



Federal Democratic Republic of Ethiopia
OCCUPATIONAL STANDARD

LEATHER PROCESSING

NTQF Level I, II, III and IV



Ministry of Labor and Skill
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Introduction

Ethiopia has embarked on a process of reforming its TVET-System. Within the policies and strategies of the Ethiopian Government, technology transformation – by using international standards and international best practices as the basis, and, adopting, adapting and verifying them in the Ethiopian context – is a pivotal element. TVET is given an important role with regard to technology transfer. The outcome-based TVET system is the orientation at the current and anticipated future demand of the economy and the labor market.

The Ethiopia Occupational Standard (EOS) is the core element of the Ethiopian National TVET-Strategy and an important factor within the context of the National TVET-Qualification Framework (NTQF). They are national Ethiopian standards, which define the occupational requirements and expected outcome related to a specific occupation without taking TVET delivery into account.

This document details the mandatory format, sequencing, wording and layout for the Ethiopian Occupational Standard comprised of Units of Competence.

A Unit of Competence describes a distinct work activity. It is documented in a standard format that comprises:

- Occupational title, NTQF level
- Unit code
- Unit title
- Unit descriptor
- Elements and Performance criteria
- Variables and Range statement
- Evidence guide

Together all the parts of a Unit of Competence guide the assessor in determining whether the candidate is competent.

The ensuing sections of this EOS document comprise a description of the respective occupation with all the key components of a Unit of Competence:

- Chart with an overview of all Units of Competence for the respective level including the Unit Codes and the Unit Titles;
- Contents of each Unit of Competence (competence standard);
- Occupational map providing the technical and vocational education and training (TVET) providers with information and important requirements to consider when designing training programs for this standard, and for the individual, a career path;

UNIT OF COMPETENCE CHART

Occupational Standard: Leather Processing

Occupational Code: IND LEP

NTQF Level I

[IND LEP1 01 1121](#)

Identify hide and skin for leather processing

[IND LEP1 02 1121](#)

Undertake material and product handling

[IND LEP1 03 1121](#)

Perform Unhairing operation

[IND LEP1 04 1121](#)

Perform Trimming and Piling

[IND LEP1 05 1121](#)

Perform Drying Operation

[IND LEP1 06 1121](#)

Apply 5S Procedures

Occupational Standard: Leather Processing

Occupational Code: IND LEP

NTQF Level II

[IND LEP2 01 1121](#)

Perform assortment and grading

[IND LEP2 02 1121](#)

Prepare Chemicals for leather processing

[IND LEP2 03 1121](#)

Perform Beamhouse and Tanning operations

[IND LEP2 04 1121](#)

Perform post tanning and crust operations

[IND LEP2 05 1121](#)

Perform Finishing Operation

[IND LEP2 06 1121](#)

Operate Tannery Effluent Treatment Plant

[IND LEP2 07 1121](#)

Prevent and Eliminate MUDA

Occupational Standard: Leather Processing

Occupational Code: IND LEP

NTQF Level III

[IND LEP3 01 1121](#)

Monitor Technical
Process

[IND LEP3 02 1121](#)

Determine Suitability of
materials for End Use

[IND LEP3 03 1121](#)

Perform Production
Planning Processes

[IND LEP3 04 1121](#)

Perform Selection and
Grading

[IND LEP3 05 1121](#)

Perform Color Matching

[IND LEP3 06 1121](#)

Monitor and Coordinate
Tannery Waste
Treatment

Occupational Standard: Leather Processing

Occupational Code: IND LEP

NTQF Level IV

[IND LEP4 01 1121](#)

Manage Production Operations

[IND LEP4 02 1121](#)

Test Raw Materials and Products

[IND LEP4 03 1121](#)

Design Process and Product Development

[IND LEP4 04 1121](#)

Plan and Implement Production within a Work Area

[IND LEP4 05 1121](#)

Perform machines Set up for Product Change

[IND LEP4 06 1121](#)

Perform Production Costing

[IND LEP4 07 1121](#)

Implement and monitor environmentally sustainable work practices

LEVEL I

Occupational Standard: Leather Processing level I	
Unit Title	Identify hide and Skin for leather processing
Unit Code	IND LEP1 01 1121
Unit Descriptor	This unit covers the knowledge, attitude and skill required to identify and characterize the values of skins/hides for leather processing and understand their applications.

Elements	Performance Criteria
1. Identify characteristics of hides and skins	1.1. Histological characteristics of hides and skins are identified 1.2. Parts, functions and composition of hides and skins are identified 1.3. Skins/hides of different <i>animals</i> are identified 1.4. Skins/hides are classified based on different <i>methods using appropriate PPE</i> 1.5. <i>Economic value of hide and skin is understood</i>
2. Understand traditional skin/hide processing and their applications	2.1 Traditional techniques of processing are identified 2.2 Plants used for traditional processing techniques are identified 2.3 The various traditional uses of skin/hide are identified 2.4 Advantage and disadvantages of traditional leather processing are understood.
3. Understand modern skin/hide processing and their applications	3.1 <i>Pre-tanning</i> and tanning leather processing are explained 3.2 <i>post-tanning</i> leather processing are explained. 3.3 The various modern uses of skin/hide are understood

Variable	Range
Animals	May include but not limited to: <ul style="list-style-type: none"> • Sheep • Goat • Cattle • Exotic (crocodile, ostrich, camel, fish, etc.)
Methods	May include to: <ul style="list-style-type: none"> • Size • Weight • Preservation • General appearance
Pre-tanning	May include but not limited to: <ul style="list-style-type: none"> • Soaking • Unhairing/liming

	<ul style="list-style-type: none"> • Deliming • Bating • Pickling
Post-tanning	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Wetback • acidification • Neutralization • Re-tanning • Dyeing • Fat-liquoring • fixation

Evidence Guide	
Critical aspects of competence	<p>Demonstrates skills and knowledge in:</p> <ul style="list-style-type: none"> • Identify the types of animal skins • Identify and understand the Characteristics of hides/skins • Traditional techniques of skins/hides processing and use • Modern techniques of skins/hides processing and use
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • understand traditional hair-on skins/hide techniques • understand traditional hair removal techniques of skin/hide • understand modern skin/hide processing • Various uses of traditional skin/hide products • Various uses of modern skin/hide products • understand preservation methods of skins/hides • Work details, responsibilities and expected performance outcomes • The organization's rules, guidelines and standards • Basic knowledge about leather processing • Types of raw materials
Required skills	<p>Demonstrates skills of:</p> <ul style="list-style-type: none"> • Select the raw materials based on their characteristics • Differentiate skins/hide based on their sources • Preserve skin and hides • Demonstrate traditional techniques of hides and skin process • Communicate within the work place
Resources Implication	<p>Access is required to real situations, including work areas and skins/hides.</p>
Methods of Assessment	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	<p>Competence may be assessed in the work place or in a simulated work place setting.</p>

Occupational Standard: Leather Processing Level I	
Unit Title	Undertake Material and Product handling
Unit Code	<u>IND LEP1 02 1121</u>
Unit Descriptor	This unit covers the attitude, knowledge and skills required to handle materials or products during their receipt, preservation, storage and transport for leather production.

Elements	Performance Criteria
1. Receive materials and products	1.1. Dockets, tags or other identification are checked to confirm receipt of correct <i>materials</i> or <i>products</i> 1.2. Chemicals, consumables, equipment, and other non-hide/skin goods received are stored in accordance with <i>OHS practices</i> and workplace procedures 1.3. Skin/hide are received and transferred to appropriate area for processing or storage 1.4. Records are maintained for receipt and storage of materials
2. Preserve and store hide/skin	2.1. Preservation of skins/hides is assessed and/or carried out by salting or other designated <i>method</i> 2.2. Skins/hides are prepared for storage or transport using relevant manual handling procedures 2.3. Skins/hides are stored or transported with relevant standard 2.4. Records are maintained to expedite movement of the skins/hides through the various phases of treatment
3. Pack, store or distribute semi-processed/end product	3.1 Paperwork is checked to confirm instructions 3.2 Packing of semi-processed or end product is assessed according to workplace procedures for handling of products 3.3 Products to be stored are transferred to designated location using correct manual handling practices 3.4 Dispatch orders are coordinated to meet delivery or collection timetables 3.5 Records are maintained

Variable	Range
Materials	May include but not limited to: <ul style="list-style-type: none"> • skin and hide • chemicals • consumables

	<ul style="list-style-type: none"> • equipment
Method	<ul style="list-style-type: none"> • salting • chilling • air dried
Products	<ul style="list-style-type: none"> • Semi-processed products refer to: pickle, wet-blue & crust • End products refer to: finished leather (upper, garment, glove, etc.)
OHS practices	<p>OHS practices are in line with Legislative/regulatory requirements and must include hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and may include:</p> <ul style="list-style-type: none"> • Manual handling techniques • Personal protective equipment • Safe materials handling • Taking of rest breaks • Ergonomic arrangement of workplaces • Following marked walkways • Safe storage of equipment • Housekeeping • Reporting accidents and incidents • Other ohs practices relevant to the job in the tannery <p>Legislative/regulatory requirements may refer but not limited to:</p> <ul style="list-style-type: none"> • Relevant Federal and regional legislative or regulatory requirements related to labor laws:

Evidence Guide	
Critical aspects of competence	<p>Demonstrates skills and knowledge in:</p> <ul style="list-style-type: none"> • Checking dockets, tags, etc. • Handling chemicals or other hazardous substances safely • Preserving, transporting and storing hides or skins • Using appropriate manual handling procedures • Transporting and storage of semi-processed or end products
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • Quality standards and procedures related to materials handling for leather production • Processes for recording and reporting • Workplace and reporting procedures • Workplace practices • Safety and environmental aspects of relevant organization processes • Ohs practices, including hazard identification and control measures • Characteristics and hazards of chemicals and other materials

	delivered to the tannery
Required Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • Practice sequence operations to receive, store goods and transport (where relevant) as per technical procedures and standards. • Preserve skins or hides appropriately • Communicate within the workplace • Carry out work according to ohs practices
Resources Implication	Access is required to real situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Leather Processing Level I	
Unit Title	Perform Unhairing Operation
Unit Code	<u>IND LEP1 03 1121</u>
Unit Descriptor	This unit covers the knowledge, attitude and skills required to perform unhairing operation in order to remove the hair from hides and skins, including effective use of chemicals, tools and related equipment

Elements	Performance Criteria
1. Confirm requirements	1.1 Occupational Health and Safety Procedures are applied 1.2 unhairing <i>chemicals, tools and equipment</i> are identified 1.3 Workplace for unhairing are arranged 1.4 Pre-operation duties are assessed to ensure fulfilling of the <i>Legislative/regulatory</i> and <i>OHS</i> requirements
2. Prepare Hides/skins for unhairing	2.1 Appropriate <i>unhairing method</i> is identified or confirmed based on the condition and type of raw material 2.2 Prepare hides/skins for unhairing based on processing method 2.3 Hair loosening and its subsequent removal is assessed
3. Perform unhairing	3.1 Hair is removed from hide/skins by machine or manually or solubilized in the drum 3.2 Unhaired pelt is checked for effective hair removal and moved to the next processes 3.3 Hair waste is managed accordingly 3.4 Records are completed 3.5 Documentation is maintained at each stage of the process to expedite movement through the various phases of treatment

Variable	Range
Machine, tools and chemicals	May include but not limited to: <ul style="list-style-type: none"> • Drum • Unhairing machine • Associated equipment • Wooden beam • Pallets • Unhairing knife • Baume meter • Lime, sulphide, enzyme
Unhairing Method	May include but not limited to: <ul style="list-style-type: none"> • Unhairing by painting of lime and sulphide paste • Hair burning method by using drum or paddles • Enzymatic unhairing

Legislative/regulatory	<p>May include: -</p> <ul style="list-style-type: none"> • National • Regional and • Organizational
OHS requirements	<p>May include but not limited to:</p> <p>Hazard identification and control, risk assessment and implementation of risk reduction measures specific to unhairing operation may include:</p> <ul style="list-style-type: none"> • Use personal protective equipment such as aprons/ rubber gloves and boots, eye goggle etc. • Handle sulphide and other unhairing assists cautiously • Reporting workplace accidents and incidents to the responsible person immediately • Clean and store the unhairing tools/equipment safely at the end of task • Clean the floor area and other materials immediately at the end of unhairing

Evidence Guide	
Critical aspects of competence	<p>Demonstrates skills and knowledge in:</p> <ul style="list-style-type: none"> • Ensuring correct preparation of hide/skins for unhairing • Conducting appropriate unhairing processes • Check the loosening of hair • Perform unhairing
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • Processes, tools and equipment's related to unhairing process • Characteristics and hazards of chemicals and other materials used in the unhairing process • Preparation and unhairing procedure • Quality standards and manual handling procedures • Safety and environmental aspects of relevant organization processes • Workplace procedures • OHS practices, including hazard identification and control measures • Processes and procedures for reporting and documentation
Required Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • Practice sequence operations perform hide/skins for unhairing • Use machine or manual processes to loosen and remove the hair • Communicate within the workplace
Resources Implication	<p>Access is required to real work areas, chemicals, tools and equipment in workplace and OHS practices.</p>

Assessment Methods	Competence may be assessed through: <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Leather Processing Level I	
Unit Title	Perform Trimming and Piling
Unit Code	<u>IND LEP1 04 1121</u>
Unit Descriptor	This unit covers the knowledge, attitude and skills required for trimming and piling operations that are performed in various stages of leather processing starting from raw to finishing

Elements	Performance Criteria
1. Identify and Prepare trimming and piling tools/ equipment	1.1 Personal safety equipment, where needed, is checked and obtained to ensure appropriateness 1.2 Knives are selected and their condition checked for suitability 1.3 Knives are sharpened or prepared, as required 1.4 Pallets, trimming tables, trolleys are arranged as required 1.5 Trimming and piling requirements are confirmed with operator or supervisor for the required processes
2. Perform Trimming and piling operations	2.1 Raw hides/skins and <i>output products</i> of various processes are prepared 2.2 Trimming and piling operations are performed 2.3 Trimming and piling are assessed as required in accordance with task requirements and workplace procedures 2.4 Trimming waste is monitored and disposed of in accordance with environmental and workplace procedures
3. Clean and store tools and equipment	3.1 Used <i>tools</i> and <i>equipment</i> are cleaned appropriately in readiness for next application 3.2 Stored tools and equipment after use in accordance with workplace and <i>OHS practices</i>

Variable	Range
Output products	May include: - <ul style="list-style-type: none"> • Fleshed pelts • Pickle pelt • Wet blue • Crust leather • Finished leather
Tools/equipment for trimming and piling	May include but not limited to: <ul style="list-style-type: none"> • Knives • Grinding stone • Tables • Pallets Trolleys

OHS practices	<p>Hazard identification and control, risk assessment and implementation of risk reduction measures specific to trimming and piling may include:</p> <ul style="list-style-type: none"> • Use personal protective equipment such as aprons/ rubber gloves and boots etc. • Handle trimming knives cautiously • Clean the trimming and piling area and other materials immediately at the end of unhairing and dispose the wastes if any accordingly • Reporting workplace accidents and incidents to the responsible person immediately • Clean and store the trimming tools to the right place at the end of task
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Evidence Guide	
Critical aspects of competence	<p>Demonstrates knowledge and skills in:</p> <ul style="list-style-type: none"> • Confirming trimming and piling requirements • Sharpening and prepare knives as required • Selecting pallets, trolleys and piling tables as required • Performing trimming and piling tasks • Cleaning and storing tools and equipment
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • Tools and equipment used for trimming and piling operations • Procedures for knife handling and sharpening • Safe disposal of trimming wastes • Quality standards and manual handling procedures for trimming and piling • Safety and environmental aspects of relevant processes, particularly working with sharp objects • Workplace procedures • Ohs practices including hazard identification and control measures in trimming and piling operations • Processes and procedures for recording and reporting
Required Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • Apply technical procedures of trimming and piling operations • sharpen and utilize of knife accordingly • Communicate effectively within the workplace
Resources Implication	<p>Access is required to real work areas, materials and tools/equipment on workplace and OHS practices.</p>
Methods of Assessment	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	<p>Competence may be assessed in the work place or in a simulated work place setting.</p>

Occupational Standard: Leather Processing Level I	
Unit Title	Perform Drying Operation
Unit Code	IND LEP1 05 1121
Unit Descriptor	This unit covers the knowledge, attitude and skills required to perform vacuum drying, overhead drying and toggling of leather.

Elements	Performance Criteria
1. Confirm requirements	<p>1.1 Requirements for the drying operation such as drying time, condition of crust leather (moisture content), conveyor speed, temperature, vacuum pressure etc. are confirmed</p> <p>1.2 Pre-drying duties are assessed to ensure the fulfilling of requirements.</p> <p>1.3 The required tools are identified to perform drying operation</p>
2. Prepare for drying	<p>2.1 Identify the drying method based on the type of final product (upper, garment, glove etc) to be produced</p> <p>2.2 Crust leathers are loaded onto frames/conveyor in the case of natural drying or otherwise prepared for thermal drying</p> <p>2.3 Where applicable, equipment adjustments are set in accordance with manufacturer and workplace procedures</p>
3. Carry out drying tasks	<p>3.1 Perform different methods of leather drying as per the requirement</p> <p>3.2 Monitor drying time, temperature and other conditions</p> <p>3.3 Drying is assessed in accordance with workplace procedures and, where applicable</p> <p>3.4 Unloading or removal of dried leathers from the rack, conveyor, equipment or drying area is assessed using correct OHS practices</p> <p>3.5 Dried leathers are piled and then shifted to the subsequent processes or storage</p> <p>3.6 Records are completed according to the operation</p> <p>3.7 Documentation is maintained for further movement of the dried leather through the various subsequent operations</p>

Variable	Range
Equipment adjustments	May include but not limited to: <ul style="list-style-type: none"> • Drying time • Drying temperature • Conveyor speed • Vacuum pressure • Other conditions
Pre-drying duties	May include but not limited to: <ul style="list-style-type: none"> • Provision of steam • Provision of compressed air • Provision of cold water
Drying Methods	May include but not limited to: <ul style="list-style-type: none"> • Overhead hook drying • Vacuum drying • Toggle drying
tools	May include but not limited to: <ul style="list-style-type: none"> • Vacuum sleaker • Toggling clamp
OHS practices	Hazard identification and control, risk assessment and implementation of risk reduction measures specific to drying operation may include: <ul style="list-style-type: none"> • Apply appropriate safety procedures while doing mechanical/ thermal drying • Use appropriate personal protective equipment • Handle the crust leathers carefully before and after drying • Following marked walkways • Reporting accidents and incidents

Evidence Guide	
Critical aspects of competence	Demonstrates knowledge and skills in: <ul style="list-style-type: none"> • Confirming drying requirements • Carrying out appropriate preparation for drying • Performing drying operation as per the requirements
Required Knowledge and Attitudes	Demonstrates knowledge of: <ul style="list-style-type: none"> • Understand various drying methods • Drying tools/equipment and procedures • Procedures and requirements for drying • Adjustment requirements; including timing, temperature, pressure and other conditions • Monitoring processes and operator instructions • Quality standards and manual handling procedures • Safety and environmental aspects of relevant processes • Workplace procedures • OHS practices, including hazard identification and control measures
Required Skills	Demonstrates skills to:

	<ul style="list-style-type: none"> • Apply technical procedures of drying operations • Communicate effectively within the workplace
Resources Implication	Access is required to real work areas, heat energy, materials and equipment on workplace and OHS practices.
Assessment Methods	Competence may be assessed through: <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Lather Processing Level I	
Unit Title	Apply 5S Procedures
Unit Code	IND LEP1 06 1121
Unit Descriptor	This unit covers the knowledge, skills and attitude required to apply 5S techniques to his/her workplace. It covers responsibility for the day-to-day operations of the workplace and ensuring that continuous improvements of Kaizen elements are initiated and institutionalized.

Elements	Performance Criteria
1. Prepare for work.	<p>1.1. Work instructions are used to determine job requirements, including method, material and equipment.</p> <p>1.2. Job specifications are read and interpreted following working manual.</p> <p>1.3. OHS requirements, including dust and fume collection, breathing apparatus and eye and ear personal protection needs are observed throughout the work.</p> <p>1.4. Tools and equipment are prepared and used to implement 5S.</p> <p>1.5. Safety equipment and tools are identified and checked for safe and effective operation.</p> <p>1.6. Kaizen Board (Visual Management Board) is prepared and used in harmony with different workplace contexts.</p>
2. Sort items.	<p>2.1. Plan is prepared to implement sorting activities.</p> <p>2.2. Cleaning activities are performed.</p> <p>2.3. All items in the workplace are identified following the appropriate procedures.</p> <p>2.4. Necessary and unnecessary items are listed using the appropriate format.</p> <p>2.5. Red tag strategy is used for unnecessary items.</p> <p>2.6. Unnecessary items are evaluated and placed in an appropriate place other than the workplace.</p> <p>2.7. Necessary items are recorded and quantified using appropriate format.</p> <p>2.8. Performance results are reported using appropriate formats.</p> <p>2.9. Necessary items are regularly checked in the workplace.</p>
3. Set all items in order.	<p>3.1. Plan is prepared to implement set in order activities.</p> <p>3.2. General cleaning activities are performed.</p> <p>3.3. Location/Layout, storage and indication methods for items are decided.</p> <p>3.4. Necessary tools and equipment are prepared and used for setting in order activities.</p> <p>3.5. Items are placed in their assigned locations.</p>

	<p>3.6. After use, the items are immediately returned to their assigned locations.</p> <p>3.7. Performance results are reported using appropriate formats.</p> <p>3.8. Each item is regularly checked in its assigned location and order.</p>
4. Perform shine activities.	<p>4.1 Plan is prepared to implement shine activities.</p> <p>4.2 Necessary tools and equipment are prepared and used for shinning activities.</p> <p>4.3 Shine activity is implemented using appropriate procedures.</p> <p>4.4 Performance results are reported using appropriate formats.</p> <p>4.5 Regular shining activities are conducted.</p>
5. Standardize 5S.	<p>5.1 Plan is prepared and used to standardize 5S activities.</p> <p>5.2 Tools and techniques to standardize 5S are prepared and implemented based on relevant procedures.</p> <p>5.3 Checklists are followed for standardize activities and reported to relevant personnel.</p> <p>5.4 The workplace is kept to the specified standard.</p> <p>5.5 Problems are avoided by standardizing activities.</p>
6. Sustain 5S.	<p>6.1 Plan is prepared and followed to sustain 5S activities.</p> <p>6.2 Tools and techniques to sustain 5S are discussed, prepared and implemented based on relevant procedures.</p> <p>6.3 Workplace is inspected regularly for compliance to specified standard and sustainability of 5S techniques.</p> <p>6.4 Workplace is cleaned up after completion of job and before commencing next job or end of shift.</p> <p>6.5 Situations are identified where compliance to standards is unlikely and actions specified in procedures are taken.</p> <p>6.6 Improvements are recommended to lift the level of compliance in the workplace.</p> <p>6.7 Checklists are followed to sustain activities and report to relevant personnel.</p> <p>6.8 Problems are avoided by sustaining activities.</p>

Variable	Range
OHS requirements	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Legislation/Regulations/Codes of practice and enterprise safety policies and procedures. This may include protective clothing and equipment, use of tooling and equipment, workplace environment and safety, handling of material, use of fire fighting equipment, enterprise first aid, hazard control and hazardous materials and substances. • Personal protective equipment is to include that prescribed under legislation/regulations/codes of practice and workplace policies and practices. • Safe operating procedures are to include, but are not limited to the conduct of operational risk assessment and treatments associated with workplace organization. • Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping of equipment, extinguishing fires, enterprise first aid requirements and site evacuation.
Tools and equipment	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Paint • Hook • Sticker • Signboard • Nails • Shelves • Chip wood • Sponge • Broom • Pencil • Shadow board/Tools board
Safety equipment and tools	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Dust masks/goggles • Glove • Working cloth • First aid and safety shoes
Items	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Tools • Jigs/Fixtures • Materials/components • Machine and equipment • Manuals • Documents • Personal items (e.g. Bags, lunch boxes and posters) • Safety equipment and personal protective equipment • Other items which happen to be in the work area
The appropriate procedures	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Steps for implementing 5S (sort, set in order and shine) activities. • Written, verbal and computer based or in some other format.

Unnecessary items	<p>Are not needed for current production or administrative operation and include but not limited to:</p> <ul style="list-style-type: none"> • Defective or excess quantities of small parts and inventory • Outdated or broken jigs and dies • Worn-out bits • Outdated or broken tools and inspection gear • Old rags and other cleaning supplies • Electrical equipment with broken cords • Outdated posters, signs, notices and memos • Some locations where unneeded items tend to accumulate • In rooms or areas not designated for any particular purpose • In corners next to entrances or exists • Along interior and exterior walls • Next to partitions and behind pillars • Under the eaves of warehouses • Under desks and shelves and in desk and cabinet drawers • Near the bottom of tall stacks of items • On unused management and production schedule boards • In tools boxes that are not clearly sorted
Appropriate format	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • All items, necessary and unnecessary items.
Red tag	<p>A format prepared with a red color paper or card which is filled and attached temporarily on the unnecessary items until decision is made. The red tag catch people’s attention because red is a color that stands out. So to fill and attach red tag on items, asks the following three questions:</p> <ul style="list-style-type: none"> • Is this item needed? • If it is needed, is it needed in this quantity? • If it is needed, does it need to be located here?
Necessary items	<p>Are required in the workplace for current production or administrative operation in the amount needed.</p>
Shine activity	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Inspection • Cleaning • Minor maintenance May include, but not limited to: <ul style="list-style-type: none"> ➢ Tightening bolts ➢ Lubrication and Replacing missing parts
Tools and techniques to standardize 5S	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • 5S Job Cycle Charts • Visual 5S • The Five Minute 5S • Standardization level checklist • 5S checklist • The five Whys and one How approach(5W1H) • Suspension • Incorporation and Use Elimination • 5S slogans • 5S posters

	<ul style="list-style-type: none"> • 5S photo exhibits and storyboards • 5S newsletter • 5S maps • 5S pocket manuals • 5S department/benchmarking tours • 5S months • 5S audit • Awarding system • Big cleaning day • Patrolling system May include, but not limited to: <ul style="list-style-type: none"> ➢ Top management Patrol ➢ 5S Committee members and Promotion office Patrol ➢ Mutual patrol ➢ Self-patrol • Checklist and Camera patrols
Relevant procedures	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Assign 5S responsibilities • Integrate 5S duties into regular work duties • Check on 5S maintenance level • OHS measures such as signage, symbols / coding and labelling of workplace and equipment • Creating conditions to sustain your plans • Roles in implementation
Reporting	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Verbal responses • Data entry into enterprise database • Brief written reports using enterprise report formats
Relevant personnel	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Supervisors, managers and quality managers • Administrative, laboratory and production personnel • Internal/external contractors, customers and suppliers

Evidence Guide

Critical Aspects of Competence	<p>Demonstrates skills and knowledge to:</p> <ul style="list-style-type: none"> • Discuss how to organize KPT. • Describe the pillars of 5S. • Discuss the relationship between Kaizen elements. • Implement 5S in own workplace by following appropriate procedures and techniques.
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • Kaizen principle, pillars and concept • Key characteristic of Kaizen • Elements of Kaizen • Wastes/MUDA • Basics of KPT • Aims, benefits and principles of KPT • Stages of KPT • Structure and role of the components of Junior KPT

	<ul style="list-style-type: none"> • Concept and parts of Kaizen board • Concept and benefits of 5S • The pillars of 5S • Three stages of 5S application • Benefits and procedure of sorting activities • The concept and application of Red Tag strategy • Relevant Occupational Health and Safety (OHS) and environment requirements • Benefits and procedure of set in order activities • Set in order methods/techniques • Benefits and procedure of shine activities • Inspection methods • Planning and reporting methods • Method of Communication • Benefits of standardizing and sustaining 5S • Tools and techniques to sustain 5S • Ways to improve Kaizen elements • Benefits of improving kaizen elements • Relationship between Kaizen elements
Required Skills	<p>Demonstrates skills of:</p> <ul style="list-style-type: none"> • Participating actively in KPT • Technical drawing • Communication skills • Planning and reporting own tasks in implementation of 5S • Following procedures to implement 5S in own workplace • Using sorting formats to identify necessary and unnecessary items • Improving workplace layout following work procedures • Preparing labels, slogans, etc. • Reading and interpreting documents • Observing situations • Gathering evidence by using different means • Recording activities and results using prescribed formats • Working with others • Solving problems by applying 5S • Preparing and using kaizen board • Preparing and using tools and equipment to implement and sustain 5S • Improving Kaizen elements by applying 5S • Standardizing and sustaining procedures and techniques to avoid problems • Procedures to standardizing 5S activities • Analyzing and preparing shop layout of the workplace • Standardizing and sustaining checklists
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through:

	<ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

LEVEL II

Occupational Standard: Leather Processing Level II	
Unit Title	Perform Assortment and Grading
Unit Code	<u>IND LEP2 01 1121</u>
Unit Descriptor	This unit covers the knowledge, attitude and skills required to grade, sort or class raw hides/skins, pickle and wet blue leather to ensure the quality of raw material, process. and to identify the suitability of the material for a particular end product

Elements	Performance Criteria
1. Determine requirements	1.1 Procedures or standards are identified to meet requirements 1.2 <i>Tools/equipment</i> used to facilitate assortment and grading are identified 1.3 Requirements are checked to confirm correct application of procedures or standards according to <i>OHS practices</i>
2. Assort raw hides and skins	2.1 Hides/ skins are assessed to determine the <i>preservation requirements</i> , 2.2 Hides/ skins are assessed to determine the <i>preservation methods</i> 2.3 Assort hide and skin based on their <i>type</i> and <i>size</i>
3. Assort pickle and wet blue	3.1 The requirements of pickle and wet blue are assessed 3.2 Pickle and wet blue leather are assorted based on their types and size
4. Grade raw hides and skins	4.1 Hides and skins are visually inspected based on <i>defects</i> 4.2 Hides and skins are graded based on defects and required standard 4.3 Documentation associated with tasks is accurately completed to meet required <i>workplace procedures</i> 4.4 Labels, tags or other identification are added to raw skins and hides
5. Grade pickle and wet blue	5.1 Pickle and Wet blue are visually inspected based on defects 5.2 Pickles and wet blue are graded as per the <i>required standard</i> 5.3 Documentation associated with tasks is accurately completed to meet required workplace procedures 5.4 Labels, tags or other identification are added to pickle and wet blue

Variable	Range
Tools/Equipment	May include but not limited to: <ul style="list-style-type: none"> • Inspection table with proper lighting • Cutter • Thickness gauge • Sizing chart
Preservation Requirements	May include but not limited to: <ul style="list-style-type: none"> • Smell • Hair slip • Color • Cleanliness • Moisture content of material to be assorted
preservation methods	May include but not limited to: <ul style="list-style-type: none"> • Salting • Dry • Chilling
Types	May include but not limited to: <ul style="list-style-type: none"> • sheep • Goat • Calf • Cow • Camel
Size	May include but not limited to: <ul style="list-style-type: none"> • Small • Medium • Large
Required standard	May include but not limited to: <ul style="list-style-type: none"> • Ethiopian standard • Regional standard • International standard
workplace procedures	May include but not limited to: <ul style="list-style-type: none"> • Proper lighting • Arrangement of assortment table with sizing chart
Defects	May include but not limited to: <ul style="list-style-type: none"> • Ante-mortem or natural • Postmortem or manmade • Process defects
OHS practices	Hazard identification and control, risk assessment and implementation of risk reduction measures specific to assortment and grading may include: <ul style="list-style-type: none"> • Use appropriate PPE to protect from the transfer of diseases from raw hides/skins • Handle the pickle and wet blue leather safely • Clean the assortment area, tables and other materials after the completion • Report defective raw material to the right person • Report accidents and incidents if any

Evidence Guide	
Critical aspects of competence	<p>Demonstrates knowledge and skills related to:</p> <ul style="list-style-type: none"> • Determine preservation requirements, if required • Apply sorting and grading procedures • Perform assortment and grading tasks • Able to identify various defects at raw hide/skins, pickle and wet blue stages • Inspect, assort raw hide/skins, pickle and wet blue leather and give appropriate grade
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • Various ante-mortem, post mortem and process defects such as red heat, parasite defects, brand mark, fly cuts, curing damage, sulphide and chrome patches • Procedures for sorting and grading tasks • National or international standards for sorting and grading of raw hide/skins, pickle and wet blue leather • Material handling procedures • Safety and environmental aspects handling raw hide/skins, pickle and wet blue leather • Workplace procedures • Recording and reporting practices
Required Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • Assort and grade the raw hide/skins, pickle and wet blue leather as per the established technical procedures and standards • Communicate effectively within the workplace
Resources Implication	<p>Access is required to real work areas, materials, equipment as per workplace and OHS practices.</p>
Assessment Methods	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	<p>Competence may be assessed in the work place or in a simulated work place setting.</p>

Occupational Standard: Leather Processing level II	
Unit Title	Prepare Chemicals for leather processing
Unit Code	IND LEP2 02 1121
Unit Descriptor	This unit covers the attitude, knowledge and skills required to perform the range of tasks used in the preparation of chemicals for beam house, post tanning and finishing processes, including making appropriate calculations and weighing.

Elements	Performance Criteria
1. Confirm pre-preparation tasks	1.1 Appropriate work instructions and process recipe are selected and confirmed as the authorized or correct version to be applied 1.2 Chemicals required for the processes are confirmed 1.3 Equipment required for the chemical preparation is identified and checked for condition, including all necessary precautions and use of safety gear 1.4 Non-conforming equipment is reported
2. Prepare chemicals and equipment	2.1 Appropriate PPE is worn or used in accordance with OHS practices 2.2 Equipment is organized and made ready for use in the preparation of chemicals 2.3 Calculations and weighing are accurately performed to determine particular requirements 2.4 Chemicals are prepared in accordance with process recipe and workplace procedures, taking into account all safety requirements 2.5 Safe lifting and materials handling techniques are correctly applied
3. Store unused chemicals	3.1. Unused chemicals are repackaged in accordance with chemical manufacturers and relevant safety requirements 3.2. Chemicals are stored in accordance with workplace and recognized safety procedures using appropriate manual handling techniques 3.3. Record and document procedures and chemicals used accordance with regulatory and workplace requirements
4. Clean and store equipment and dispose wastes	4.1. Equipment and work place are cleaned in accordance with relevant procedure 4.2. Equipment is stored appropriately after use to ensure readiness for next application. 4.3. Procedures for handling, storage and disposal of wastes are

	carried out.
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Variable	Range
Equipment	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • PPEs (gloves, face mask, eye google, safety shoe, apron) • Calculator • Measuring equipment (weighing balance, Ph. meter, Baume meter, thermometer, etc.) • Mixer and/or stirrer • Cleaning materials
Chemicals	<p>May include but not limited to: -</p> <ul style="list-style-type: none"> • Soaking to finishing (preservatives, sulphide ammonium salts, enzymes, acids, chrome, syntans, fat-liquors, dye staff, binders, fillers, wax, pigments, dye solution, oil, solvents). • Effluent treatment plant (aluminum sulphate, polyelectrolyte, lime/magnesium oxide, manganese sulphate)
Chemical Preparations	<ul style="list-style-type: none"> • Calculation • Weighing and measuring • Mixing and blending • May be assessed using manual, semi-automatic or automatic weighing machines
OHS practices	<p>OHS practices must include hazardous chemicals identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and may include:</p> <ul style="list-style-type: none"> • Standard operating procedures • Personal protective equipment • Safe chemicals handling • Taking of rest breaks • Ergonomic arrangement of workplaces • Following marked walkways • Safe handling and storage of equipment • Housekeeping • Reporting accidents and incidents • Other OHS practices relevant to the job and enterprise <p>Legislative/regulatory requirements may refer but not limited to:</p> <ul style="list-style-type: none"> • Relevant Federal and regional legislative or regulatory requirements related labor laws.

Evidence Guide	
Critical aspects of competence	<p>Demonstrates skills and knowledge in:</p> <ul style="list-style-type: none"> • Ensuring correct application of chemicals for task • Performing calculations and weighing • Prepare chemicals as per process recipe and procedure • Appropriately handle, use and store chemicals • Appropriately dispose waste
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • Procedures for chemical handling, preparation, and storage equipment for weighing and measuring • Quality requirements or norms related to chemical preparation activities • Chemical characteristics and hazards, safety and environmental aspects of relevant preparation processes, • Workplace procedures • Ohs practices, including hazard identification and control measures • Recording and reporting practices
Required Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • Check and prepare equipment for chemical preparation • Perform calculations and weigh /measure chemicals • Clean and store equipment appropriately • Repackage, handle, and store unused chemicals • Communicate effectively within the workplace • Carry out work according to ohs practices • Perform handling and disposal of waste • Document, assess, and transfer information
Resources Implication	<p>Access is required to real situations, including work areas, chemicals and equipment, and to information on workplace practices.</p>
Assessment Methods	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	<p>Competence may be assessed in the work place or in a simulated work place setting.</p>

Occupational Standard: Leather Processing Level II	
Unit Title	Perform Beamhouse and Tanning operations
Unit Code	<u>IND LEP2 03 1121</u>
Unit Descriptor	This unit covers the knowledge, attitude and skills required to operate machines and processing vessels or drums in beam house and tanning operations

Elements	Performance Criteria
1. Confirm instructions and operational requirement	1.1 Required facilities are identified and confirmed 1.2 Necessary settings and preparation for <i>process vessels and machines</i> are confirmed 1.3 Instructions and procedure for process and mechanical operations are confirmed and applied
2. Undertake process operations	2.1 Drum or vessel loads and batches are accurately determined by counting, weight, volume or work place procedures 2.2 Hides/ skins and pelts to be prepared for process <i>operations</i> are assembled and made ready to be loaded into drum or vessel 2.3 Hides/skins and pelts are loaded, drum or vessel is operated according to <i>ohs practices</i> and operating procedures 2.4 Processing sheet is correctly followed and required process parameters are checked 2.5 Quality of the pelts/leather are checked by using appropriate <i>tools/equipment</i> as per the process sheet 2.6 At the completion of process, the pelts or tanned leather are unloaded and moved to the next processes 2.7 The process liquid or waste water is discharged through the correct pipeline as per the ETP (effluent treatment plant) operating procedure 2.8 Records and other documentation are clearly and accurately completed where required
3. Undertake mechanical operations	3.1 Machine is started in accordance with workplace standard operating procedures 3.2 Hides /skins and pelts are fed through the machine, as per the requirement in accordance with <i>OHS practices</i> and <i>workplace procedures</i> 3.3 Tanned leather is produced based on the given recipe 3.4 At the end of each <i>mechanical operation</i> , the processed pelts and tanned leather are labelled and moved to the next process/machine operation

	<p>3.5 Quality of the pelts/leather are checked visually/ by using appropriate <i>tools/equipment</i> at the end of each mechanical operation</p> <p>3.6 <i>Machine</i> is stopped or shut down in accordance with all safety and workplace standard procedures</p> <p>3.7 Records are completed</p>
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Variable	Range
Preparation for process vessel and machine operation	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Pre-start up visual checks, including safety requirements • Inspections for simple faults and performing minor maintenance • Machine setting for product requirements • Startup procedures • Vessel/machine cleaning
Process vessel	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Drum • paddle
Required facilities	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Electric power • Water • Compressed dry-air
Processes operations	<p>May include unit process undertaken in vessel but not limited to:</p> <ul style="list-style-type: none"> • Soaking • Liming • Unhairing • De-liming • Degreasing and bating • Pickling • Tanning
Mechanical operations	<p>May include operation undertaken by machine but not limited to:</p> <ul style="list-style-type: none"> • Dewooling • Fleshing • Splitting
Tools/ Equipment may include	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Weighing balance • Baume meter • Barkometer • Thermometer • Indicators • PH meter and paper • Flow meter • Knife • Trolleys and carts • Forklift / crane / conveyor • Shrinkage tester/boil test

workplace procedures	May include but not limited to: <ul style="list-style-type: none"> • Process recipe • Identification tag
OHS practices	Hazard identification and control, risk assessment and implementation of risk reduction measures specific to the operate machines and process vessels may include: <ul style="list-style-type: none"> • Use appropriate PPE such as aprons, boots, gloves, ear plugs, eye goggles etc • Work area around the machine and process area is cleaned and maintained to meet workplace and safety standards • Machine or drum is stopped or shut down in accordance with all safety and workplace standard procedures • Waste generated during machine operation is disposed off in accordance with environmental and workplace procedures • Report accidents and incidents if any

Evidence Guide	
Critical aspects of competence	Demonstrates skills and knowledge in: <ul style="list-style-type: none"> • Identifying the necessary materials, tools and equipment prior to each of the operations • Preparing and use drum/vessel and machines available to carry out various unit processes/operations • Monitoring product to ensure quality requirements are applied for all stages of processes
Required Knowledge and Attitudes	Demonstrates knowledge of: <ul style="list-style-type: none"> • Process vessels, machinery and equipment • Procedures and requirements for preparation and loading • Applications of process formulations for various unit operations • Understanding the characteristics of various wastes • Safety and environmental aspects of relevant processes, including effluent handling and disposal • Recording and reporting
Required Skills	Demonstrates skills to: <ul style="list-style-type: none"> • Operate process vessels and machines as per the work place procedure • Follow sequential process steps to produce tanned leather • Check quality parameters • Communicate in the work place accordingly
Resources Implication	Access is required to real work areas, materials, equipment as per workplace and OHS practices.
Assessment Methods	Competence may be assessed through: <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Leather Process level II	
Unit Title	Preform Post Tanning and Crust Operation
Unit Code	<u>IND LEP2 04 1121</u>
Unit Descriptor	This unit covers the knowledge, attitude and skills required to operate the various machines and process vessels or drum used for post tanning operation to convert tanned leather into natural or dyed crust.

Elements	Performance Criteria
1. Confirm instructions and operational requirement	<p>1.1 Necessary <i>settings and preparation</i> for <i>process vessel and machine</i> operation are confirmed</p> <p>1.2 <i>Input requirements</i> to operate the machines/vessels to convert the tanned leather into natural or dyed crust are confirmed</p> <p>1.3 Instruction and procedures for machines and vessels operation are applied.</p>
2. Operate drum to process tanned leather	<p>2.1 Drum loads and batches are accurately determined by counting, weight, volume or work place procedures</p> <p>2.2 <i>Tanned leather</i> to be prepared for drum operations are assembled and made ready to be loaded into post tanning and dyeing drums</p> <p>2.3 Tanned leather is loaded and drums are operated according to <i>OHS practices</i> and operating procedures</p> <p>2.4 Processing sheet is correctly followed and required <i>process parameters</i> are checked to produced Natural or dyed crust</p> <p>2.5 Post tanning and dyeing drum operations outputs are controlled</p> <p>2.6 At the completion of process, the natural or dyed crust leather are unloaded.</p> <p>2.7 The processed liquid or waste water discharged through the correct pipeline as per the ETP (effluent treatment plant) operating procedure</p> <p>2.8 Post-tanning drums are stopped or shut down in accordance with all safety and workplace standard procedures</p> <p>2.9 Work places are cleaned as per according to OHS practices</p> <p>2.10 Records and other documentation are clearly and accurately completed where required</p>
3. Operate machineries to produce Crust leather	<p>3.1 Machine is started in accordance with workplace procedures</p> <p>3.2 Tanned leathers are fed through the various machine in accordance with OHS practices and <i>workplace procedures</i></p> <p>3.3 At the end of each <i>mechanical operation</i>, the processed crust</p>

	<p>leathers are labelled and moved to the next operations</p> <p>3.4 Quality of the crust leather are visually checked continuously at the end of each mechanical operation</p> <p>3.5 Machineries are stopped or shut down in accordance with all safety and workplace standard procedures</p> <p>3.6 Records are completed</p>
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Variable	Range
Settings and preparation	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Pre-start up visual checks, including safety requirements • Basic maintenance checks and product setting requirements • Startup procedures and feeding rate • Machine cleaning
Input requirements	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Electric power • Water • Post tanning chemicals • Tanned hides/skins
workplace procedures	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Process recipe • Machine operation procedures • Identification tag
process vessel and Machines	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Drum • Splitting machine • Shaving machine • Stacking machine
Mechanical operation	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Sammying • Splitting • Shaving • Setting out • Vacuum dryer • Overhead • Stacking (vibratory/rotary/Slocomb) • Toggling • Buffing
Tanned leather	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Chrome tanned (wet blue) • Vegetable tanned • Combination tanned • Wet white (Aluminum, Zirconium tanned)
Process parameters	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Temperature

	<ul style="list-style-type: none"> • PH • Process time • Drum speed (revolution per minute) • Chemical penetration (cross section) • Status of input tanned leather • Thickness of tanned and shaved leather • Speed • Grinding
Tools/equipment	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Thickness gauge • Moisture tester • PH meter/paper • Indicators weighing balance • Cutter • Trolleys and carts • Forklift / crane / conveyor
OHS practices	<p>Hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and may include:</p> <ul style="list-style-type: none"> • Use appropriate PPE such as aprons, boots, gloves, ear plugs, eye goggles etc • Work area around the machine and process area is cleaned and maintained to meet workplace and safety standards • Machine or drum is stopped or shut down in accordance with all safety and workplace standard procedures • Waste generated during machine operation is disposed off in accordance with environmental and workplace procedures • Report accidents and incidents if any

Evidence Guide	
Critical aspects of competence	<p>Demonstrates knowledge and skills in:</p> <ul style="list-style-type: none"> • Identifying the necessary materials, tools and equipment prior to each of the operations • Preparing and use drum/vessel and machines available to carry out various unit processes/operations • Monitoring product to ensure quality requirements are applied for all stages of processes • Transferring relevant production information between shift changes, where required
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • Process vessels, machinery and equipment • Procedures and requirements for preparation and loading • Understanding the characteristics of various wastes • Safety and environmental aspects of relevant processes, including effluent handling and disposal • Recording and reporting
Required Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • Operate process vessels and machines as per the established technical procedures • Follow sequential process steps to produce tanned leather • Check quality parameters • Communicate in the work place accordingly
Resources Implication	<p>Access is required to real work areas, materials, equipment as per workplace and OHS practices.</p>
Assessment Methods	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	<p>Competence may be assessed in the work place or in a simulated work place setting.</p>

Occupational Standard: Leather Processing Level II	
Unit Title	Perform Finishing operation
Unit Code	IND LEP2 05 1121
Unit Descriptor	This unit covers the knowledge, attitude and skills required to operate finishing machines and perform finishing process used to convert crust leathers to different types of finished leathers according to customer requirements.

Elements	Performance Criteria
1. Preparation for finishing operations	1.1 Types of various <i>finishing methods</i> are identified based on the nature of crust leather and customer requirement 1.2 Natural or dyed crust leathers are prepared 1.3 Availability of the required finishing <i>chemicals, tools</i> and <i>equipment</i> ensured 1.4 Finishing formulations prepared as per the required <i>leather products</i> 1.5 Finishing chemicals are accurately weighed as per the formulation, in accordance with workplace and suppliers' instructions or procedures 1.6 Formulated chemicals are mixed as per workplace procedure,
2. Operate machines to produce finished leathers	2.1. All <i>necessary settings</i> and preparation for <i>machine operation</i> are identified and assessed in accordance with specifications and <i>workplace procedures</i> 2.2. Leathers are fed through or into the machine in the appropriate manner and in accordance with workplace procedures and OHS practices 2.3. Machines operated safely and any malfunctions are reported
3. Apply formulated chemicals	3.1. Bottom, season and top coats are prepared and applied based on the required products. 3.2. Finishing coats applied by <i>machine</i> or manually 3.3. Covering effect ensured as per the requirement 3.4. Coated leather moved for drying and subsequent mechanical operations 3.5. Finished products handled and transported to area measuring, storage/supplying to the customer appropriately. 3.6. Work area around the machines is cleaned and maintained to meet workplace and safety standards 3.7. Wastes disposed as per environmental and workplace procedures
4. Monitor product quality	4.1. Quality requirements for the required finished leather are properly identified and applied for all stages of the processes 4.2. Quality is checked visually or using appropriate <i>testing equipment</i> .

Variable	Range
Finishing methods	May include but not limited to: <ul style="list-style-type: none"> • Spray • Roller coater • Padding • Brushing
work place procedures	May include but not limited to: <ul style="list-style-type: none"> • Finishing recipe • Machine instruction and procedures • Machine identification card
Tools and equipment	May include but not limited to: <ul style="list-style-type: none"> • Weighing balance • Cart/trolley • Buckets, jugs, • basic hand tools (cutter/knives) • viscometers • padding sponges
Finishing chemicals	May include but not limited to: <ul style="list-style-type: none"> • Pigments/liquid dyes • Binders • Waxes • Lacquer • Finishing auxiliaries
Leather products	May include but not limited to: <ul style="list-style-type: none"> • Upper • Garment • Glove • Upholstery
Necessary setting	May include but not limited to: <ul style="list-style-type: none"> • Temperature • Conveyor/belt speed • Gaps between roller and belt • Gaps between spray gun and conveyor • Pressure • Time • Roller type
Machines	May include but not limited to: <ul style="list-style-type: none"> • Padding • Hand spray • Auto spray • Fin-flex • Spray machine • Roller coater • Ironing machine • Embossing machine • Curtain coater

Machine operation	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Applying finishing coats (color mixing and matching) • Mechanical application (roller coating, curtain coating, laminating - film application) • Applying heat and pressure (iron, embossing, plate, burnishing, polishing, glazing) • Area measuring machine • Hand spray machine
Quality requirements	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Color uniformity • Defect coverage • Rub fastness test • Flexing endurance • Adhesion
Testing equipment's	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Rub fastness • Flexing endurance • Bally penetrometer • Adhesion machine
OHS practices	<p>Hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and may include:</p> <ul style="list-style-type: none"> • Personal protective equipment • Safe materials handling • Safe storage of tools/equipment • Housekeeping • Reporting accidents and incidents

Evidence Guide

Critical aspects of competence	<p>Demonstrates knowledge and skills in:</p> <ul style="list-style-type: none"> • Identifying the necessary materials, tools and equipment prior to each of the operations • Preparing and use machines available to carry out various operations • Prepare chemicals based on finishing requirement • Preparing leather for finishing • Monitoring product to ensure quality requirements applying coatings by machine or manually
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • Process vessels, machinery and equipment • Procedures and requirements for preparation and loading • Applications of process formulations for various unit operations • Understanding the characteristics of various wastes • Safety and environmental aspects of relevant processes, including effluent handling and disposal • Coatings waste disposal • Recording and reporting

Required Skills	Demonstrates skills to: <ul style="list-style-type: none"> • Operate various finishing machines as per the established technical procedures • Mix and apply coatings as per the formulations • Check quality requirements • Clean and store equipment • Communicate effectively within the workplace • Carry out work according to ohs practices
Resources Implication	Access is required to real work areas, materials, equipment as per workplace and OHS practices.
Methods Assessment	of Competence may be assessed through: <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context Assessment	of Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Leather Processing Level II	
Unit Title	Operate Tannery Effluent Treatment Plant
Unit Code	IND LEP2 06 1121
Unit Descriptor	This unit covers the attitude, knowledge and skills required to perform the tasks associated with operating machines used for tannery effluent treatment plant

Elements	Performance Criteria
1. Perform pre-operations tasks	1.1. Work <i>instructions</i> and <i>OHS</i> practices related to the tannery effluent plant treatment are identified and clarified 1.2. Liquid wastes are segregated based on their chemical properties or sources for treatment 1.3. Condition of machines and equipment for operation is checked 1.4. Solid particulates or suspended parts are removed manually or mechanically
2. Perform primary treatment	2.1 Lime/sulphide liquid waste pre-treatment is performed as per operational procedures 2.2 Chrome liquid waste is treated as per operational procedures 2.3 homogenization or equalization operation is performed as per operational procedures 2.4 <i>Chemical</i> preparations and dosing is carried out per operational procedures 2.5 Sedimentation, clarification and sludge discharging activities are performed per operational procedures
3. Perform secondary treatment	3.1. Lifting and oxidation of primary treated effluent is performed. 3.2. <i>Chemical</i> preparations and dosing is carried out 3.3. Secondary sedimentation, sludge recycling & discharging activities are performed
4. Perform sludge dewatering	4.1 Sludge from respective treatment stages output (primary, secondary and tertiary) are conditioned 4.2 dewatering of the sludge is performed

5. Perform tertiary treatment	5.1 Nitrogen/ammonium, phosphorus removal is carried out as per operational procedures 5.2 Disinfection of treated liquid is performed
6. Maintain documents and records	6.1. Relevant work instructions related to the unit are documented and maintained 6.2. Records related to the tasks, where relevant are kept

Variable	Range
Work instructions	May include but not limited to: <ul style="list-style-type: none"> • machine operations • chemical preparation and dosing
Chemical	May include but not limited to: <ul style="list-style-type: none"> • Primary treatment stages-aluminum sulphate, polyelectrolyte, lime/magnesium oxide, manganese sulphate, etc. • Secondary treatment stages- aluminum sulphate, polyelectrolyte etc.
Liquid wastes	May include: - is based on their streams <ul style="list-style-type: none"> • liquor • Chrome liquor • General (soaking, deliming, pickling and post-tanning liquors)
Machines and equipment's	<ul style="list-style-type: none"> • Screening (rough bar, rotary drum, rotary brush) • Sulphide oxidation tank • Chrome dissolution tank • Equalization or homogenization tank • Sedimentation tank • Coagulation and flocculation tank • Aeration Sulphide, blower, vertical mixer/stirrer • Sludge dewatering tank • Filter press (recessed-plate, belt, decanter centrifuge) • Pumps (dosing, submersible, screw lifting)
OHS practices	OHS practices must include hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks related to tannery effluent treatment may include: <ul style="list-style-type: none"> • Manual handling techniques • Personal protective equipment • Safe materials handling • Taking of rest breaks • Ergonomic arrangement of workplaces • Following marked walkways • Safe storage of equipment • Housekeeping • Reporting accidents and incidents • Other ohs practices relevant to the job in the tannery

	<p>Legislative/regulatory requirements may refer but not limited to:</p> <ul style="list-style-type: none"> • Relevant Federal and regional legislative or regulatory requirements related labor laws
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Evidence Guide	
Critical aspects of competence	<p>Demonstrates skills and knowledge in tannery effluent treatment:</p> <ul style="list-style-type: none"> • Types of liquid waste streams • Chemicals used for effluent treatment • Machines and equipment • Chemical and other hazardous substances safe handling
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • Segregating different liquid waste lines from production • Preparation and application of effluent treatment chemicals • Treatment processes, sequences and procedures • Quality requirements treated effluent • Recording and reporting procedures • Safety and environmental aspects of relevant processes
Required Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • Screen out solid particulates manually and mechanically • Operate machines and equipment used in primary, secondary, tertiary effluent treatment as per technical procedures • Communicate within the workplace • Carry out work according to ohs practices
Resources Implication	<p>Access is required to real situations, including work areas, chemicals, equipment, tools, and to information on workplace practices and OHS practices.</p>
Methods of Assessment	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	<p>Competence may be assessed in the work place or in a simulated work place setting.</p>

Occupational Standard: Leather processing Level II	
Unit Title	Prevent and Eliminate MUDA
Unit Code	<u>IND LEP2 07 11 21</u>
Unit Descriptor	This unit covers the knowledge, skills and attitude required by a worker to prevent and eliminate MUDA/wastes in his/her workplace by applying scientific problem-solving techniques and tools to enhance quality, productivity and other kaizen elements on continual basis. It covers responsibility for the day-to-day operation of the work and ensures Kaizen Elements are continuously improved and institutionalized.

Element	Performance Criteria
1. Prepare for work.	1.1. Work instructions are used to determine job requirements, including method, material and equipment. 1.2. Job specifications are read and interpreted following working manual. 1.3. OHS requirements , including dust and fume collection, breathing apparatus and eye and ear personal protection needs are observed throughout the work. 1.4. Appropriate material is selected for work. 1.5. Safety equipment and tools are identified and checked for safe and effective operation.
2. Identify MUDA and problem	2.1 Plan of MUDA and problem identification is prepared and implemented. 2.2 Causes and effects of MUDA are discussed. 2.3 All possible problems related to the process /Kaizen elements are listed using statistical tools and techniques . 2.4 All possible problems related to kaizen elements are identified and listed on Visual Management Board/Kaizen Board. 2.5 Tools and techniques are used to draw and analyze current situation of the work place. 2.6 Wastes/MUDA are identified and measured based on relevant procedures . 2.7 Identified and measured wastes are reported to relevant personnel.
3. Analyze causes of a problem.	3.1 All possible causes of a problem are listed. 3.2 Cause relationships are analyzed using 4MIE . 3.3 Causes of the problems are identified. 3.4 The root cause which is most directly related to the problem is selected. 3.5 All possible ways are listed using creative idea generation to eliminate the most critical root cause. 3.6 The suggested solutions are carefully tested and evaluated for potential complications.

	3.7 Detailed summaries of the action plan are prepared to implement the suggested solution.
4. Eliminate MUDA and Assess effectiveness of the solution.	<p>4.1. Plan of MUDA elimination is prepared and implemented by medium KPT members.</p> <p>4.2. Necessary attitude and the ten basic principles for improvement are adopted to eliminate waste/MUDA.</p> <p>4.3. Tools and techniques are used to eliminate wastes/MUDA based on the procedures and OHS.</p> <p>4.4. Wastes/MUDA are reduced and eliminated in accordance with OHS and organizational requirements.</p> <p>4.5. Tangible and intangible results are identified.</p> <p>4.6. Tangible results are compared with targets using various types of diagrams.</p> <p>4.7. Improvements gained by elimination of waste/MUDA are reported to relevant bodies.</p>
5. Prevent occurrence of wastes and sustain operation.	<p>5.1. Plan of MUDA prevention is prepared and implemented.</p> <p>5.2. Standards required for machines, operations, defining normal and abnormal conditions, clerical procedures and procurement are discussed and prepared.</p> <p>5.3. Occurrences of wastes/MUDA are prevented by using visual and auditory control methods.</p> <p>5.4. Waste-free workplace is created using 5W and 1H sheet.</p> <p>5.5. The completion of required operation is done in accordance with standard procedures and practices.</p> <p>5.6. The updating of standard procedures and practices is facilitated.</p> <p>5.7. The capability of the work team that aligns with the requirements of the procedure is ensured and trained on the new Standard Operating Procedures (SOPs).</p>

Variable	Range
OHS requirements	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Are to be in accordance with legislation/ regulations/codes of practice and enterprise safety policies and procedures. This may include protective clothing and equipment, use of tooling and equipment, workplace environment and safety, handling of material, use of firefighting equipment, enterprise first aid, hazard control and hazardous materials and substances. • PPE are to include that prescribed under legislation/regulations/codes of practice and workplace policies and practices. • Safe operating procedures are to include, but are not limited to the conduct of operational risk assessment and treatments associated with

	<p>workplace organization.</p> <ul style="list-style-type: none"> • Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping of equipment, extinguishing fires, enterprise first aid requirements and site evacuation.
Safety equipment and tools	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Dust masks/goggles • Glove • Working cloth • First aid and • Safety shoes
Statistical tools and techniques	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • 7 QC tools May include, but not limited to: <ul style="list-style-type: none"> ➢ Stratification ➢ Pareto Diagram ➢ Cause and Effect Diagram ➢ Check Sheet ➢ Control Chart/Graph ➢ Histogram and Scatter Diagram • QC techniques May include, but not limited to: <ul style="list-style-type: none"> ➢ Brain storming ➢ Why analysis ➢ What if analysis ➢ 5W1H
	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Plant Layout • Process flow • Other Analysis tools • Do time study by work element • Measure Travel distance • Take a photo of workplace • Measure Total steps • Make list of items/products, who produces them and who uses them & those in warehouses, storages etc. • Focal points to Check and find out existing problems • 5S • Layout improvement • Brainstorming • Andon • U-line • In-lining • Unification

	<ul style="list-style-type: none"> • Multi-process handling & multi-skilled operators • A.B. control (Two-point control) • Cell production line • TPM (Total Productive Maintenance)
Relevant procedures	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Make waste visible • Be conscious of the waste • Be accountable for the waste and measure the waste.
4M1E	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Man • Machine • Method • Material and Environment
Creative idea generation	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Brainstorming • Exploring and examining ideas in varied ways • Elaborating and extrapolating • Conceptualizing
Medium KPT	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • 5S • 4M (Machine, Method, Material and Man) • 4p (Policy, Procedures, People and Plant) • PDCA cycle • Basics of IE tools and techniques
The ten basic principles for improvement	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Throw out all of your fixed ideas about how to do things. • Think of how the new method will work- not how it won. • Don't accept excuses. Totally deny the status quo. • Don't seek perfection. A 50 percent implementation rate is fine as long as it's done on the spot. • Correct mistakes the moment they are found. • Don't spend a lot of money on improvements. • Problems give you a chance to use your brain. • Ask "why?" At least five times until you find the ultimate cause. • Ten people's ideas are better than one person's. • Improvement knows no limits.
Tangible and intangible results	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Tangible result may include quantifiable data • Intangible result may include qualitative data
various types of diagrams.	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Line graph

	<ul style="list-style-type: none"> • Bar graph • Pie-chart • Scatter diagrams • Affinity diagrams
Visual and auditory control methods	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Red Tagging • Sign boards • Outlining • And ons • Kanban, etc.
5W and 1H	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • Who • What • Where • When • Why and • How
Standard Operating Procedures (SOPs).	<p>May include, but not limited to:</p> <ul style="list-style-type: none"> • The customer demands • The most efficient work routine (steps) • The cycle times required to complete work elements • All process quality checks required to minimize defects/errors • The exact amount of work in process required

Evidence Guide

Critical Aspects of Competence	<p>Demonstrate knowledge and skills to:</p> <ul style="list-style-type: none"> • Discuss why wastes occur in the workplace • Discuss causes and effects of wastes/MUDA in the workplace • Analyze the current situation of the workplace by using appropriate tools and techniques • Identify, measure, eliminate and prevent occurrence of wastes by using appropriate tools and techniques • Use 5W and 1H sheet to prevent • Detect non-conforming products/services in the work area • Apply effective problem-solving approaches/strategies. • Implement and monitor improved practices and procedures • Apply statistical quality control tools and techniques.
Required Knowledge and Attitude	<p>Demonstrate knowledge of:</p> <ul style="list-style-type: none"> • Targets of customers and manufacturer/service provider • Traditional and kaizen thinking of price setting • Kaizen thinking in relation to targets of manufacturer/service provider

	<p>and customer</p> <ul style="list-style-type: none"> • value • The three categories of operations • the 3“MU” • wastes occur in the workplace • The 7 types of MUDA • QC story/PDCA cycle/ • QC story/ Problem solving steps • QCC techniques • 7 QC tools • The Benefits of identifying and eliminating waste • Causes and effects of 7 MUDA • Procedures to identify MUDA • Necessary attitude and the ten basic principles for improvement • Procedures to eliminate MUDA • Prevention of wastes • Methods of waste prevention • Definition and purpose of standardization • Standards required for machines, operations, defining normal and abnormal conditions, clerical procedures and procurement • Methods of visual and auditory control • TPM concept and its pillars. • Relevant OHS and environment requirements • Method and Lines of communication • Methods of making/recommending improvements. • Reporting procedures • Workplace procedures associated with the candidate's regular technical duties • organizational structure of the enterprise
Required Skills	<p>Demonstrate skills to:</p> <ul style="list-style-type: none"> • Draw & analyze current situation of the work place • Use measurement apparatus (stop watch, tape, etc.) • Calculate volume and area • Apply statistical analysis tools • Use and follow checklists to identify, measure and eliminate wastes/MUDA • Identify and measure wastes/MUDA in accordance with OHS and procedures • Use tools and techniques to eliminate wastes/MUDA in accordance with OHS procedure. • Apply 5W and 1H sheet

	<ul style="list-style-type: none"> • Update and use standard procedures for completion of required operation • Apply Visual Management Board/Kaizen Board. • Detect non-conforming products or services in the work area • Work with others • Read and interpret documents • Observe situations • Solve problems • Communicate information • Gather evidence by using different means • Report activities and results using report formats • Implement and monitor improved practices and procedures
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

LEVEL III

Occupational Standard: Leather Processing Level III	
Unit Title	Monitor Technical Process
Unit Code	<u>IND LEP3 01 1121</u>
Unit Descriptor	This unit covers the knowledge, attitude and skills required to supervise and monitor the technical processes, particularly in the preparation of chemicals and measuring specified process parameters

Elements	Performance Criteria
1. Determine requirements for technical processes	1.1 Appropriate work instructions are selected and confirmed 1.2 Requirements for the <i>technical process</i> are determined and/or confirmed
2. Organize resources	2.1 <i>Equipment</i> and/or chemicals required for the process are organized 2.2 Relevant <i>information</i> and all necessary resources are obtained in accordance with process requirements.
3. Supervise process	3.1 Tasks and roles are identified to undertake the process 3.2 Appropriate personnel are assigned 3.3 Requirements are communicated to team leader or individual and instruction given as required 3.4 Technical process is supervised to confirm that all requirements are met
4. Measure specified process parameters	4.1 Basic measuring equipment is selected, prepared and calibrated, as required to measure <i>process parameters</i> 4.2 Process is monitored and data retrieved in accordance with organization's procedures 4.3 Any deviations from normal are recognized, isolated and reported according to organization's requirements 4.4 Data is analyzed against process or quality specifications to ensure conformance 4.5 Strategies or suggestions for improvement to the process are identified and reported in accordance with organization's procedures
5. Monitor use and handling of chemicals	5.1 <i>Chemical using processes</i> are monitored to ensure compliance with practices of manufacturer(s), organization <i>workplace</i> and <i>OHS</i> . 5.2 Any deviations from established practices isolated and reported for correction and improvement 5.3 Recording and reporting procedures are performed in accordance with organization's requirements

	5.4 Changes to the process or quality of the product is recoded and maintained
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Variable	Range
Technical processes	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • prepare hides or skins for tanning • crust hides, skins or leather • finish hides, skins or leather • effluent treatment
Process parameters	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • speed • temperature • pressure • chemical values (weight, volume, proportions, concentration, salt strength, viscosity, etc.) • time • moisture • pH
Equipment used	<p>May be computerized, include but not limited to:</p> <ul style="list-style-type: none"> • electronic monitoring and metering systems • manual chart recording systems • basic hand tools, laboratory testing and sampling equipment • protective clothing and safety equipment/apparatus • measuring/weighing equipment
Chemical using processes	<p>Chemical using processes may relate to preparation, handling and use of chemicals in the following areas:</p> <ul style="list-style-type: none"> • skin/hide chemical preservation • pre-tanning operations • tanning operation • post-tanning operation rewet, dyehouse processing) • finishing leather (coatings) • chrome pre-treatment • sulphide oxidation • coagulation and flocculation • sludge thickening (conditioning) • treated water disinfection
OHS practices	<p>OHS practices must include hazardous chemicals identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and may include:</p> <ul style="list-style-type: none"> • standard operating procedures • personal protective equipment • safe handling, storage, disposal of chemicals • ergonomic arrangement of workplaces

	<ul style="list-style-type: none"> • following marked walkways • safe handling and storage of equipment • housekeeping • reporting accidents and incidents • other OHS practices relevant to the job <p>Legislative/regulatory requirements may refer but not limited to:</p> <ul style="list-style-type: none"> • relevant Federal and regional legislative or regulatory requirements related labor laws.
Sources of information/documents	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Organization work orders, procedures and policies • Chemical manufacturers' instructions • Equipment manufacturers' manuals and specifications • Chemical and waste disposal procedures and policies • Customer/s product specification
Workplace	<p>The context may include but not limited to:</p> <ul style="list-style-type: none"> • organization procedures/practices relating to handling, preparing, using and storing chemicals • Reporting actions include verbal and written communication in accordance with organizational policies and procedures • Communication may be oral, written or visual and can include simple data

Evidence Guide	
Critical aspects of competence	<p>Demonstrates skills and knowledge in:</p> <ul style="list-style-type: none"> • technical process requirements • arranging availability of resources and supervise the process • identifying of chemicals according to their characteristics • allocating tasks/roles to relevant personnel • monitoring process and use/handling of chemicals
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • relevant OHS practices, codes of practice, policies and procedures • industry, product, technical processes and equipment, resources and specified process parameters • characteristics and hazards of chemicals and other materials used on hides/skins or in leather processing • process, including chemical preparation, use and handling • quality standards and monitoring processes • safety and environmental aspects of relevant processes, particularly for chemicals • workplace procedures • reporting and documentation processes and procedures

Required Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • select/determine and confirm requirements • ensure equipment, including safety and protective clothing/equipment, are used appropriately • organize resources and sequence process • measure and analyze process parameters, monitor process and retrieve data • solve problems associated with process variations • communicate effectively within the workplace • document, assess and transfer information
Resources Implication	Access is required to real situations, including work areas, examination room, chemicals, equipment, and information on workplace & OHS practices.
Assessment Methods	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Leather Processing Level III	
Unit Title	Determine Suitability of materials for End Use
Unit Code	<u>IND LEP3 02 1121</u>
Unit Descriptor	This unit covers the knowledge attitude and skills to determine the suitability of hides, skins and semi processed leathers for the production of leather products according to customer requirements or market requirement.

Elements	Performance Criteria
1. Inspect hide, skin or leather	1.1 Different uses and <i>characteristics</i> of <i>species</i> are identified 1.2 <i>Performance characteristics</i> are identified 1.3 Grade is identified and confirmed 1.4 Inspection is conducted according to <i>OHS practices</i> to determine quality of hide, skin or leather
2. Identify techniques that impact on suitability for use	2.1 Impact of slaughter and <i>dressing</i> techniques on hide, skin and leather quality are identified 2.2 Effects of quality of materials on suitability for use in leather manufacturing are identified 2.3 Suitable techniques are identified
3. Identify preservation and storage methods	3.1 Preservation methods for hide, skin and leathers are identified 3.2 Storage requirements are identified and described 3.3 Effects of incorrect preservation and storage are described
4. Determine suitability for production	4.1 Quality requirements for production are confirmed 4.2 Suitability of hide, skin and semi processed leather for production requirements is determined 4.3 Documentation is completed

Variable	Range
Species	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • calf • cow hides • kid • goat • sheep • crocodile • ostrich
Characteristics	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • stretch • size • grain • nap • substance • hair follicle
Performance characteristics	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • stretch • abrasion • wearability • absorbency • durability • elasticity • heat sensitivity • shrink resistance • strength
OHS practices	<p>OHS practices must include hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and may include:</p> <ul style="list-style-type: none"> • standard operating procedures • personal protective equipment • safe materials handling • ergonomic arrangement of workplaces • following marked walkways • housekeeping • reporting accidents and incidents • other OHS practices relevant to the job
Dressing	<p>Relate to processes involved in removing skin/hide, head, tail, feet, extremities, etc from carcass after animal is killed.</p>

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge in: <ul style="list-style-type: none"> • inspecting hide, skin and semi processed leather • determining suitability of hide, skin and leather for end use • identifying required techniques for determining suitability
Required Knowledge and Attitudes	Demonstrates knowledge of: <ul style="list-style-type: none"> • leather industry processes and equipment • performance characteristics of leather products • quality practices • workplace practices • recording and reporting practices • OHS practices, including hazard identification and control measures
Required Skills	Demonstrates skills to: <ul style="list-style-type: none"> • read, interpret and follow information on work specifications, standard operating • assign suitability of skin/hide, leather to end use • maintain accurate records • communicate within the workplace • sequence operations • meet specifications
Resources Implication	Access is required to real or appropriately situations, including work areas, examination room, materials and equipment, and to information on workplace practices and OHS practices.
Assessment Methods	Competence may be assessed through: <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Leather Processing Level III	
Unit Title	Perform Production Planning Processes
Unit Code	<u>IND LEP3 03 1121</u>
Unit Descriptor	This unit covers basic knowledge, attitude and skills required for production planning, particularly in dealing with planning of resource utilization, work load planning according to processes requirement.

Elements	Performance Criteria
1. Confirm production requirements	<p>1.1 Projected requirements regarding stock supplies, product quantities, quality and delivery schedules are confirmed.</p> <p>1.2 Identified issues and problems concerning projected requirements are resolved in collaboration with relevant personnel.</p> <p>1.3 Requirements for implementation of <i>organizational systems</i> are determined</p>
2. Gather specific production information	<p>2.1 Specific information relating to production capacity is obtained and confirmed.</p> <p>2.2 Details of production line requirements regarding batch or run sizes and other relevant information are gathered and interpreted for use in production plan preparation.</p> <p>2.3 Supply requirements, availability of machines and personnel is identified and confirmed.</p>
3. Prepare production planning	<p>3.1 <i>Production planning</i> under consideration is clarified</p> <p>3.2 <i>Production data</i> and other planning information is prepared.</p> <p>3.3 Information is contributed and discussed</p> <p>3.4 Production planning is framed, entailing basic <i>planning components</i>.</p> <p>3.5 Follow-up action on planning meeting outcomes is taken.</p> <p>3.6 Production planning records are maintained and <i>basic reports</i> prepared.</p>

Variable	Range
Organizational systems	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Just In Time • quick response • quality management systems • team work • synergy • benchmarking
Production data	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • plant layout • machine and other equipment records • collected production performance data • Resource (input material, workers) • quality specifications • operation procedures and other specifications
Production planning	<p>may relate to</p> <ul style="list-style-type: none"> • establishing an overall plan for production and delivery • repetitive production runs • short runs • quick changes • a diversity of styles • indent orders • stock services replenishment • resource utilization
Planning components	<p>May include but not limited:</p> <ul style="list-style-type: none"> • objective • goal • main activities to be carried out • responsibility • time schedule
Basic report	<p>May comprise but not limited to:</p> <ul style="list-style-type: none"> • title • introduction • main body of report • conclusion

Evidence Guide	
Critical aspects of competence	<p>Demonstrates skills and knowledge in:</p> <ul style="list-style-type: none"> • confirming requirements for production • identifying resources, supply requirements, machines, personnel • gathering and interpret appropriate production information • contributing to interchange of information at planning meetings • maintaining accurate records

Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • production processes, products and machines • an understanding of work and workplace organization systems • production planning meeting procedures • quality standards and practices • procedures and work instructions, and other reference material • clarify and check task-related information
Required Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • effectively prepare planning production • interpret and use data from a range of sources • communicate effectively with individuals, work groups and supervisors • read, interpret and follow information on work specifications, standard operating • sequence operations • recording and reporting practices • carry out work according to OHS practices
Resources Implication	Access is required to real situations, including production data and other related information for planning.
Assessment Methods	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Leather Processing Level III	
Unit Title	Perform Selection and Grading
Unit Code	IND LEP3 04 1121
Unit Descriptor	This unit covers the attitudes, knowledge and skills required to select and grade crust and finished leather based on the selection and grading requirements.

Elements	Performance Criteria
1. Determine requirements	<p>1.1. Selection and grading procedure and requirements are identified</p> <p>1.2. Defects affecting the quality of crust and finished leather are identified</p> <p>1.3. The quality and type of leather is identified and understood for selection and grading</p> <p>1.4. Requirements are checked to confirm correct application of procedures according workplace and OHS practices</p>
2. Perform crust leather selection and grading	<p>2.1. Crust leather is visually inspected based on physical properties.</p> <p>2.2. Tactile inspection is assessed to determine grading of crust.</p> <p>2.3. Crust leather is selected according to organization's requirements and national standard, workplace and OHS practices</p> <p>2.4. Documentation associated with the tasks is accurately completed to meet workplace procedures</p> <p>2.5. Labels, tags or other identification are added to crust leather</p>
3. Perform finished leather selection and grading	<p>3.1. Finished leather is inspected based on physical requirements</p> <p>3.2. selection and grading are performed according to organization's requirements and national standard, workplace and OHS practices</p> <p>3.3. Transfer of finished product to storage area or warehouse is stored accordingly.</p> <p>3.4. Documentation associated with the tasks is accurately completed to meet workplace procedures</p> <p>3.5. Labels, tags or other identification are added to finished leather</p>

Variable	Range
Defects	<p>May include:</p> <ul style="list-style-type: none"> • Major defects (Ekek, hole, putrefaction, pox, poor pattern, wound/sears, deep knife cut damage, old animal skins, poor substance, process defects are among others) • Minor defects (scratch, blood stains, gouge mark, wrinkles, pinhole, heat damage, vainness, blood stain, process defects).
Physical properties	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Identified product characteristics for the product type (bulk properties (softness, fullness, tightness, elasticity, etc.), surface properties (smoothness, nap, gloss, color, etc.), shape, etc.
Tactile inspection	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • softness • thickness • roundness • elasticity • fullness • tightness
OHS practices	<p>OHS practices specific to the tasks described by this unit may include:</p> <ul style="list-style-type: none"> • standard operating procedures • personal protective equipment • safe materials handling • ergonomic arrangement of workplaces • following marked walkways • housekeeping • reporting accidents and incidents • other OHS practices relevant to the job

Evidence Guide	
Critical aspects of competence	<p>Demonstrates skills and knowledge in:</p> <ul style="list-style-type: none"> • physical properties of crust and finished leather types • defects inspection • performing inspection and grading of curst and finished leather • procedure and requirements for crust & finished leather selection and grading
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • crust and finished leather processes and quality requirements • selection and grading procedures and standards • quality standards and manual handling procedures • safety and environmental aspects of relevant organization processes

	<ul style="list-style-type: none"> • workplace procedures and OHS practices • practices for recording and reporting • uphold and maintain professional ethics and honesty
Required Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • select and grade crust and finished leather to required standard • identify defects and perceive color variations • perform tactile inspection • recognize and report non-conforming outcomes • interpret and apply technical procedures, workplace and OHS practices • communicate effectively within the workplace • maintain, product label, tag identification • maintain accurate records and transfer information
Resources Implication	Access is required to real situations, including work areas, light, examination room, materials and equipment, and to information on workplace practices and OHS practices.
Assessment Methods	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Leather Processing Level III	
Unit Title	Perform Color Matching
Unit Code	<u>IND LEP3 05 1121</u>
Unit Descriptor	This unit covers the attitude, knowledge and skills required to perform color matching activities in leather dyeing and finishing

Elements	Performance Criteria
1. Confirm pre-operation tasks	1.1 Appropriate process recipe is identified and confirmed. 1.2 Customer requirement related to the product type is confirmed, where required. 1.3 Color range or spectrum, colorants and other chemicals are identified and understood. 1.4 Availability of input material, equipment and tools are confirmed. 1.5 Work instructions and process recipe are designed and confirmed 1.6 Appropriate OHS practices are confirmed to apply
2. Undertake color matching on sample trial	2.1 Color matching tasks are performed 2.2 Matching of the color and other customer requirements are assessed 2.3 Developed sample is confirmed with the customer swatch or market demand 2.4 Approval of developed sample for compliance of customer requirements is obtained and endorsed 2.5 Information and other documents related to color matching is recorded and documented
3. Undertake color matching on bulk trial	3.1 Appropriate information is provided and bulk trial is carried out together with other participating departments 3.2 The consistency of the product quality is approved and ensured 3.3 Relevant information is recoded and documented

Variable	Range
Input material	May include but limited to: <ul style="list-style-type: none"> • raw skin/hide • pickle • wet-blue • crust leather

Equipment and tools	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • testing drum • measuring devices • personal protective equipment (PPE) • hand spray • color trend or spectrum
OHS practices	<p>OHS practices must include hazardous chemicals identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and may include:</p> <ul style="list-style-type: none"> • standard operating procedures • personal protective equipment • safe chemicals handling • ergonomic arrangement of workplaces • following marked walkways • safe handling and storage of equipment • housekeeping • reporting accidents and incidents • other OHS practices relevant to the job and enterprise <p>Legislative/regulatory requirements may refer but not limited to:</p> <ul style="list-style-type: none"> • relevant Federal and regional legislative or regulatory requirements related labor laws.

Evidence Guide	
Critical aspects of competence	<p>Demonstrates skills and knowledge in:</p> <ul style="list-style-type: none"> • identify color spectrum • relate customer requirements for color matching • prepare process formulation for color matching • match the intended color
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • color spectrum or range • basic color theory • chemical characteristics and hazards, safety and environmental aspects of relevant preparation processes • procedures, quality requirements or norms related to chemical preparation and color matching activities for color matching • recording and reporting practices
Required Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • prepare process formulation for color matching • apply colorants and other chemicals for color matching • match the intended color • communicate effectively within the workplace • document, assess, and transfer information • carry out work according to OHS practices

Resources Implication	Access is required to real situations, including work areas, examination room, chemicals, input materials, equipment, tools and information on workplace practices.
Assessment Methods	Competence may be assessed through: <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Leather Processing Level III	
Unit Title	Monitor and Coordinate Tannery Waste Treatment
Unit Code	<u>IND LEP3 06 1121</u>
Unit Descriptor	This unit covers the knowledge, attitude and skills required to monitor, coordinate the operation, measure and report on tannery waste performance and process quality control

Elements	Performance Criteria
1. Monitor treatment plant performance	<p>1.1 <i>Routine plant operations</i> are assessed in accordance with organizational and plant requirements</p> <p>1.2 Samples from each process are tested and analyzed to determine the performance against plant operational requirements</p> <p>1.3 Appropriate <i>equipment's</i> are checked and confirmed for use in measurement and monitoring</p> <p>1.4 Process data is collected and reported according to organizational and plant requirements</p>
2. Control chemical use	<p>2.1 Chemicals are used, handled, stored in accordance with organizational and regulatory requirements</p> <p>2.2 Chemical dosing is determined and assessed in accordance with plant processes and organizational and regulatory requirements.</p> <p>2.3 Information related to chemical supply and usage is maintained in accordance with statutory requirements.</p>
3. Operate and control processes	<p>3.1 Processes are monitored to maintain parameters of operation.</p> <p>3.2 Process operations and control is carried out according to <i>work place context</i> and <i>applicable regulations and legislation</i></p> <p>3.3 Process faults and operational conditions of plant are identified and reported in accordance with organizational/statutory requirements.</p> <p>3.4 Process performance compliance to the set requirements is confirmed by <i>third-party assessment</i>.</p>
4. Compile process records	<p>4.1 Reports are compiled from plant and system data to meet organizational/statutory requirements.</p> <p>4.2 Records are documented and maintained</p>

Variable	Range
Routine plant operations	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Solid waste screening • Primary treatment • Secondary • Tertiary • Sludge treatment and disposal
Workplace context	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Work procedures and practices relating to the process for waste water treatment plants • Standard work practice includes the storage, safe handling and/or disposal of chemicals and/or related dangerous products • Reporting actions include verbal and written communication in accordance with organizational policies and procedures • Safety, environmental, housekeeping and quality are as specified by organization's procedure
Equipment	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • electronic monitoring and metering systems • manual chart recording systems • laboratory testing and sampling equipment • computerized equipment
Third-party assessment	<p>May refers but not limited to:</p> <ul style="list-style-type: none"> • lab tests • process audit
Applicable regulations and legislation	<p>May include:</p> <ul style="list-style-type: none"> • Occupational health and safety legislation relevant to workplace activities • Workers' compensation legislation • Environment protection legislation

Evidence Guide	
Critical aspects of competence	<p>Demonstrates skills and knowledge in:</p> <ul style="list-style-type: none"> • monitoring treatment plant processes • measuring inflow and outflow of liquid waste • interpreting/analyzing data and recording systems • determining the use, dosing and control of chemicals • coordinating and control processes • sludge treatment and disposal
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • relevant OH&S legislation, codes of practice, policies and procedures • chemical dosing calculations • hazardous material handling procedures • safety and environmental aspects of relevant testing processes • workplace procedures and reporting processes • equipment operation, capacity and limitations • mechanical and electrical control systems • applying relevant organization and legislative requirements
Required Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • determine chemical and biochemical dosing requirements • sample and test products • maintain accurate records and reports of test results/work records • interpret and apply plans, charts procedures and standards • communicate effectively within the workplace
Resources Implication	<p>Access is required to real situations, including work areas, examination room, chemicals, equipment and information on workplace practices.</p>
Assessment Methods	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	<p>Competence may be assessed in the work place or in a simulated work place setting.</p>

LEVEL IV



Occupational Standard: Leather Processing Level IV	
Unit Title	Manage Production Operations
Unit Code	IND LEP4 01 1121
Unit Descriptor	This unit covers attitudes, knowledge and skills required to understand and monitor overall leather processing operations to use the resources efficiently and effectively within each production unit in the tannery.

Elements	Performance Criteria
1. Develop operational plan	<p>1.1 Resource requirements are identified, analyzed and documented and an operational plan is developed based on the results from Consultation processes</p> <p>1.2 Availability of resource and workability of operational plan communicated as per work place procedures</p> <p>1.3 Key performance indicators are identified and communicated</p> <p>1.4 Contingency plans are developed, communicated and implemented at appropriate stages of operational plan</p>
2. Schedule work activities	<p>2.1 Tasks/work activities to be finished are identified and prioritized as per operational plan and availability of resources</p> <p>2.2 Tasks/work activities are broken down into achievable components in accordance with set time frames</p> <p>2.3 Resources are allocated as per requirements of the activity</p> <p>2.4 Schedule of work activities is coordinated with personnel concerned</p>
3. Receive and Utilize Required Resources	<p>3.1 Resources and services are received in accordance with the Organization Policies, Practices and work place procedures</p> <p>3.2 Resources are prioritized and allocated, accordingly</p> <p>3.3 Efficient and effective utilization of resources are assessed and implemented</p>

4. Monitor and review operations	<p>4.1 Key performance indicators are applied to monitor the productivity plans and targets</p> <p>4.2 Input consumption and related production costs are analyzed and interpreted to provide financial information to determine the profit and productivity.</p> <p>4.3 Review is based on comprehensive consultation with appropriate personnel on outcomes of work plans and reliable feedback</p> <p>4.4 Work plans, strategies and implementation are reviewed based on accurate, relevant and current information</p> <p>4.5 Areas for improvement are identified, solutions recommended, and prompt action is taken to rectify the situation</p> <p>4.6 Implementation of developed systems are monitored to ensure continual improvement of best practices</p>
5. Undertake performance Evaluation and Appraisal	<p>5.1 Results of review are documented and communicated with concerned parties for continual improvement</p> <p>5.2 Performance appraisal is conducted in accordance with organization rules and regulations</p> <p>5.3 Performance appraisal report is prepared and documented regularly as per organization requirements.</p> <p>5.4 Feedback mechanisms are implemented in line with organization policies</p> <p>5.5 Recommendations are prepared and presented to appropriate personnel/authorities</p>

Variable	Range
Resource Requirements	<p>may include but not limited to:</p> <ul style="list-style-type: none"> • Manpower • Consumables such as chemicals and accessories • Machinery, Tools/equipment • Utilities such as electric power, water, compressed air, boiler for steam and hot water • Communication tools/systems
Consultation processes	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • meetings, interviews, brainstorming sessions, email/internet communications, newsletters or other processes and devices which ensure that all employees have the opportunity to contribute to team and individual operational plans • mechanisms used to provide feedback to the work team in relation to outcomes of consultation
Operational plans	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • tactical plans developed by the department or section to detail product

	<p>and service performance</p> <ul style="list-style-type: none"> • capacity utilization • resource utilization
Key performance indicators	<ul style="list-style-type: none"> • measures for monitoring or evaluating the efficiency or effectiveness of a system which may be used to demonstrate accountability and to identify areas for improvements such as: - • productivity • profitability • customer satisfaction
Contingency plans	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • finding cheaper raw materials/consumables • contracting out or outsourcing human resource and other functions or tasks • restructuring of organization to reduce labor costs • strategies for reducing costs, wastage, stock or consumables • recycling and re-use • seeking further funding • increasing sales or production
Organization's policies, practices and procedures	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • those organizational guidelines which govern and prescribe operational functions, such as the acquisition and management of human and physical resources • standard operating procedures • undocumented practices in line with organizational operations • organizational culture
Feedback mechanisms	<p>Feedback mechanisms include:</p> <ul style="list-style-type: none"> • verbal feedback • informal feedback • formal feedback • questionnaire • survey • group discussion
Evidence Guide	
Critical Aspects of Competence	<p>Demonstrates skills and knowledge in:</p> <ul style="list-style-type: none"> • developing operational plan • planning and managing resource gaining • process management • monitoring and reviewing operational performance
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • relevant legislation from all levels of government that affects business operation, especially in regard to occupational health and safety and environmental issues, equal opportunity, industrial relations and anti-discrimination • the principles and techniques involved in the management and organization of: <ul style="list-style-type: none"> ▪ planning and managing operations ▪ consultation and communication ▪ contingency planning ▪ resource planning and acquisition ▪ resource management systems ▪ budgeting and financial analysis and interpretation

		<ul style="list-style-type: none"> ▪ monitoring and review of performance system/process ▪ reporting performance ▪ problem identification and resolution ▪ alternative approaches to improving resource usage and ▪ eliminating resource inefficiencies and waste ▪ ways of supporting individuals/teams who have difficulty ▪ in performing to the required standard
Required Skills		<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • relate to people from a range of social, cultural and physical and mental abilities • functional skills to access and use workplace information • monitor and review a safe workplace and environment • access and use feedback to improve operational performance • prepare recommendations to improve operational plans • access and use established systems and processes • coach and mentor skills
Resources Implication		Access is required to real situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	of	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	of	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Leather Processing Level IV	
Unit Title	Test Raw Materials and Products
Unit Code	<u>IND LEP4 02 1121</u>
Unit Descriptor	This unit covers the knowledge, attitude and skills required for the selection and testing of raw materials and products associated with product development, production and/or quality assurance activities

Elements	Performance Criteria
1. identify test requirements for raw materials and products	1.1 Requirements for the <i>selection of raw materials</i> and <i>products</i> are clarified and confirmed in accordance with tannery procedures 1.2 Raw materials appropriate for the designated use are selected based on the requirements and <i>workplace context</i>
2. Test raw materials and products	2.1 Required <i>test method</i> and relevant equipment are identified or selected 2.2 Selected raw materials and products are tested for suitability in accordance with quality standards and workplace context
3. Report test results and maintain records	3.1 <i>Sources of information</i> for interpretation are used, where required 3.2 Test results are organized and analyzed against required specifications and in accordance with tannery requirement 3.3 Data is interpreted against requirements 3.4 Outcomes are reported in accordance with tannery procedures 3.5 Maintain records and related test reports

Variable	Range
Selection of raw materials and products	May include but not limited to: <ul style="list-style-type: none"> • confirmation/clarification of requirements • the range of raw materials used and products produced within the tannery • activities associated with product development, production and quality assurance
Test method	May include but not limited to: <ul style="list-style-type: none"> • National test methods • International methods
Sources of information	May include but not limited to: <ul style="list-style-type: none"> • Dockets, tags or other identification • Organization work orders • Regulatory and enterprise safety procedures • Quality assurance manuals • Organizational or external personnel • Transfer documentation • Suppliers' instructions

	<ul style="list-style-type: none"> • Test requests • Test equipment manufacturers' specifications and instructions • Data collected from tests • Codes/symbols
Workplace context	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Work organization procedures and practices relating to selection of raw materials • Conditions of service, legislation and industrial agreements including: <ul style="list-style-type: none"> • workplace agreements and awards • Federal or State/Territory legislation • Standard work practice includes the storage, safe handling and disposal of chemicals • quality improvement of team or section output, where necessary • Safety, environmental, housekeeping and quality are as specified by machine/equipment manufacturers, regulatory authorities and the enterprise

Evidence Guide	
Critical Aspects of Competence	<p>Demonstrates knowledge and skills in:</p> <ul style="list-style-type: none"> • confirming/clarifying requirements • selecting appropriate raw materials and products • checking selected raw materials and products for suitability • perform testing raw materials and products • analyzing test data against specifications
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • testing equipment and procedures • characteristics of raw materials, products their properties and any relevant hazards in handling, including chemicals, dyes, chromium etc. • selection and testing requirements of raw materials, products and the elements and principles of testing raw materials • precautions to be taken when tests are being conducted, including hazard identification • relevant OHS legislation, codes of practice, policies and procedures • product and process specifications • analyze and evaluate information • document, assess and transfer information • safety and environmental aspects of tannery activities
Required Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • use test equipment effectively, including all relevant quality and safety procedures • report test outcomes • maintain accurate records of test results • communicate effectively within the workplace
Resources	Access is required to real work areas, materials, chemicals, tools and

Implication	equipment, and relevant information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Leather Processing Level IV	
Unit Title	Design Process and Product Development
Unit Code	<u>IND LEP4 03 1121</u>
Unit Descriptor	This unit covers the knowledge, attitude and skills required to design process recipes for developing different products in each stage of leather processing industry.

Elements	Performance Criteria
1. Identify and confirm specifications	1.1 Sample material or product is examined to confirm the required specifications for designing. 1.2 Detail of requirements/specifications is documented
2. Identify Required Resources	2.1 Required resources and information are identified, listed and obtained in relation to process design and product development 2.2 Technological options are assessed in order to utilize the resources efficiently, effectively and eco-friendly
3. Prepare process design and product development	3.1 Recipes for final products are prepared. 3.2 Leather products are produced based on the developed recipe 3.3 Developed results are communicated for further action 3.4 Designed process for development of products are approved.
4. Maintain records	4.1 Process design and product development records are maintained and documented, in accordance with workplace practices

Variable	Range
Required information and Resources	may include but not limited to: <ul style="list-style-type: none"> • required resources (machines, manpower, chemicals, raw material etc.) • appropriate technological options • product specifications/ standards • product requirements
Technological options	May include but not limited to: <ul style="list-style-type: none"> • process recipe • cleaner options • waste generation • ease of adaptation with the system
products	May include but not limited to: <ul style="list-style-type: none"> • garment leather • glove leather • upper leather • upholstery leather • patent leather • belt leather

Evidence Guide	
Critical aspects of competence	Demonstrates knowledge and skills in: <ul style="list-style-type: none"> • confirming specifications • assessing options for process design and product development • selecting potential resources and technologies • design process and product
Required Knowledge and Attitudes	Demonstrates knowledge of: <ul style="list-style-type: none"> • technological options in leather processing • sound knowledge on utilization of leather chemicals • machines and their capabilities • safety and environmental aspects of chemicals used during product development • recording and reporting practices • designing of process and product
Required Skills	Demonstrates skills to: <ul style="list-style-type: none"> • perform the process design and product development activities according to the requirements • use the available resources more efficiently towards product development • communicate within the workplace
Resources Implication	Access is required to real work areas, materials, chemicals, tools and equipment, and to information on workplace practices and OHS practices.
Assessment Methods	Competence may be assessed through: <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Leather Processing Level IV	
Unit Title	Plan and Implement Production within a Work Area
Unit Code	<u>IND LEP4 04 1121</u>
Unit Descriptor	This unit covers the knowledge, attitude and skills required to plan and implement production within a specified work area in leather processing industry.

Elements	Performance Criteria
1. Identify and Determine production requirements	1.1 Resources required for the production order are identified 1.2 Estimated quantity and quality requirements are identified as per the actual production capacities 1.3 Production processes and material requirements are determined
2. Prioritize production orders	2.1 Steps required for the process sequence are identified ensuring production orders 2.2 Work is prioritized taking into account production demands, resource availability, customer requests and requirements, efficient use of resources 2.3 Workplace plan is undertaken and communicated
3. Organize team and resources	3.1 Work team is selected, organized and guided in accordance with workplace practices 3.2 Facility, equipment and material and resources required for the production process are identified and organized in accordance with the production schedule and OHS practices
4. Implement and monitor work-flow	4.1 Work flow is monitored to ensure production schedule 4.2 Methods are implemented to ensure that work is directed to each work area or location as required, and potential bottleneck areas are identified 4.3 Troubleshooting occurs on a regular basis in response to breakdowns, absenteeism and other factors
5. Manage variations to production plan	5.1 Inefficiencies are identified and dealt in accordance with workplace production practices 5.2 Systematic corrective actions of variations to the production plan are coordinated to ensure production schedule and specifications 5.3 Work is re-allocated in accordance with production priorities 5.4 Team or individual responsibilities are defined and communicated
6. Prepare operational reports and maintain records	6.1 Detailed report is prepared on production performance, process variations, troubleshooting measures 6.2 Records are maintained in accordance with workplace procedures

Variable	Range
Resources required	may include but not limited to: <ul style="list-style-type: none"> • Raw material • Manpower • Machines • Water • Chemicals
Production processes	May include but not limited to: <ul style="list-style-type: none"> • soaking and liming • tanning • post tanning • finishing
Methods	May include but not limited to: <ul style="list-style-type: none"> • Oral • Written instructions • Notification on workplace notice board • Measurement indicators
troubleshooting measures	May include but not limited to: <ul style="list-style-type: none"> • identifying the cause of problem • proper planning • effective utilization of resources

Evidence Guide	
Critical aspects of competence	Demonstrates skills and knowledge in: <ul style="list-style-type: none"> • establishing production requirements • prioritizing work • selecting and organizing work team • ensuring efficiency of production schedule • dealing with inefficiencies • Reporting production performance, variations and actions taken • maintaining accurate records
Required Knowledge and Attitudes	Demonstrates knowledge of: <ul style="list-style-type: none"> • workplace organization features • production planning processes • safety and environmental aspects of relevant workplace activities • OHS practices, including hazard identification and control measures • quality practices • workplace practices • recording and reporting practices
Required Skills	Demonstrates skills to: <ul style="list-style-type: none"> • implement production plan within a work place

	<ul style="list-style-type: none"> • communicate within the workplace • clarify and check task-related information • identify cause of variations and take corrective actions • carry out work according to OHS practices
Resources Implication	Access is required to real work areas, materials and equipment, and to information on workplace practices and OHS practices.
Assessment Methods	Competence may be assessed through: <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context Assessment	of Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Leather Processing Level IV	
Unit Title	Perform machine Set-up for Product Change
Unit Code	<u>IND LEP4 05 1121</u>
Unit Descriptor	This unit covers the attitudes, knowledge and skills required to set up machines for production changes in various leather processing operations

Elements	Performance Criteria
1. Adjust machine/s	1.1 Product specifications are interpreted correctly in relation to <i>machine</i> setting requirements 1.2 Machine is set in accordance with <i>product specifications</i> , machine manufacturer instructions and <i>OHS practices</i>
2. Perform production	2.1 Material to be used for sampling is prepared 2.2 Machine is operated in accordance with the new setting 2.3 Sample is tested, or the test is organized, in accordance with workplace practices to ensure required standards of quality 2.4 Production are produced based on machine set up
3. Re-adjust machine settings to meet requirements	3.1 Test results are interpreted to determine adjustment requirements 3.2 Adjustment changes are assessed in accordance with product and machine specifications 3.3 Appropriate production personnel are informed of the availability of the newly set up machine in accordance with the set requirement
4. Maintain records	4.1 Reports prepared related to adjustment of machine settings in accordance with workplace practices and 4.2 Records are maintained

Variable	Range
Machines	May include but not limited to: <ul style="list-style-type: none"> • any machine/equipment typically used in leather processing • pre-tanning machines • tan yard machines • Machines for post tanning • Finishing machines
product specifications	May include but not limited to: <ul style="list-style-type: none"> • Softness

	<ul style="list-style-type: none"> • Color • Thickness • Area • Various physical and chemical properties required for tanned/crust/finished leather
OHS practices	<p>Hazard identification and control, risk assessment and implementation of risk reduction measures specific to set-up machine/s for product change may include:</p> <ul style="list-style-type: none"> • Use appropriate personal protective equipment • Handle the tools/machine/equipment while performing machine set-up • Clean the machine area after performing machine set-up job • dispose the waste from the machines safely • reporting accidents and incidents, if any • follow ergonomic arrangements of the workplace while performing machine set-up

Evidence Guide	
Critical aspects of competence	<p>Demonstrates knowledge and skills in:</p> <ul style="list-style-type: none"> • interpreting specifications for machine settings • arranging or conducting testing of sample • making appropriate re-adjustments • applying workplace health and safety policies in production operations • maintaining accurate records
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • understanding the working principles, setting up and adjustment requirements for the range of machines and equipment used in leather processing • quality requirements of products • machine manufacturer specifications • safety and environmental aspects of relevant workplace activities • procedures and work instructions and other reference material • recording and reporting practices
Required Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • set and operate machines • test and analyze samples to meet the requirement • apply all the relevant safety practices when performing machine set-up job • communicate effectively with individuals, work groups and supervisors
Resources Implication	<p>Access is required to real work areas, materials and equipment, and to information on workplace practices and OHS practices.</p>

Assessment Methods	Competence may be assessed through: <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Leather Processing Level IV	
Unit Title	Perform Production Costing
Unit Code	<u>IND LEP4 06 1121</u>
Unit Descriptor	The unit covers the knowledge, attitude and skills required to provide appropriate information to perform costing at various stages of leather processing operations.

Elements	Performance Criteria
1. Identify and determine the types of production costs	1.1 Direct production costs for unit processes and operations are identified and determined 1.2 Indirect production costs are identified and determined as per the work place procedures
2. Develop and record details for cost calculation	2.1 Detailed consumption of raw materials, chemicals consumables and labor requirements are quantified and recorded 2.2 Appropriate recording format is developed and maintained
3. Perform total production cost estimation	3.1 Aggregate all direct and indirect production costs for a specified product, where final cost is to be estimated 3.2 Based on the available cost information total production/product cost is estimated.
4. Report and Maintain records	4.1 Estimated total production /product cost is reported to the respective finance/top management for final price determination 4.2 All relevant records and reports prepared are maintained

Variable	Range
Direct production/product costs	May include but not limited to: <ul style="list-style-type: none"> • Raw hides and skins • Chemicals • Consumables • Labor
Indirect production/product costs	May include but not limited to: <ul style="list-style-type: none"> • Production overheads (utilities, maintenance, and materials) • Administration overhead • Selling overhead

Evidence Guide

Critical aspects of competence	Demonstrates knowledge and skills by: <ul style="list-style-type: none"> • Calculating Direct and Indirect production cost • Calculating final production cost for products • Preparing Costing sheets for cost items • Documenting details of costs for future reference
Required Knowledge and Attitudes	Demonstrates knowledge of: <ul style="list-style-type: none"> • Principles and procedures involved in cost calculation • cost of manufacture of various products (pickle, wet blue, crust and finished leather) • understanding the importance of chemical usage, consumables and unit process/operations
Required Skills	Demonstrates skills to: <ul style="list-style-type: none"> • estimate the total production cost based gathered data • communicate effectively to the relevant personal
Resources Implication	Access is required to real work areas, materials and equipment, and to information on workplace practices
Assessment Methods	Competence may be assessed through: <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Leather Processing Level IV	
Unit Title	Implement and monitor environmentally sustainable work practices
Unit Code	IND LEP4 07 1121
Unit Descriptor	This unit covers the competence required to apply knowledge and skill in using cleaner leather production options with particular emphasizes on the importance of constantly reviewing leather making technology and techniques in order to ensure that environmental impacts of the processes are made reduced or eliminated and efficient use of resources without compromising the quality of end product.

Elements	Performance Criteria
1. Identify environmentally sensitive processes	<p>1.1. Identify and list <i>environmentally sensitive</i> operation requiring improved resource utilization and environmental protection.</p> <p>1.2. Identify possible <i>new process option</i> for cleaner leather production</p> <p>1.3. Relevant <i>information</i> and all necessary <i>resources</i> are identified and organized</p> <p>1.4. Situations are identified where existing knowledge can be used as the basis for customizing new process option and developing new skills, wherever appropriate</p>
2. Apply cleaner processing option	<p>2.1. Testing of cleaner production process options is conducted according to relevant work practices</p> <p>2.2. Features and functions of cleaner production process options is used for solving organizational problems</p> <p>2.3. Implement the customized environmentally friendly process option</p>
3. Monitor cleaner processing option	<p>3.1. Cleaner process option is evaluated for performance, workability and against OHS practices.</p> <p>3.2. <i>Environmental considerations</i> are determined from upgraded techniques.</p> <p>3.3. <i>Feedback</i> is sought from <i>interested party</i>, where appropriate</p> <p>3.4. Corrective or improvement actions are taken and reviewed, as appropriate</p> <p>3.5. Documentation associated with performances, best practices, corrective and/or improvement actions, etc. are registered and retained to ensure suitability of the processes, where applicable</p>

Variables	Range
Environmentally sensitive	<p>May refer to concerns but not limited to:</p> <ul style="list-style-type: none"> • end user health • workers health • environmental impact • biodegradability fate of end product • biodegradability fate of chemicals used
Information	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • technology • work procedures, instruction • manual • interested party requirement, feedback
Resource	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • material (skin/hide/leather, chemical, other consumable) • personnel • money • equipment • workplace
New process option	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Technology • Technique <p>Which is innovated or modified/upgraded aiming to reuse, recover and recycle, safe handling and disposal, work practice, method, etc. eventually improve safe environmental practice and efficient resource utilization</p>
Interested party	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • workers • shareholders • customers • community
Environmental considerations	<p>May include but is not limited to:</p> <ul style="list-style-type: none"> • improved OHS practice • reduced resource consumption at the source, • reuse, recover, recycling, safe discharge and disposal of waste
Feedback	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • surveys • questionnaires • interviews • meetings

Evidence Guide	
Critical aspects of competence	<p>Demonstrates skills and knowledge in:</p> <ul style="list-style-type: none"> • identifying environmental sensitive process • adapt and apply new process technique and technology in leather production • evaluating application of new process option in leather production • arranging availability of resources and supervise the new process option • monitoring implemented new process option
Required Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • technical processes and equipment/resources and specified process parameters in leather production • cleaner leather processing techniques and technology • characteristics and hazards of chemicals and other materials used on hides/skins or in leather processing • process, including chemical preparation, use and handling • quality standards and monitoring processes • safety and environmental aspects of relevant processes, particularly for chemicals • measure and analyze process parameters, monitor process and retrieve data • workplace procedures • reporting and documentation processes and procedures
Required Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • ability to assess environmental and resource sensitive process • Ability to solve problems related to environment in leather production • Evaluate and apply new process options to assist in solving organizational problems • organize resources and sequence process • communicate effectively within the workplace • document, assess and transfer information • relevant OHS practices and procedures
Resources Implication	<p>Access is required to real situations, including work areas, examination room, material, equipment, and information on workplace & OHS practices.</p>
Assessment Methods	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	<p>Competence may be assessed in the work place or in a simulated work place setting.</p>

LEATHER PROCESSING

Level IV

Leather Processing OS



Level III

Leather Processing OS



Level II

Leather Processing OS



Level I

Leather Processing OS

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This occupational standard was revised in November, 2021 at Adama, Ethiopia.

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