most expensive ironing board on the market, but if you do buy cheap, consider upgrading the ironing board cover. A well-padded cover will avoid scorch and shine marks on clothing and prevent imprints from the grid pattern of the base.

- **Portable Ironing Mat (a.k.a. Ironing Blanket)**

If you need a light and portable ironing solution or a “quick fix” ironing surface, then you’ll love this clever little ironing accessory. It’s a heat resistant blanket that you simply unfold and get to work ironing on. Check out our full review of the best ironing mats available online. Setting up the ironing board makes perfect sense when you have a large load of ironing to tackle, but its overkill if all you need is a quick once-over to freshen up a single item. An ironing mat converts almost any surface like a bed, kitchen counter, washing machine or dryer into a convenient ironing surface. Because it folds up neatly and weighs very little, it’s a good option for camping, RV’s, sewing classes or for packing in your luggage when you’re traveling on holiday. There are even magnetic designs that convert your washer or drying into the perfect make-shift ironing board.

- **Silicone Iron Resting Pad**

A silicone iron resting pad will help avoid accidental burns and extend the life of your ironing board cover. They are especially ideal if your ironing board doesn’t have a dedicated rest area or

if you're using a tabletop board. In these instances, you'll need a heat resistant surface to rest your iron.

- **Ironing Cloth**

An ironing cloth, or pressing cloth as it is also called, is used as a protective layer between your clothing and the hot surface of the soleplate. It prevents you from accidentally scorching a garment if the temperature of the iron is set too high for the fabric you're working with. The best ironing cloth is a free one. This essential accessory doesn't have to cost you a cent... although if you wanted to be a bit fancy, there are several transparent silicone options available on Amazon for a very reasonable price. Any clean piece of cotton cloth, like a dish towel or pillowcase, will do the trick. The benefit of a transparent ironing cloth is you can ensure your garment is placed flat and you can be sure you're not ironing in any accidental creases

- **Soleplate Cover or Iron Shoe Plate**

If you want to avoid scorching or shining fabrics without using an ironing cloth, a safe and convenient way to do this is by attaching a shoe plate or soleplate cover to the base of your iron. It protects your clothing from the full heat of the iron's soleplate, but still allows the steam to pass through and effectively remove creases. They also work really well for older irons that have a scratched or chipped soleplate that catches on your fabric when you iron. An iron plate cover will give you that smooth glide and save you having to replace the iron. Iron plate covers are usually a bit larger than the average soleplate and have a spring adjustment so one size can fit almost any make of steam iron.

- **Steam Iron Storage Case & Board Caddy**

An iron caddy serves as a convenient steam iron storage case. This is one of the safest ways to store and cool your iron as it is secured and safe from toppling, even if the power cord is accidentally snagged or pulled. The caddy cleverly accommodates your ironing board too. Units that hold both the iron and the board make for compact and convenient storage.

- **Iron Cord Clips & Cord Holder**

Iron cord clips help you guide the power cable in and around your ironing work station, making sure it is neat and out of the way while you work. An iron cord holder is a metal arm that holds

the cord up while you're ironing. It allows you to iron without the power cord snagging on your clothing. This will help you glide through the ironing in record time while saving you any unnecessary aggravation. Universal iron cord clips and cord holders can be attached to any ironing board. They are affordable, quick to install and easily available online.

- **Distilled Water**

Most steam irons manufacturers today recommend using tap water. However, some areas have very high mineral content in their water and this is one of the most common reasons for the deterioration of your appliances. If you notice a white, chalky buildup in your kettle, this will give you an idea of what your steam iron looks like on the inside. To reduce this lime scale, dilute your tap water with 50% distilled water. As distilled water contains no impurities, it will reduce the rate of the buildup. Don't use distilled water alone, as this can affect the working parts of your iron in other ways and cause spitting when using steam.

- **Ironing Starch**

Starching your shirts not only makes the shirt look crisper and polished, but it makes ironing them so much easier. Ironing with starch helps set the fabric so you don't have to repeatedly iron over the same area. Starch will help keep wrinkles out of clothing when you wear them so they'll look better for longer and if you spill or mark the fabric, the starch layer lines the material so stains are easier to remove. Mary Ellen's Best Press is rated one of the best starch for ironing on Amazon. Using a spray bottle makes application super convenient.

- **Versatile Spray Bottle**

A spray bottle will always come in super handy in any laundry room. They are best used for laundry fragrances, starch and softeners to help add that finishing touch to your ironing. To make the task even more pleasurable and satisfying, spend a few dollars extra and get a continuous water mister, they're a dream to use. Spray bottles were traditionally used to moisten fabrics before ironing. Today's quality steam iron provides adequate moisture/steam for most ironing needs, and of course, has a built-in spray feature, but adding scented water or softening detergents is not recommended... and this is where the spray bottle comes into play.

- **Lint Roller**

If you iron a lot of whites or men's shirts, a lint roller will not only leave your clothing looking fluff-free, but it will save you having to clean your iron as frequently. Tiny fibers, or lint, attach themselves to our clothes in the washing and drying cycles and form part of what builds up and burns on the soleplate of your iron. By running the roller over the surface of the shirt before starching and ironing, you pick up the majority of these fibers and avoid any marks.

- **Soleplate Cleaning Kit**

Over time, tiny fibers from the fabrics you work with will burn and create brown spots on the soleplate of your steam iron. If you use starch on your clothing, you'll find this occurs more frequently and its best to remove it when you notice it, to avoid marking your clothing. These brown burn marks are super easy to remove. There are several homemade cleaners that you can use to clear away the buildup, but the fastest and most efficient is a soleplate cleaner. Simply heat your iron, apply a dab of cleaner to the cloth provided in the kit, and run the iron over the cloth. The burn will rub off on the cloth as you iron over the area where the cleaner was applied, leaving your iron perfectly shiny and clean.

- **Sleeve Ironing Board**

If you are looking for that freshly laundered look in your work shirts or jacket sleeves, then you'll love how functional and effortless a sleeve board will make the job. It can be placed on your ironing board or any elevated surface. Simply slip the sleeve over the narrow ironing surface and iron out any unwanted creases. There are even ironing boards available with a sleeve board attached to the underside. After pressing the body of the shirt on the large surface, the sleeve board can just be lifted into position to handle the sleeves and folded away when you're done.

- **Tailors Ham or Pressing Ham**

This piece of equipment is for anyone wanting to take their ironing to the next level. A tailor's ham may seem a little "antiquely" and intimidating at first, but it's actually pretty easy to use. Position it under the area that you need to press and it will allow you to smooth out the fabric while maintaining the shape of the garment. It creates that perfect tailored look on shaped shoulders and waistlines. It has a cotton side for use on fabrics that handle higher iron

temperatures and the wool side is for more delicate materials that suit cooler iron temperatures. You can also use a rolled-up bath towel to achieve a similar effect.

- **Tailors Clapper**

If your goal is to press your dress suits like a professional tailor, then a clapper will be a welcome addition to your ironing ensemble. A clapper, or tailors clapper as it is also known, is a wooden tool that helps you achieve perfectly crisp and flat seams. Once you've pressed an area with your steam iron you place the clapper over the seam and hold it there until the fabric has cooled. The heat and steam from the iron is trapped under the wooden surface and the result is a seam or pleat that's flatter than flat. It also helps avoid the risk of scorch or shine marks on these slightly raised surfaces. Note: A clapper is not to be confused for a person who claps and praises you for finally completing the ironing.

5.3. Setting temperature on ironing equipment

Temperature on ironing equipment, what is the required temperature of an iron to line and fabrics and Iron Setting Temperatures linen and fabric should be consider before setting an iron.

In Celsius and Fahrenheit Cotton:

- 204 C/400 F. Viscose/Rayon
- 190 C/375 F. Wool
- 148 C/300 F. Polyester
- 148 C/300 F

Table 5.3.1 setting temperature on iron

Setting	Description	High
3	Easy care	306
4	Wool	349
5	Cotton	356

5.4. Checking cloths before ironing

Tidy and ironed clothes are a fundamental requirement for professional life. One always looks magnificent, with neat and well-ironed clothes. Before ironing laundered cloth we must consider such points:

- ✓ The cloth should be Clean – Never run iron-on dirty clothes. Heat makes the stains permanent. They won't go off of your clothes. Wash your clothes properly before ironing them.
- ✓ Cloth Material – One should know the cloth material before running the iron on clothes. Sometimes, we use high temperature on delicate clothes, which can burn the cloth piece.
- ✓ Temperature – If you know the fabric of the cloth, set the temperature accordingly. Usually, delicate synthetic clothes should be ironed at a very low temperature. Always check the temperature first.
- ✓ Always check the sole plate before ironing. You never know, there might be stains, which can transfer onto your favorite shirts and tops. Before ironing your clothes, do a test-run on a rag that way, you'll be able to tell if the plate is dirty (it might not always be obvious visually).
- ✓ Some manufacturers strongly recommend you ironing linen or fabric items in a particular way, especially delicate fabrics. Before you throw them in with the rest of your clothes, check the labels and see what instructions are given. They may recommend you avoid ironing.
- ✓ Before ironing any item you must check tires, stained and type of fabric to be ironed.

5.5. Ironing laundry items

There are certain items of clothing and linen that need to be ironed while others do not; you can wear a shirt or finely embroidered blouse that isn't ironed, but you can live without linens or sheets being ironed-although that can be one of life little luxuries.

5.5.1 Basic ironing techniques

Even if you have to do only very small areas of the garment at a time make sure it's flat before you start.

For example, this area here is crinkled when doing a collar so DON'T GO OVER IT or you'll set a crease that will be more difficult to remove.



If you don't make sure that the general area is flat before

you start ironing any backward or sideways movement will

140	Skills Author/Copyright	men and guest clothes	Version -1 December, 2022
-----	----------------------------	--------------------------	------------------------------

1. Use Both Hands

The wrinkles in the edge of this shirt disappear when the top is pulled while pressing the iron down on the bottom. Ironing under this sort of tension will give the best results and can only be done using two hands.



Most importantly you should use both hands to smooth down any garment you're ironing before you place the iron on it.

2. Move the Iron in Straight Lines

The iron is a shape similar to that of a ship for a reason. As it goes forward, it pushes fabric aside and smooths its way forward. If you then move straight back you will be going over a part that is already flat and make it flatter.



3. Move Your Body

The aim in good ironing is to move the iron forward in the direction of its nose. You can see what happens in the left hand picture when you try to do this without moving your body. The arm and body are totally twisted and it's very difficult to iron. Moving to the end of the board (illustrated right) makes it easier to maneuver and better results will follow.

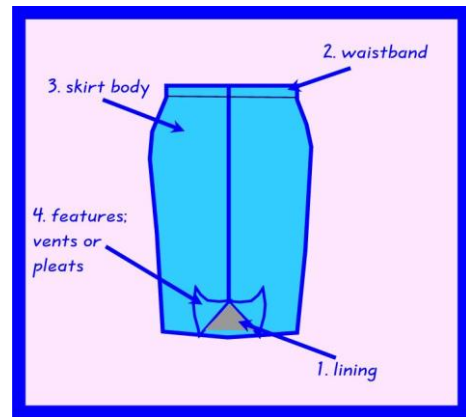


The Order for Skirts

1. Linings should always be done before the rest of the skirt.

I	2. Waistbands are next, going all the way around the skirt.
---	---

3. Skirt bodies should now be



5.5.2 Follow the steps in pressing and ironing

Ironing of skirt

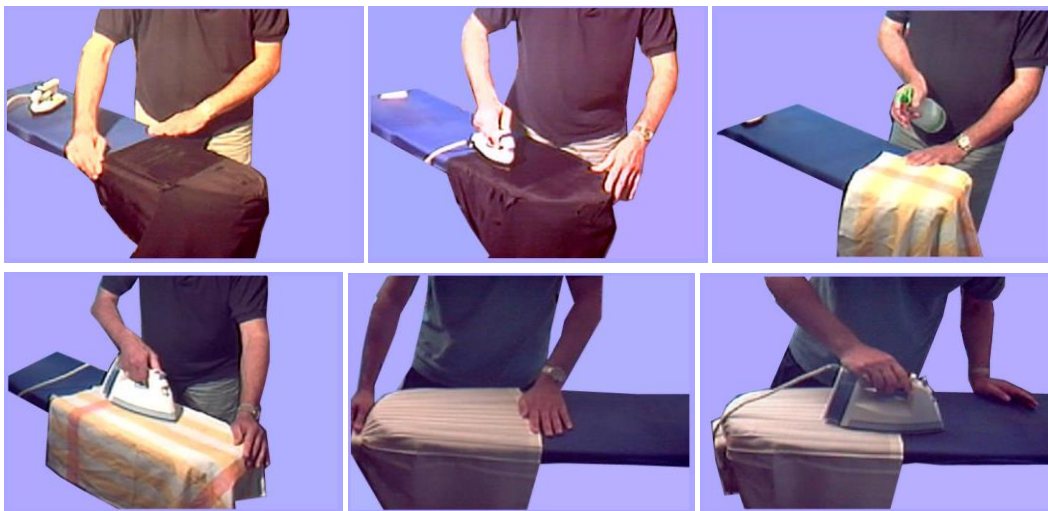


Figure PRESS SHIRT



The shirt order

1. The collar part of shirt should be first
2. Yolk/ shoulder part
3. The cuff then the sleeve
4. The body of shirt

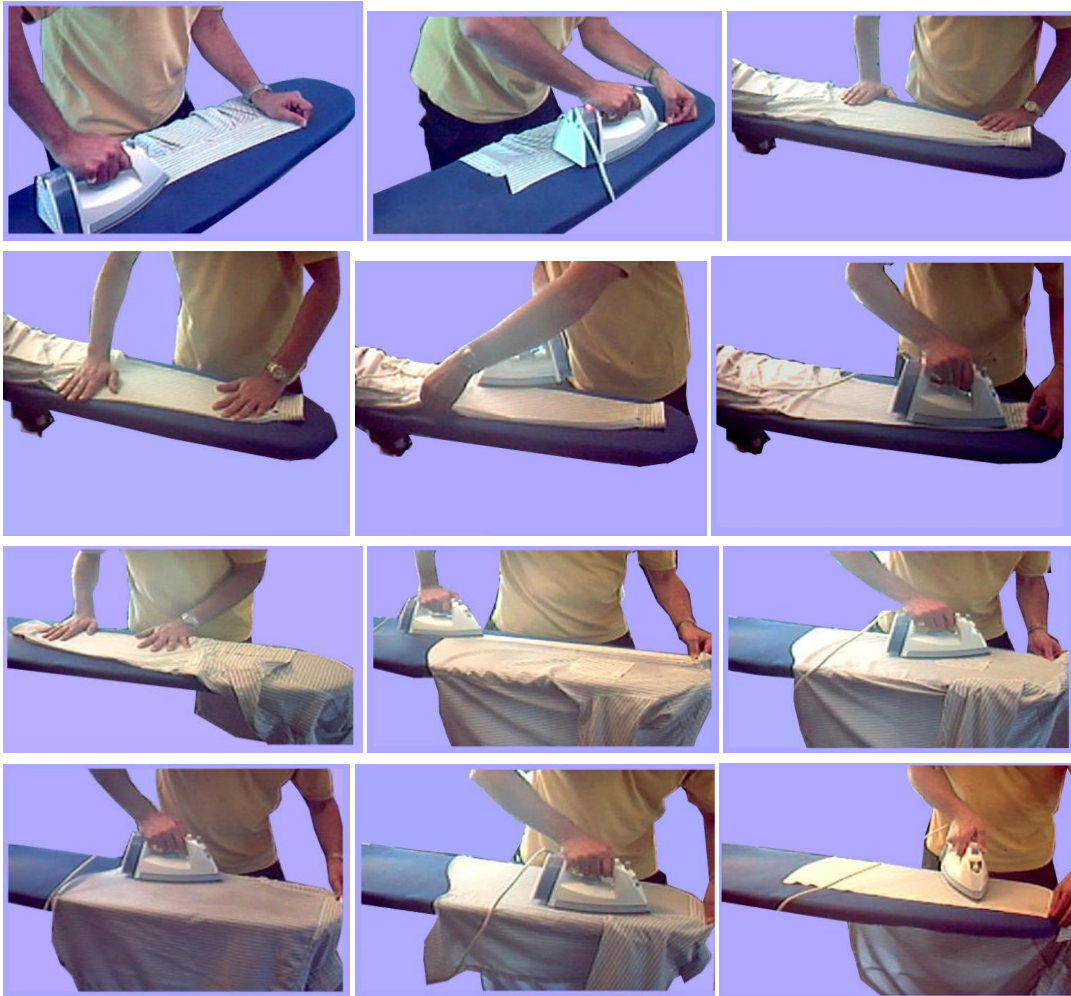
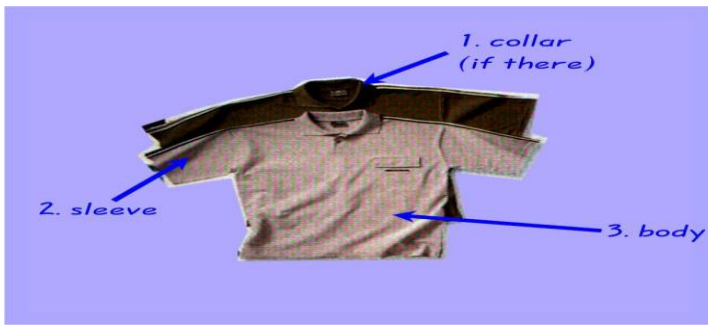
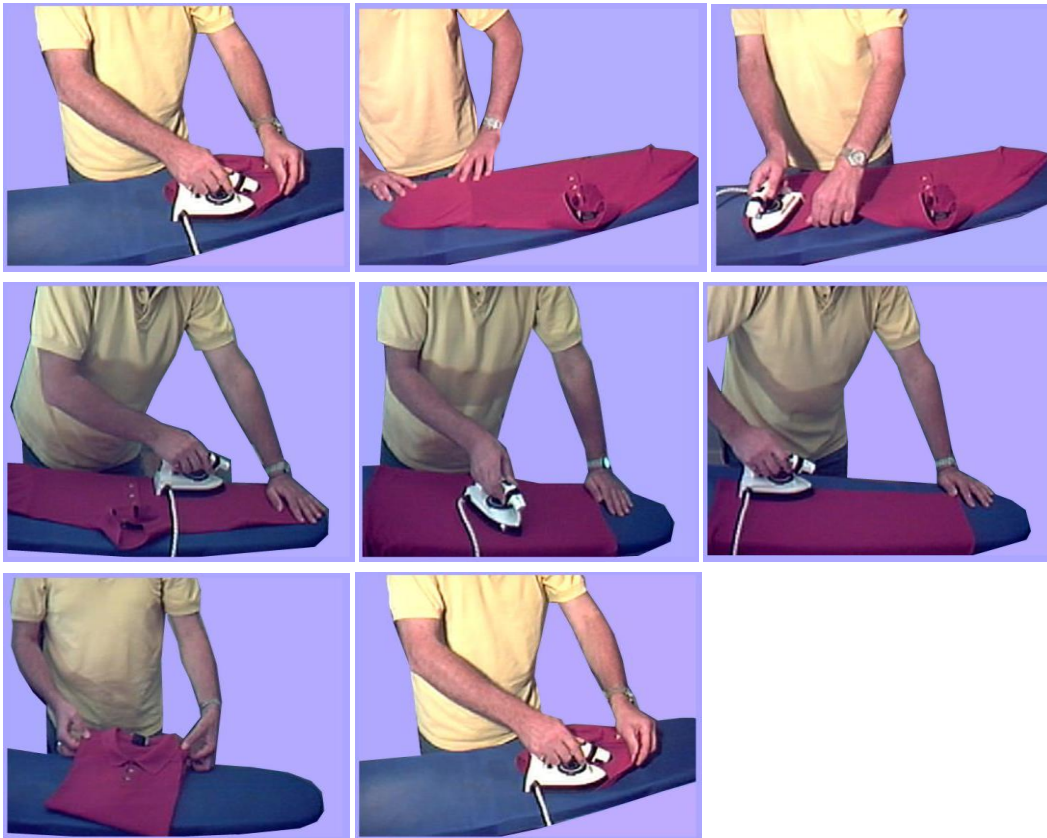


Figure PRESS T-SHIRT WITH COLLAR

1. As with t-shirt a collar is the first thing ironed
2. Sleeves are next and will mostly be short, the Difficulty being sorting the distortion that Happens because the fabric is so soft
3. Body is the final step just as in a shirt, the reason being that you manipulate the garment more when ironing the rest so if you do the body first you will crease it doing the sleeves and collar.



Follow the steps in pressing t-shirt with collar



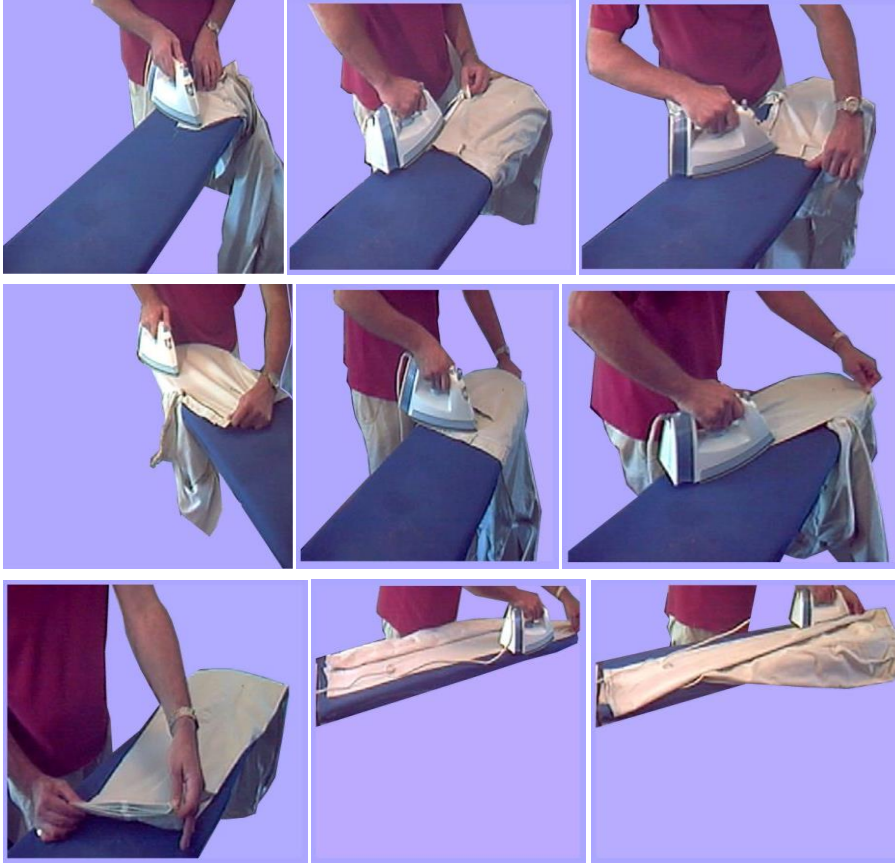
PRESS TROUSERS



The order of trousers/slacks

1. Start on pocket and lining part of trousers/slacks
2. Press waistband part
3. Press top all around area
4. Finally press legs & creases together.

Follow the steps in pressing trousers



Self-check-5

Test-I: Multiple choices

Instruction: Choose the right answer for the given question. You are provided 2 minute for each question and each point has 2 Points.

1. Which one is faster than irons?
A. steamer B. presser C. flat iron D. Metal iron
2. More efficient than steaming on durable cotton or easily wrinkled linen items.
A. iron B. presser C. steamer D. flat iron
3. A long, narrow padded board, often with collapsible supporting legs.
A. ironing board B. flat iron C. sprayer D. hanger

Part-II Fill in the blank

Instruction: select the correct answer form the given choice. You have given 2 Minute for each question. Each question carries 2 Point.

1. Most steam irons manufacturers today recommend using _____ water.
2. _____ is the most difficult and time-consuming part of laundry.
3. A _____ pad will help avoid accidental burns and extend the life of your ironing board cover

Test II: Short Answer writing

Instruction: write short answer for the given question. You are provided 5 minute for each question and each point has 2 Points.

1. What is the first step ironing shirt? (2)
2. Write the two considerations when buying an ironing board? (2)
3. List three methods of checking cloths before ironing? (2)

Operation sheet 5: Iron laundered items

Operation Title: Ironing, packaging and presenting fabrics and guest clothes

- **Purpose:** To Sort washed items for ironing
 - To Check ironing equipment
 - To set temperature on ironing equipment
 - To check cloths before ironing
 - To Iron laundry items
 - To Packageing and presenting guest laundry

Conditions or situations for the operations:

- ✓ Safe working area
- ✓ Proper operating tools and equipment
- ✓ Appropriate working PPE

Equipment Tools and Materials:

- Water
- Energy source
- Flat iron
- Stain remover
- Water spray bottle
- Table
- Potable chair
- Heat sealing equipment and roll plastic
- Irons
- Steam presses
- hangers
- Basin
- Pails, dippers and laundry brushes
- Ironing accessories
- Spotting gun
- Sorting baskets and shelving
- Washed linen
- Washed guest clothes
- Packaging materials
- Valet trolley

Steps in doing the task

- Step 1: Wear appropriate PPE
- Step 2: Prepare equipments, chemicals and materials
- Step 3: Sort ironing items
- Step4: Set temperature ironing equipments

Step5: Ironing and pressing laundered linen and guest clothes

Step6. Folding ironed item

Step7. Airing on the shelves

Step 8- Package and present linen and guest laundry

Step 9- Perform post ironing activities /cleaning and storing equipment

Quality Criteria: Assured performing of all the activities according to the procedures

Precautions:

- ✓ Wearing proper PPE for the duty
- ✓ Make working area hazard free
- ✓ Set and adjust water level of the ironing equipments

Lap Tests 5

Name: _____

Date: _____

Time started: _____

Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks accordingly.

Task 1: Perform wear appropriate PPE

Task 2: Perform sort item for ironing

Task 3: Perform iron or press shirts

Task 4: Perform press trousers and skirts

Task 4: Perform fold and airing

Task 4: Perform package and present guest clothes

Unit Six: Process laundered items

This Unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Post-cleaning laundry activities
- Internal records and billing
- Delivering laundered in-house and guest clothes

This unit will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this unit, you will be able to:

- Identify Post-cleaning laundry activities
- Process Internal records and billing
- Deliver laundered in-house and guest clothes

6.1 Post-cleaning laundry activities

6.1.1 Post cleaning laundry activities includes:

- Airing
- Storage
- Spot check
- Packaging and delivering
- Minor Maintenance
- Cleaning laundry equipment
- Replenish laundry detergent, chemicals and supplies

Airing

This is essential prior to storage, especially if the articles are to be stored in closed shelves. It ensures that any moisture that is likely to cause mildew will be got rid of.

The Storage of processed laundry items

The amount of space to be allocated for storage depends on the size and type of operation and the quantum of linen supplies. When designing the storage space for linen it is necessary to consider the type of shelves required, the method of storage as well as hygiene and safety factors. Before storing guest laundry you should Check and Inspect the quantity to ensure that the amount of laundered linen tallies with the amount of soiled linen articles sent and as well as inspection of the quality of wash.

Should be properly done in a well–designed storage space Linen should be allowed a rest period to recuperate before it is used again. The life span of linen is greatly increased if proper rotation of stock is carried out, thereby ensuring a ‘rest period’ between uses. As a general rule, at any given time, approximately 50% of the total linen inventory should be on the shelves, 25% in use and 25% in processing. The storage area must be isolated from the soiled linen and kept clean

6.2. Internal records and billing

Many records are entered on a day-to-day basis for the exchange of launder linen between the linen room and floors / departments. Launder linen records are essential to know the number of receiving and issuing laundry items and damaged linen during laundry operation and any maintenance needed. In laundry store Periodical stocktaking is carried out and the annual

Table 6.2.2 Guest laundry order sheet/format

Guest Count	Hotel Count	Laundry Items	Price Laundry
		Normal shirt	
		Blouse	
		Sport/T-shirts	
		Jacket	
		Dress	
		Skirt	
		Pants/J Jeans	
		Shorts	
		Pajamas (2pcs)	
		Night Gown	
		Undershirt	
		Underpants	
		Socks/Stockings (Pair)	
		Handkerchief	

Guest Count	Hotel Count	Dry Cleaning / Pressing Items	Price	
			Dry Cleaning	Pressing
		Suit (2 pieces)		
		Jacket / coat		
		Slacks / pants		
		Shirt / blouse		
		Skirt		
		Skirt (full pleated)		
		Dress		
		Dress (evening)/ Tuxedo		
		Vest		
		Sweater		
		Tie / scarf		
		Overcoat / long coat		
Shirts return <input type="checkbox"/> On hanger <input type="checkbox"/> Starch <input type="checkbox"/> Folde				
Plus 15% surcharge 15%				
Total amount				

6.3. Delivering laundered in-house and guest clothes

6.3.1 Introduction

When delivering/returning guest articles, some will be folded while others are placed on hangers. Folded articles are put together in a laundry bag with the room number written on it, while hanging articles are clubbed with a tie label indicating the room number.

Guest's laundry should be:-

- Returned to the guests correctly packed and presented
- Returned to the guests by the time it was promised

When delivering or returning the guests laundry, you need to:-

- Knock the door using your establishment standards
- Use guests name and announce you're self
- Enter the room using your establishment standards
- Leave the garment in the correct location in line with your establishment standards

Valet service

Most first-class hotels offer laundry and cleaning services to their guests. However, it is common to contract these services with the outside commercial laundry because of the specialization and time consuming details that valet services entails. Properties that wash and dry-clean employee uniforms and draperies usually process valet service items in –house. The valet is the one receiving guest laundry from guest room and returning finished guest laundry item to the guests using your establishment standards.



Valet trolley- used for delivery of guest laundry

Self-check-6

Test-I: Multiple choices

Instruction: choose the right answer for the given question. You are provided 2 minute for each question and each point has 2 Points.

1. A type of trolley used to store soiled linen before laundry?
A. Valet trolley B. Hamper C. Porter trolley D. Room service trolley
2. Which one is wrong about Guest's laundry?
A. Should be delivered on time B. Correctly packed and presented
C. A and B are answers D. None of the above

Part-II Fill in the blank

Instruction: select the correct answer form the given choice. You have given 2 Minute for each question. Each question carries 2 Point.

1. The amount of space to be allocated for storage depends on the ____and ____of operation.
2. _____trolley used for delivery of guest laundry.
3. _____ is essential prior to storage, especially if the articles are to be stored in closed shelves

Test II: Short Answer writing

Instruction: write short answer for the given question. You are provided 5 minute for each question and each point has 2 Points.

1. What is the procedure delivering or returning the guests laundry? (2)
2. Discuss in short internal records and billing in laundry? (2)
3. List two methods of post cleaning laundry activities? (2)

Unit Seven: Complete laundering process

This Unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Packaging and presenting laundry items
- Storing laundered items
- Cleaning and storing laundry supplies and agents
- Replenishing laundry supplies and agents

This unit will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this unit, you will be able to:

- Package and present laundry items
- store laundered items
- Clean and store laundry supplies and agents
- Replenish laundry supplies and agents

7.1. Packaging and presenting laundered items

7.1.1 Packaging and presenting guest laundry

Packaging and presenting Guest laundry may include:

- ✓ Folding
- ✓ Wrapping
- ✓ Heat sealing
- ✓ Labeling
- ✓ Providing quality reports
- ✓ Package and Present guest laundry according to enterprise standards and procedures.
- ✓ Complete records and billing information according to enterprise procedures
- ✓ Return finished items to guest according to required timeframes.
- ✓ Packaging and presenting guest laundry

7.1.2 Packing Clothes

Although perhaps somewhat more relevant to business than vacation travel, most of us do not want to spend our days looking like an untidy mess. Thus a natural concern is how to arrive at our destination(s) with our packed clothing in a fairly pristine state, with unwrinkled garments that have creases only where we want them.

Returning finished items to guest Steps

1. Gather all the garments you anticipate needing. Then put half of them back. Select clothes in the same color family, packing more tops than bottoms. For a five-day trip, you'll likely need five shirts, two pairs of slacks or jeans, and one skirt, two pairs of jeans, three sweaters, two dresses, and five shirts. Step
2. Choose knits, wools, and cottons. These fabrics tend to resist wrinkles and are versatile (some garments can do double duty, like yoga pants that moonlight as pajamas). Step
3. Roll softer garments and fold stiffer ones. Underwear, T-shirts, jeans, cotton pants, and knitwear won't wrinkle when rolled tightly, stiffer fabrics, such as starched cotton shirts, blazers, dressy pants, and skirts, should be carefully folded. Step
4. Arrange rolled items in the bottom of the bag. Think of your suitcase as a three-layer cake. The suitcase is the icing; the rolled items make up the first layer. Step

5. Place folded garments next. For your (cream filling) middle layer, start with the longest items, like skirts and slacks. Stack the garments on top of each other, alternating waists with hems. Position the pile flush with the suitcase, draping leftover fabric over the opposite end. (This conserves space since thick waistbands won't be piled on top of one another.) Wrap the draping ends of the pile into the center. Next, lay collars of shorter items, like shirts, at the hinge with the ends over the handles. Fold the collars and ends over once and fold the arms in.
6. Cover the pile with a dry-cleaning bag. It's like Botox for your clothes. Because of the bag's slippery surface, folded clothes don't stay in one place long enough for creases to set. Easy upgrade: Place a bag between each layer of clothing.
7. Top the pile with the clothes you'll need first. Anything goes with your top layer—a bathing suit or pajamas.
8. Snake belts around the perimeter of the bag. This cradles your three layers.

7.2. Storing laundered items

7.2.1 Store your laundry products and Store liquid detergent:

- **Keep at a stable, cool temperature**

While liquid detergents are not sensitive to moisture, they are sensitive to heat. At a very low temperature, it can freeze and become unstable, while at a high temperature its active components can separate and also destabilize. Three Ways to Use Laundry Room Storage Effectively Laundry Rooms is more than just a place to wash and dry your clothes. Any extra storage can be used to store cleaning supplies, back stock of household products and infrequently used household items. Create designated storage areas, zones, for each group, such as in **these three examples**.

1. Laundry Care Products Store laundry detergent, fabric softener, and stain removers in one location. Keep all laundry detergents and supplies together and within reach of the washer and dryer. Label the shelf so that everyone in the family can return items to their correct place. If the shelf is hard to reach store a small number of detergent pods in a container on top of the washing machine. Make sure the pods are well out of sight of little children, but that teenagers doing their own laundry can access them easily.
2. Household Cleaners Store cleaners in upper shelves (not under the sink) to keep them out of reach of children. If you have large refill containers for your cleaners, store those higher up

since you won't need to access as frequently. Use shoe box sized plastic bins to store smaller items such as extra sponges or scrub brushes.

3. **Household Back Stock** If your laundry room is located on the same level of your house as the kitchen; it makes sense to use the storage space for household items such as extra paper towels, paper plates, Ziploc bags, and trash bags. If your laundry room is located on the same floor as your bedrooms, it may make sense to use that space to store back stock items such as shampoo and conditioner, soap, lotion and toilet paper. Either way, labels the shelves with the name of the items which belongs in that spot. Other items commonly stored in a laundry room are shoe care products, vases, light bulbs, and batteries. Store these items in labeled, clear plastic bins to make them easy for family members to find. If you have space in your laundry room consider installing a wall-mounted drying rack for swimwear, lingerie, and other items which don't go in the dryer. Keep a coin jar in your laundry room so you'll have somewhere to deposit change you find in pockets. A sharpie comes in handy for labeling clothes tags. Write the owner's initials on the tag to avoid confusion about which that clothing item belongs to. Your laundry room should also have a trash can for dryer lint and used dryer sheets.

7.3. Cleaning and storing laundry supplies and agents

• How to store cleaning products safely

The house is clean, your cleaning products did the trick, and now it's time to put them away until next time (which always comes too soon!). But where should cleaning chemicals be stored? It's not always as simple as putting them in a cupboard and walking away – there are various factors to think about. Luckily, this handy guide is here to help explain how to store cleaning products to keep you and your household safe. **Key Steps**

- ✓ Always read the ingredients list before using any product and use products as directed on the label. The instructions are there for your safety.
- ✓ Know what different ingredients are used for and whether they can be harmful - keep reading to learn more about this.
- ✓ Avoid mixing products together. Some cleaners are perfectly safe to use but can produce toxic gasses if mixed with other chemicals.
- ✓ Use their original containers.

- ✓ Keep them locked away and out of reach from children and pets. If you think anyone may have ingested bleach by accident, call a doctor immediately.
- Identifying toxic products the definition of non-toxic is ‘not poisonous or toxic however, there is no standard for labeling products as such! Therefore, the expression has very little meaning in terms of consistency or accuracy. In this article, you’ll find information on some ingredients that are regularly identified as ‘toxic’.
- Cleaning product storage

Information on the proper storage of cleaning products (especially laundry detergent storage) is always a topic worth researching, especially if you have young children or pets in your home. The key steps to remember are as follows.

- ✓ Read the recommended storage instructions on the label we promise the brand knows their products best! Ensure any storage space you choose is cool, clean, and dry.
- ✓ Close the product properly after use Keep all products in their original container.
- ✓ In general, keep products on a shelf high enough that a child or pets can't reach you shouldn't have to risk the container falling on you when you need them next.
- ✓ Consider installing a child safety latch regardless of shelf height if you store your products in an open space (such as the garage), secure them in a box or shelf under lock and key. You never know what kids will discover when they're playing!

7.4. Replenishing laundry supplies and agents

Replenishment is the controlled and regular movement of inventory from an upstream point on the supply chain to a downstream location that requires sufficient stock to cover demand. The process of inventory replenishment varies depending on the type of business and circumstances. For example, it can refer to any of the following situations:

- ✓ Shipping raw materials from suppliers to manufacturing facilities;
- ✓ Moving inventory from reserve product storage to packing and shipment locations;
- ✓ Ordering inventory from suppliers to ensure that a warehouse or fulfillment center has adequate product; and
- ✓ Relocating stock from a warehouse to a pickup facility or retail.
- ✓

Self-check-7

Test-I: Multiple choices

Instruction: choose the right answer for the given question. You are provided 2 minute for each question and each point has 2 Points.

- What is the temperature of water recommended to washed darks cloths?
A. Hot B. Cool C. Cold D. Warm
- All clothing can be tumble dried.
A. true B. false
- Which of the following could be considered a delicate?
A. Jeans's B. Athletic clothing
C. A fancy dress D. Towels

Part-II Fill in the blank

Instruction: select the correct answer form the given choice. You have given 2 Minute for each question. Each question carries 2 Point.

- The process of inventory replenishment varies depending on the type of_____
- _____ is a person responsible to deliver guest laundered and packed clothes.
- Before presenting guest fabrics the laundry attendant should be _____ neatly ironed cloth and place on shelves to air.

Test II: Short Answer writing

Instruction: write short answer for the given question. You are provided 5 minute for each question and each point has 3 Points.

- Write the Cleaning Guide after use of washing machine?
- What is the Purpose of Check all received items for laundry?
- What you do laundry supplies and agents finished on hand?

Unit Eight: Reduce negative environmental impacts

This Unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Using energy, water and other resources
- Disposing wastes and hazardous substances

This unit will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this unit, you will be able to:

- Use energy, water and other resources
- Dispose wastes and hazardous substances

8.1. Using energy, water and other resources

8.1.1 Use efficiently laundering items

- **Washing Machine**

1. Do not under or overload the machine.
2. Ideally the machine should be two thirds full.
3. Daily clean the machine.
4. Weekly run the machine empty on the hottest wash with no detergent.
5. Check hoses yearly for cracks and bubbles. Replace as needed to avoid leaks.
6. Turn the machine off at the wall at the end of the day.

- **Tumble Dryer**

1. When using a tumble dryer, it must never be opened and /or unload without completing cool down, this is a major cause of fabric damage.
2. Always set time and temperature
3. Always remove items from tumble dryer at the end of the cycle (danger of fire/creasing).
4. Fold and drape items immediately
5. Never leave items in basket (spontaneous combustion/creasing).
6. Turn off at the wall at the end of the day.
7. Never put items on top or sides (danger of fire).
8. Do not leave running and unattended for long periods, e.g. at night.
9. Clean filter with a soft brush at least once daily (wear the PPE mask).
10. Daily wipe top, side and door
11. Weekly vacuum the lint screen and drum carefully using soft brush attachment on the hose

- **Steam Press**

1. Only trained staff should use the steam press
2. It must be switched off between uses.
3. Displays a “hot surface” sign where machine is left unattended but still hot.
4. At the end of the day, ensure the press is turned off and the thermostat is set to ‘O’
5. Change the cover weekly and wash at 65 Celsius.

6. Clean the sole plate weekly
7. Do not iron poly cotton bedding tablecloths or napkins.

- **Hot Irons and Ironing Boards**

1. Do a visual electrical check before use.
2. Store a hot iron safely it cools.
3. Don't leave unattended and still turned on
4. Display a 'hot surface' sign as necessary.
5. Clean regularly
6. Board- ensure the covers are fitted correctly
7. Do not iron any poly cotton bedding, tablecloths or napkins.

8.2. Disposing wastes and hazardous substances

1. Disposal of hazardous waste

Some things used in the hospitality industry must be disposed of (got rid of) properly or they can damage the environment (the land, sea, water and air) and cause pollution. Some examples are:

- ✓ cleaning chemicals
- ✓ laundry chemicals
- ✓ corrosive products such as oven and drain cleaners
- ✓ used cooking oils
- ✓ aerosol containers
- ✓ insecticides and pesticides such as mouse bait
- ✓ Flammable products.

2. Reduce use of chemicals

Many chemicals can't be put into normal rubbish bins or tipped down drains. Your workplace will have its own guidelines for disposing of toxic products safely.

Best of all is if the workplace tries to use fewer and less harmful chemicals, such as:

- ✓ Using micro fiber cleaning products that don't need chemicals

- ✓ Using cleaning products that are not toxic
- ✓ Using spray bottles rather than aerosol sprays
- ✓ Using environmentally friendly methods to remove pests, such as mouse traps instead of bait, and insect screens on windows.

Chemicals and the environment

Some chemicals are toxic and bad for the environment. When we empty our buckets down the sink, the chemicals can get into the water. Here are 3 ways to reduce the effect of cleaning chemicals on the land, water and air.

1. Use micro fiber cloths for cleaning laundry equipments. These are made of a special material that removes dirt, grease and dust without chemicals.
2. Choose bio-degradable laundry products, which are less harmful to the environment.
3. When you dilute chemicals with water, only use the amount stated on the label. Using more won't wash cloth any better and puts extra chemicals into the environment.

Disposal of hazardous waste

Hazardous waste

How to dispose of it

- | | |
|--|---|
| 1. Unwanted concentrated chemicals, aerosol sprays and empty chemical containers | Your workplace should have them collected by a licensed industrial waste company who will dispose of them safely. |
| 2. Diluted chemicals e.g. used laundry water | Pour it down a cleaner's sink with a chemical waste trap that feeds into the sewer system, not the storm water. |

Recycling

Recycling means re-using something. Your workplace probably has recycling rubbish bins where you put bottles and cans into one bin and food scraps in another. There may also be a separate bin for paper and cardboard. Things like paper, glass and

plastic can be used again; food can be turned into compost and used on garden beds.

It is good for the environment because it reduces the number of new things that must be manufactured and there is less rubbish sent to the tip.

Cleaning rubbish bins

- ✓ You will be shown how to clean rubbish bins. However, here are some guidelines.
- ✓ Wear gloves.
- ✓ Clean up anything that has fallen out of the bins.
- ✓ Wash and scrub the bin and its lid, using hot water, detergent and a scrubbing brush.
- ✓ Use a hose if you are cleaning a large outside bin.
- ✓ Rinse out the bin with hot water and disinfect it, using bleach or other chemical.
- ✓ Wash the area around the bin, such as floors and walls, or hose the area surrounding the outside area.
- ✓ Tip the bin over on its side to allow it to air dry, if it is small enough to do so.
- ✓ Take off your gloves and wash your hands well after you have finished.



Figure 8.2.1 Rubbish bins

Self-check-8

Test-I: Say True or False

Instruction: choose the right answer for the given question. You are provided 2 minute for each question and each point has 2 Points.

1. We can simply reduce negative environmental impacts by efficiency use of a laundry items.
2. When we are using a laundry machine is better to over load cloths.
3. Daily cleaning the washing machine is important for the wellbeing of the machine.
4. At the end of the day have turned the machine off.
5. Always removing items from tumble dryer at the end of the cycle

Part-II Fill in the blank

Instruction: select the correct answer form the given choice. You have given 2 Minute for each question. Each question carries 2 Point.

1. _____Means re-using unwanted trash to use full item.
2. When you dilute chemicals with water, only use _____.
3. _____ are toxic and bad for the environment.

Test II: Short Answer writing

Instruction: write short answer for the given question. You are provided 5 minute for each question and each point has 3 Points.

1. Write threeTypes of hazard that may encounter in laundry?
2. Write two Safe handling suggestions of laundry equipment?
3. In what way you dispose Diluted chemicals?

Reference

- Balan Raghu, Hotel Housekeeping Operation and management, 2009 G.C
- Author: Mr G. Raghubalan Hotel Housekeeping: Operations and Management 3e (includes DVD) 3rd Edition Publisher: Oxford University Press; 3 edition (January 1, 2016)
- Author: Frank Hochsmann Housekeeping Management Paperback – July 13, 2018, 126 pages Publisher: Books on Demand (July 13, 2018)
- <https://businessyield.com/management/laundry-equipment/>
- <https://www.ihmnotes.in/assets/Docs/Sem-3&4/Accommodation/Ch-4%20Laundry.pdf>
- <https://www.asean.org/wp-content/uploads/images/2013/economic/matm> page 82
- Hotel housekeeping operation management Authors: G. Raghubalan, Smritee Raghubalan Publisher: Oxford University Press, 2007
- Mr. G. Raghubalan, Hotel Housekeeping Operation and management, 2016 G.C
- Author cherly mendelson, laundry, publisher Simon and Schuster total page 416. Released 2009/11/24

Participants of this Module (training material) preparation

N o	Name	Sex	Qualific ation (Level)	Field of Study	Experie nce	Organiz ation/ Instituti on	Mobile number	E-mail
1	Asteway Admasu	F	B	Hotel and tourism management	7yrs	TTI	0943824862	astewayadmasu2@gmail.co
2	Hana mariyam Dereje	F	B	Hotel management	7yrs	APTC	0922228784	Derejehani@gmail.co m
3	Fetiya Jemal	F	B	Hotel and tourism management	13yrs	YIC	0946681167	Jemalf205@gmail.co m
4	Tewodros Wendafrash	M	B	Hotel management	20yrs	H/P/T/C	0926440271	tediwandafrash@ gma il.com
5	Adugnaw Muche	M	B	Hotel management	5yrs	B/dar PTC	0918253770	Adugnawmuche21@ gmail.com
6	Zebene Gebre	M	B	Hotel management	13yrs	W/sodo poly	0920256388	Zebenegebre@gmail. com
7	Solomon Tadesse	M	B	Hotel management	14yrs	W/ro siheenPTC	0910805056	Solomontadesse1976 @gmail.com