LEATHER PRODUCTION STANDARD

Consultation Draft 1.0

26.06.2025

This document is a DRAFT for public consultation. We encourage feedback in order to develop the content before publishing the final standard.

This document should not be regarded as a new Protocol and should not be considered final.

Requirements may change between public consultation and publication as a result of feedback.

The document outlines LWG's aims and ambitions for responsible leather production in a clear and accessible format. Unlike a protocol, it does not include audit questions, which will be part of the assessment tool. Implementation guidance notes will also be available for facilities preparing for an audit.

Click HERE to provide feedback

Publishing and copyright information

Published by Leather Working Group 20XX.

Publication history

Public consultation	MM-YYYY
Published	MM-YYYY
Corrigendum 1	MM-YYYY
Amendment 1	MM-YYYY

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About LWG

Established in 2005, Leather Working Group (LWG) began as a collaborative initiative among leading footwear, apparel, and upholstery brands, alongside leather manufacturers. Founding members include Adidas, Clarks, Ikea, Nike, Marks & Spencer, New Balance, Timberland, and PrimeAsia Leather Company.

Since then, LWG has grown into the world's largest stakeholder organisation dedicated to the leather industry, representing over 2,000 stakeholders across 60+ countries.

Our diverse multi-stakeholder group includes:

- Brands & Retailers
- Leather Manufacturers
- Traders (raw, part-processed, and finished materials)
- Suppliers (e.g., chemical producers, machinery suppliers)
- Industry Groups, NGOs & Associations
- Finished Product Manufacturers

We are committed to delivering value to our stakeholders, with a mission to support and encourage the use of responsibly made leather as a sustainable material by inspiring, educating, and challenging those that produce and use leather. Through collaboration, convening, and standard setting, we are collectively creating a transparent leather value chain that achieves positive impacts aligned to the Sustainable Development Goals.

LWG Vision

Leather Working Group envisages a world where leather is sourced, produced, and used sustainably, protecting people and the planet.

LWG Mission Statement

Leather Working Group supports and encourages the use of responsibly made leather as a sustainable material by inspiring, educating, and challenging those that produce and use leather. Through collaboration, convening, and standard setting, we are collectively creating a transparent leather value chain that achieves positive impacts aligned to the Sustainable Development Goals.

Foreword

Publishing information

This LWG standard was published by Leather Working Group in MM-YYYY. The date of effect is MM-YYYY.

This standard supersedes XXXX, which is withdrawn.

Information about this document

This standard has been developed in accordance with the LWG Standards Development Process. Its development was supported by multi-stakeholder Technical Task Teams and overseen by a Programme Board.

This publication can be withdrawn, revised, or superseded. For information on the status of this standard, visit the LWG website at www.leatherworkinggroup.com.

Relationship to other documents

This standard forms part of the LWG Responsible Leather Sustainability System which comprises:

- The Leather Production standard
- The Chain of Custody standard
- The Carbon Footprint Calculator
- The Responsible Leather Sustainability System certification requirements
- The Leather Production Standard Implementation Guidance Document

Presentational conventions

This standard contains both requirements and recommendations.

The requirements and recommendations of this standard are presented in roman (i.e. upright) type.

Requirements are expressed in sentences in which the principal auxiliary verb is "shall" and all requirements must be met for minimum compliance with the standard.

Recommendations are expressed in sentences in which the principal auxiliary verb is "should" and recommendations must be met for higher-level compliance with the standard.

Commentary, explanation and general informative material is presented in italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. “organization” rather than “organisation”).

Contractual and legal considerations

This standard does not constitute a contract.

Compliance with this standard cannot confer immunity from legal obligation.

Scope

LWG Leather Production Standard supports the responsible production and supply of leather. The Leather Production Standard provides requirements and recommendations for the environmental performance of leather manufacturers.

This standard applies to all leather production facilities, including subcontracted operations contributing to water usage and discharge, irrespective of geographical location or production capacity.

This standard does not apply to any facility which processes or trades in fur.

Normative references

The following documents are referred to in the requirements and recommendations of this standard such that they are necessary for meeting the requirement or recommendation. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 17075…

Terms & Definitions

For the purposes of this standard, the following terms and definitions apply:

Abstracted Fresh Water: Water sourced directly from natural systems, such as rivers, lakes, or aquifers.

Air Emissions: The release of gases, particulates and vapours into the atmosphere during manufacturing processes.

Batch of leather: One production drum load of leather.
Note 1: Batch size varies according to the size of the drum.
Note 2: Manufacturing facilities whose incoming material is crust should consider a batch of leather to be the group of hides or skins that are processed together.

By-product: Any material derived from hides and skins, other than leather, that is unintentionally generated during leather production processes that has potential value.

Centralized Effluent Treatment Plant (CETP): See ETP

Chemical Inventory List (CIL): A complete list of all chemicals stored and used in a facility, including details on quantity, supplier, usage, etc.

Chemical Formulation: Manufactured product as sold to a leather manufacturer.
Note: It includes complex formulations such as dyes and retanning agents as well as simple commodity products such as formic acid and sodium sulphide.

Control Device: Equipment designed to limit the quantity of emissions.

Chromium VI (Cr(VI)): Chromium in its +6 oxidation state, commonly referred to as hexavalent chromium or Cr(VI).

Chrome-tanned leather: Hide or skin converted to leather either by treatment solely with chromium salts or with chromium salts together with a small amount of some other tanning agent, used merely to assist the chromium tanning process, and not in sufficient amount to alter the essential chromium tanned character of the leather. [Source: ISO 15115]

Chrome-free leather: Hide or skin converted to leather by a tanning agent free of chromium salts, where the total content of chromium in the tanned leather is less than or equal to 0.1% (mass of chromium/total dry weight of leather). [Source: ISO 15115]

Discharge Limits: Maximum allowable concentrations of specific pollutants in treated effluent.

Dormant Chemicals: Chemicals or chemical formulations that are not actively in use in any current production, treatment, or research processes but are still physically stored on-site at the facility.
Note: These may include leftover surplus, discontinued, expired or temporarily unused chemicals that remain in storage.

Effluent: Liquid that flows out of a manufacturing facility requiring treatment to meet environmental standards.

Effluent Treatment Plant (ETP): Infrastructure and processes to treat liquid waste, ensuring pollutant levels comply with discharge regulations and/or requirements.
Note: For the purposes of this standard, the following variations are identified:

A) Centralized Effluent Treatment Plant (CETP): An off-site shared facility treating effluent from multiple sources.
B) Municipal Effluent Treatment Plant (METP): An off-site public facility treating effluent from multiple sources often including domestic sewage.

Emission Source: Any process or equipment (boilers, spray machines, etc.) releasing pollutants into the atmosphere.

Environmental Aspect: Element of an organization's activities or products or services that interacts or can interact with the environment. [Source: ISO 14001]
Note 1: An environmental aspect can cause (an) environmental impact(s). A significant environmental aspect is one that has or can have one or more significant environmental impact(s).
Note 2: Significant environmental aspects are determined by the organization applying one or more criteria.

Environmental Management System: Part of the management system used to manage environmental aspects, fulfil compliance obligations, and address risks and opportunities. [Source: ISO 14001]

Environmental Objective: Objective set by the organization consistent with its environmental policy [Source: ISO 14001]

Environmental Policy: Intentions and direction of an organization related to environmental performance, as formally expressed by its top management. [ISO 14001]

Energy Consumption Intensity (ECI): Energy consumed per square metre of leather processed.

Green State: Hides and skins prior to liming and unhairing.

Hazardous substance: A substance or mixture that meets the criteria for classification under one or more hazard classes of the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS), due to its physical, health, or environmental effects.

Municipal Effluent Treatment Plant (METP): See ETP

Management System: Set of interrelated or interacting elements of an organization to establish policies and objectives and processes to achieve those objectives. [Source: 14001]

Manufacturing Restricted Substances List (MRSL): List of chemical substances that are banned from intentional use in facilities processing textile materials, leather, rubber, foam, adhesives and trim parts.
Note: MRSL is used to control or restrict the presence of unwanted substances in the chemicals used in leather manufacture. An MRSL applies to chemicals used in leather manufacture, it does not apply to leather and it does not apply to raw materials used in chemical manufacture.

MRSL Compliance Declaration: Formal document provided by a supplier (i.e. chemical formulation manufacturer) confirming adherence to MRSL standards.

Part-processed material: Hides and skins that have undergone preliminary processing steps such as liming, pickling, tanning, or crusting but have not yet reached the final finished stage where it is suitable for use in the making of products.
Note: Categories include limed, pickled, pre-tanned, tanned (e.g. wet-blue / wet-white), undyed and dyed crust materials.

Policy: See Environmental Policy

Product line: A set of leather articles that share common characteristics and are intended for a specific market or application (e.g. footwear, automotive, child products, etc.).
Note: Different articles within a product line are produced using the same or similar raw materials, chemicals, processing methods and finishing techniques.

Recycled Water: Water reused within or sourced externally for operations, classified as internal or CETP/METP-based.

Restricted Substances (RS): See RSL

Restricted Substances List (RSL): List of chemicals prohibited or restricted in final leather material due to environmental, health, or safety concerns.
Note: RSLs are often used by customers or brands to control and restrict the presence of unwanted substances in the material they are purchasing.

Safety Data Sheets (SDS): Documents providing detailed information about the properties, hazards, and handling of specific chemicals.

Sub-contracting: Arrangement whereby one organization contracts with another, independent organization for one or more operations to be undertaken (with or without payment).
Note: Organizations within a group of companies are not considered independent of each other and operations undertaken between them are not considered to be sub-contracting arrangements. Alternative definitions of sub-contracting are not accepted.

Sub-contracting in: Where an organization undertakes work on behalf of another third-party organization.

Sub-contracting out: Were an organization arranges for work to be undertaken on its behalf by another third-party organization.

Valorization: See “valorize”.

Valorize: To make something valuable or useful from an existing substance. [Source: Cambridge Dictionary]

Vegetable-tanned leather: Hide or skin converted to leather by vegetable tanning agents, where the total content of tanning metals (Cr, Al, Ti, Zr, Fe) is less than or equal to 0,3% (mass of all metals/total dry weight of leather) [Source: ISO 15115]

Volatile Organic Compounds (VOC): Organic chemicals that have a high vapor pressure at room temperature and are released during leather processing contributing to air pollution.

Wet-blue: Leather in a wet condition after chrome tanning. [Source: ISO 15115]

Wet-white: Leather in a wet condition after tanning with substances e.g., zirconium salts, aluminium salts, modified aldehydes, glutaraldehyde and synthans, that confer a whitish colour. [Source: ISO 15115]

Workstation: Physical arrangement of equipment, tools, materials, and furniture where one or more workers carry out work tasks. [Source: ISO 6385]

1. Production Data

Commentary on Clause 1. Production data provides the basis for assessing environmental performance and resource efficiency within the leather manufacturing process. This clause establishes requirements for collecting, maintaining, and verifying production records which enables compliance to this standard.

1.1 General Requirements

1. The facility shall maintain a production management system that would allow for keeping accurate and verifiable monthly production records, covering a continuous 24-month period prior to the audit date. The final month of data shall be no older than three months prior to the audit.

2. The facility shall regularly submit its updated monthly production data directly to LWG prior to the scheduled audit date preferably quarterly, and at a minimum semi-annually. The production data shall be submitted in accordance with this Standard and the format and structure defined in the LWG Production Data Template.
   Note: Production data refers to production input and output quantities recorded in weight (e.g. tonnes) and/or area (e.g., square meters) as applicable. The data is to be broken down by raw material type, stage of processing, tanning methods, final product type and thickness range. Refer to the Production Data Template for details.

3. The records shall be retained for a minimum of 5 years.

2. Subcontractors

Commentary on Clause 2: Subcontracted operations contribute to the overall environmental and social impact of the leather manufacturing process. This clause gives requirements for disclosing, accounting for and assessing all subcontracted activities.

2.1 General Requirements

1. The facility shall disclose all subcontractors involved in any stage of leather production or processing during the audit period.

2. The names, addresses, LWG certification status, quantities processed, and the specific operations conducted by each subcontractor shall be submitted to LWG quarterly, or at a minimum semi-annually using the LWG Subcontracted Operations Template. Non-disclosure of all subcontractors may result in audit failure.

3. The facility shall work with LWG-certified subcontractors.
   Note: If not all subcontractors are LWG certified, then the facility shall have time-bound targets and an action plan to get all its subcontractors certified.

4. Where the facility acts as a subcontractor, the facility shall record all subcontracted in operations separately from in-house production following the LWG Subcontracted Operations Template.

3. Environmental Management System

Commentary on Clause 3: This clause provides requirements and recommendations for establishing, implementing, maintaining, and continually improving an environmental management system (EMS). The EMS enables an organization to systematically identify, manage, and improve environmental performance in accordance with legal obligations and recognized best practices.

The EMS serves as a framework to manage the facility's environmental impacts across all relevant activities. It supports compliance with legal requirements, aligns with LWG sustainability objectives and facilitates continual improvement in environmental performance and enhances transparency.

3.1 Environmental Policy

1. The facility shall establish, implement and maintain an environmental policy that is appropriate to the nature, scale and environmental impacts of its activities. The policy should:
   a) include commitments with respect to different aspects of the facility's environmental performance,
   b) include a commitment to continual improvement,
   c) include a commitment to comply with applicable legal requirements,
   d) provide a framework for setting environmental objectives and targets,
   e) be documented and effectively communicated to all persons working for or on behalf of the facility, and
   f) be readily available to interested parties.

2. The facility shall designate a specific role or position with overall responsibility for the implementation, maintenance and continual improvement of the Environmental Management System (EMS). This responsibility shall be clearly defined, documented and communicated within the organization, and shall include accountability for ensuring compliance with environmental obligations and the achievement of environmental objectives and targets.

3.2 Environmental Aspects and Impacts

1. The facility shall identify the environmental aspects of the activities within its control and influence. These aspects shall be evaluated to determine those that have significant environmental impacts. The results shall be documented, periodically updated, and used to support planning and improvement efforts.

2. The facility shall establish and maintain procedures to identify applicable legal requirements related to its environmental aspects.

3. The facility shall document and implement procedures so that the operations associated with significant environmental impacts are carried out under defined conditions to minimize environmental risks.

3.3 Objectives and Targets

1. The facility shall establish, implement, and maintain measurable, time-bound, quantifiable, and qualitative environmental objectives and targets, which are consistent with the facility's environmental policy, support continual improvement of environmental performance and address facility's significant environmental aspects and impacts.

2. The objectives and targets established by the facility should contribute towards following sustainability objectives:
   a) improved resource efficiency (water, energy, chemicals),
   b) reduced greenhouse gas emissions,
   c) prevention of pollution of air, water, and soil,
   d) reduced the use of hazardous chemicals, and
   e) promotion of circularity and reduced leather waste.

3. The facility shall designate a responsible person or role for achieving each objective, establish clear timelines and measurable milestones, and allocate appropriate resources and budget.

4. The facility shall implement systems to monitor progress against established objectives and targets. Progress shall be evaluated at planned intervals, and targets shall be revised as necessary to support continual improvement.

3.4 Competence and Awareness

1. The facility should ensure that all individuals whose work may have significant environmental impacts are competent based on appropriate education, training or experience.

2. The facility should provide environmental awareness training to all staff at least annually.

3.5 Monitoring, Reviews and Continuous Improvement

1. The facility should establish and implement a program of internal environmental audits at planned intervals to verify that its operations are in conformance with the EMS.

2. Internal audits should be conducted by qualified personnel independent of the activities being audited to ensure objectivity and impartiality of the audit process. Findings shall be documented and addressed.

3. The facility should conduct periodic reviews of the EMS at least once a year to confirm its continued suitability, adequacy and effectiveness.
   Note: Management reviews shall be documented and shall consider audit results, environmental performance data, objectives and targets achievement status and any changes in legal or organizational circumstances.

4. The facility shall maintain documented evidence of environmental reviews, target setting, performance assessments and improvement actions. These records shall support transparency and accountability, and enable internal or external verification of the facility's commitment to continual environmental improvement.

5. The facility shall maintain a procedure for recording, investigating and responding to complaints from neighbours or the public regarding nuisance or visual impact related to manufacturing operations.

4. Health, Safety and Emergency

Commentary on Clause 4: This clause of the Standard provides requirements and recommendations for occupational health, safety and emergency preparedness in leather production facilities. By implementing this Standard, facilities can reduce the risk of workplace accidents, limit exposure to chemicals and provide a safer, healthier and cleaner work environment, reinforcing responsible manufacturing, housekeeping practices and demonstrating a commitment to worker well-being.

4.1 General Requirements

1. The facility shall designate individual(s) or position(s) for health and safety management, including emergency planning and response procedures. The name(s) or title(s) of these parties shall be documented and communicated within the facility.

4.2 Hazards Identification and Risk Assessment

1. The facility shall conduct and document risk assessments for all workstations, individual roles, tasks, activities and chemicals used on site. The risk assessments shall be carried out by a suitably qualified assessor and be reviewed regularly.

2. The facility shall implement a formal change management process to reassess risks prior to introducing new equipment, materials, processes or operational layouts.

3. The facility shall apply the Hierarchy of Controls when identifying and implementing measures to eliminate or reduce occupational health and safety risks, following the order of priority below:
   a) Elimination: Remove the hazard entirely (e.g., eliminate use of hazardous chemicals).
   b) Substitution: Replace the hazard with a safer alternative (e.g., use a lower-risk chemical).
   c) Engineering Controls: Isolate people from the hazard (e.g., use enclosed processing systems, ventilation).
   d) Administrative Controls: Modify workplace practices (e.g., shift rotation, training, safe work procedures).
   e) Personal Protective Equipment (PPE): Provide appropriate protective equipment, used only when other control measures are insufficient or infeasible, recognising PPE as last resort.

4. The facility shall conduct exposure assessment to volatile organic compounds (VOCs), ammonia and other relevant airborne pollutants[1] associated with chemical use and manufacturing processes, particularly near potential release points in proximity to workers. Monitoring the exposure assessment shall be conducted preferably on a monthly basis, and at a minimum annually.

4.3 Safety Measures

Machinery and Equipment Safety

1. The facility shall equip all machinery with suitable guarding and interlocks to prevent injury from moving parts.
2. Emergency stop devices shall be installed where required.
3. The facility shall perform regular maintenance and functional checks of safety features on all mechanical equipment.
4. The facility shall ensure that all platforms, staircases and overhead work areas, including those used for accessing production drums, are designed and maintained to prevent falls and contact with moving machinery.
5. The facility shall clearly label and physically isolate any machinery that is out of service to prevent unintentional use and ensure worker safety.

Airborne Hazards

6. In areas where specific airborne pollutants may be present, appropriate control measures shall be implemented and maintained to provide safe working conditions and meet compliance with occupational exposure limits established by applicable local laws and regulations.

4.4 Personal Protective Equipment

1. The facility shall provide all workers and third-party visitors with suitable PPE as prescribed by the risk assessments.

   Note 1: PPE shall be used as a last resort only, where risks cannot be controlled through elimination, substitution, engineering controls and administrative measures (see 4.2.3).

[1] Fumes, dusts, airborne chemicals, etc

Note 2: Third-party visitors, customers and contractors shall be provided with appropriate PPE based on area-specific risks.

2. The use of PPE shall be made mandatory through company policy and clearly communicated with appropriate signage posted in relevant areas.

3. The facility shall provide training to all workers on the correct use, limitations, storage and maintenance of the PPE relevant to their role. Training shall be conducted at induction and refreshed regularly or when changes in PPE or tasks occur.

4. The facility shall regularly assess the functionality of PPE according to manufacturer's instructions or by qualified personnel.

5. The facility shall maintain records of PPE issuance for at least two years or longer if required by applicable local regulations.

4.5 Hydrogen Sulphide Control

1. The facility shall identify all Hydrogen Sulphide (H_2S) risk areas and conduct a documented risk assessment for these areas, including beamhouse operations, chemical storage, onsite effluent treatment plant and confined spaces e.g. drains and sumps. All H_2S risk assessments shall:
   a) be conducted by a competent assessor,
   b) cover all high-risk areas,
   c) include a site plan identifying risk areas,
   d) provide conclusions and actionable recommendations,
   e) be reviewed regularly, and
   f) be signed by a designated and competent individual responsible for health and safety.

2. The H_2S risk assessments and monitoring plans shall be reviewed at least annually, or following any process or equipment changes that could influence H_2S generation.

3. The facility shall prepare a site plan showing locations of fixed H_2S detectors and zones where personal detectors are mandatory. The type, number and position of detection equipment shall be identified in the risk assessment.

4. The facility shall use a combination of fixed-point H_2S gas detection systems and personal H_2S detectors with triple alarms (sound, vibration, and light) in areas where an H_2S risk exists. Fixed detectors shall trigger both local and remote alerts.

5. The facility shall maintain, test and calibrate at intervals recommended by the manufacturer and/or applicable norms all fixed and personal H_2S detectors.

6. The facility should separate sulphides bearing beamhouse effluent streams from other acidic wastewater streams until they reach the wastewater treatment plant or at least until they are outside of the building.

7. The facility should oxidize sulphides present in liming and unhairing streams as part of the effluent pre-treatment.

8. Entry into confined spaces shall be allowed only to trained personnel with work permit, a personal H_2S detector and with appropriate rescue and emergency response plans in place.

9. The facility shall include H_2S-specific response procedures in its emergency plans, including:
   a) evacuation upon H_2S detection,
   b) first responder roles and PPE requirements,
   c) decontamination procedure, and
   d) emergency medical steps.

4.6 Housekeeping

1. The facility shall implement a documented procedure for regular and ongoing housekeeping activities in all operational areas.

2. External areas of the facility shall be kept clean, free of waste and obstruction, and presentable at all times.

3. The facility shall keep all machinery clean and in good order.

4. All tools and operational equipment (e.g., thermometers, pH meters, buckets, brooms, aprons, etc.) shall have assigned storage locations.

4.7 Traffic Control and Work Areas

1. The facility shall maintain a written traffic management plan that includes a site map clearly indicating all pedestrian walkways, vehicle routes, access points, loading zones and designated crossings within internal production areas and external site grounds.

2. The facility shall maintain clear and safe work areas by using signage and floor markings to separate pedestrian zones from vehicle or shared routes. All access paths and designated Work in Progress (WIP), process chemicals and waste storage areas shall be clearly marked, kept free from obstructions, and allow safe movement of people and materials.

3. All staff, contractors and visitors shall be instructed on the traffic system during induction training.

4. The facility shall ensure all emergency exits and evacuation routes are clearly marked, accessible and unobstructed.

4.8 Training, Drills and Emergency Preparedness

1. The facility shall provide all workers with appropriate and periodical training from qualified personnel, in compliance with legal requirements or, at a minimum, on an annual basis, and in accordance with the facility's training programme.
   Note: Training programme should be maintained by roles and responsibilities, clearly define training schedule and be reviewed and updated as needed to maintain ongoing effectiveness

2. The facility shall provide a formal site induction and initial training to all new workers on or before their first day of work.

3. The facility shall maintain records of training completions, with evidence of understanding for at least 2 years or longer if required by applicable local regulations.

4. The facility shall instruct all third parties, including contractors, clients and visitors who may spend substantial time in manufacturing or chemical storage areas, in the health and safety procedures relevant to their visit.

5. The facility shall prepare formal written procedures for responding to environmental, chemical, and health and safety emergencies. The following should be included in the emergency procedures:
   a) emergency contact list,
   b) identification of physical resources (e.g., spill kits, fire extinguishers, eye wash stations, safety showers),
   c) identification of trained personnel (e.g., first responders, first aiders),
   d) identification of required safety equipment (e.g., PPE),

e) first aid procedures and assigned personnel,
f) protocols for engaging external emergency services, and
g) clear evacuation procedures.

6. The facility should issue written instructions explaining emergency response protocols to all workers.

7. The facility shall review and update where necessary its emergency response procedures at least annually, or whenever significant changes are made or new risks arise.

8. The facility shall train emergency response team members to an externally recognized and certificated standard and reassess their readiness periodically.

9. The facility shall allocate enough trained emergency response team members on each shift, according to local legal requirements, but with at least one responder per 30 workers for fire, first aid, and chemical spill scenarios.

10. The facility shall conduct emergency practice drills at least annually.
Note: More frequent drills (e.g. semi-annually, quarterly or monthly) are highly recommended based on risk profile. The results of the practice drills shall be analysed and corrective actions based upon the findings shall be implemented.

11. The facility should inform local agencies and authorities about its emergency procedures and potential risks related to facility operations.

4.9 Incident Management and Reporting

1. The facility should put in place a mechanism for employees to report safety concerns, unsafe conditions and incidences of adverse reactions to chemicals to the attention of management or workers representative.

2. The facility shall document and analyse any emergency incidents, near misses and accidents that occurred. The root cause shall be identified, and preventive and corrective actions taken.

3. The facility shall notify the Leather Working Group in writing within 30 days of any fatalities.

5. Operating Permits

Commentary on Clause 5: This clause provides requirements and recommendations for acquiring, maintaining and complying with permits necessary for the operation of a leather production facility. The purpose is to support the facility to operate within the designated legal limits and regulatory frameworks regarding environmental discharges, emissions and resource usage defined by national and local authorities.

Production facilities are expected to implement structured systems to track permit conditions, monitor key parameters (e.g. emissions, resource consumption, waste disposal, etc.) and retain records that demonstrate compliance over time. These measures help organizations remain audit-ready, minimize environmental and legal risks, and respond effectively to regulatory inspections or enforcement actions.

5.1 Permit Acquisition and Validity

1. The facility shall acquire and maintain validity of all necessary operating permits, including but not limited to:
   a) general operating permit,
   b) building occupancy,
   c) boiler operation,
   d) air emissions,
   e) water abstraction and/or usage,
   f) effluent/wastewater discharge including stormwater,
   g) solid and hazardous waste disposal,
   h) chemical purchase and storage, and
   i) other permits as required by national and local laws and regulations.

2. The facility shall keep and maintain an updated register of all operating permits and licenses, along with copies of the original documents. The register should include, at a minimum, details such as:
   a) permit title and number,
   b) issuing authority,
   c) date of issuance,
   d) expiry date,
   e) permit conditions, and
   f) restrictions and requirements such as reporting obligations

3. The facility shall operate in full compliance with all conditions and designated limits stipulated in its operating permits, as well as with applicable local and national legislation, including emissions limits and other regulatory restrictions.

4. Where necessary, the facility shall obtain permit amendments to accommodate significant operational changes, such as increased capacity, altered processes or emissions, new equipment or changes in ownership or legal entity.

5.2 Compliance Monitoring

1. The facility shall implement an internal monitoring program to regularly assess its compliance with permit conditions and/or regulatory limits. This includes but is not limited to monitoring the following parameters:
   a) air emissions volumes and limits (e.g. NOx, SO_2, VOCs, particulates),
   b) water abstraction volumes,
   c) water discharge to the environment and to drainage,
   d) levels of pollutants in the discharged water or effluent (e.g. chemical oxygen demand (COD), total nitrogen, total suspended solids, etc.),
   e) energy consumption,
   f) chemicals purchase and/or storage limit, and
   g) waste disposal quantities (hazardous and non-hazardous).

2. The facility shall record all authority inspections and demonstrate, through documented evidence, the frequency of site visits by regulatory authorities for the purpose of permit verification and compliance inspection.

3. A facility located near residential or sensitive environmental areas shall control external noise levels below permissible limits defined by local regulations and conduct an impact assessment to evaluate potential noise pollution from operations.

4. All monitoring data related to emissions, discharges and resource usage together with permit conditions shall be documented and retained for at least 5 years. These records shall be made available during audits and regulatory inspections.

5.3 Penalties and Enforcement

1. If non-compliance with any permit condition is detected, the facility shall immediately:

a) investigate the root cause of the non-compliance,
b) develop a corrective action plan with a timeline for implementing corrective measures,
c) implement corrective actions to bring operations back into compliance,
d) take preventive actions to avoid recurrence, and
e) maintain records of all instances of non-compliance

2. The facility shall maintain records of all instances of non-compliance, including corrective action reports and communications with regulatory authorities

3. The facility shall notify LWG in writing within 30 days of all regulatory enforcement actions[2], legal prosecutions, compliance violations related to its operations or the CETP it discharges to.

[2] Such as cautions, warnings or fines

6. Chemical Management

Commentary on Clause 6: Chemicals play a crucial role in processing hides and skins. A typical tannery may use and store hundreds of different chemicals at any given time. The substances contained in the chemicals can either react with collagen, be fixed to the leather matrix or act as a process chemical to facilitate these reactions before eventually being discharged into the effluent.

This clause specifies requirements and provides recommendations for safe chemical management in the leather manufacturing industry. It aims to support compliance with environmental, health and safety regulations while promoting best practices in the procurement, storage, usage, handling, and disposal of chemicals used in leather production processes. In addition to improving safety and environmental outcomes, effective chemical management can also deliver significant cost savings by reducing waste, minimizing overuse, and optimizing inventory and procurement practices.

As part of a comprehensive chemical management strategy, attention shall also be given to the chemical inputs themselves. Manufacturing Restricted Substances Lists (MRSLs) list hazardous chemical substances that are prohibited in chemical formulations and must be avoided during production, preventing their intentional use and ensuring they do not enter supply chains. By adhering to MRSL guidelines, tanneries can reduce pollution, improve worker safety and meet global sustainability expectations. The ZDHC MRSL is the minimum compliance standard recognized by LWG. Alternative industry-specific MRSLs may be accepted if they are equal to or stricter than the ZDHC MRSL.

6.1 Chemical Management System

1. The facility shall have a written chemical management policy with a set of chemical management procedures. The policy should include but not be limited to:
   a) statement of intent,
   b) facility's principles with respect to chemical selection and MRSL,
   c) facility's principles with respect to chemical handling,
   d) facility's principles with respect to chemical emergency events,
   e) chemical management procedures for chemical selection, usage and disposal, and
   f) specific procedures for emergency situations such as chemical spills or other identified hazardous situations,

2. The facility shall designate individual(s) or position(s) responsible for chemical management. The names of the responsible individuals or positions should be documented and communicated within the facility.

3. The facility should ensure that the individual(s) responsible for chemical management possesses appropriate qualifications and/or relevant experience, which is demonstrated through documented evidence, such as educational credentials or equivalent professional experience.

4. The chemical management policy and procedures (6.1.1) shall be communicated to relevant personnel through visual, written and spoken (e.g. training) communication.

6.2 Chemical Inventory Management

1. The facility shall maintain a Chemical Inventory List (CIL) of all chemicals present on-site, including those used in production, on-site effluent treatment, research and development (R&D) and dormant chemicals. The CIL should be updated monthly and at minimum include:
   a) name of the chemical product,
   b) chemical formulator name as given in the SDS or container label,
   c) chemical supplier details in case it is not directly purchased from the manufacturer (formulator),
   d) formulator batch number,
   e) chemical supplier's intended use of the chemical (main category),
   f) subcategory of the chemical,
   g) amount in stock,
   h) total monthly consumption in kilograms,
   i) hazard status (hazardous or non-hazardous) based on the SDS,
   j) VOC content,
   k) storage location,
   l) SDS issue, including issue date and No., and
   m) review against MRSL conformance[3] (for proprietary chemicals only).

2. The facility shall maintain additional information on all hazardous substances used and stored on-site. When applicable, the following information should be provided according

[3] Including conformance level if applicable

to local implementation (respecting national deviations) of the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS):

a) CAS numbers (or equivalent identifiers) of hazardous substances as listed in the Safety Data Sheet along with their concentration percentages,
b) related information on physical, health, and environmental hazards,
c) precautionary measures for handling, storing and disposing,
d) compatibility information for storage to ensure safe chemical segregation, and
e) where required by local legislation or voluntary supply chain commitments, phase-out plans for restricted high-risk substances.

3. The facility shall regularly reconcile record-based stock levels with actual physical stock. This shall be performed at least monthly to ensure inventory accuracy and integrity.

4. The facility shall regularly submit its updated CIL directly to LWG prior to the scheduled audit date, preferably quarterly, and at a minimum semi-annually. The CIL shall be submitted in accordance with this Standard and follow the format and structure defined in the LWG CIL Template.

6.3 MRSL Compliance and Chemicals Procurement

1. The facility shall have a written procedure for the procurement of chemical products. This procedure shall specify that the selection and procurement of chemicals comply with applicable safety and environmental standards, legal regulations, the facility's internal chemical management policy and MRSL requirements.

2. The facility shall record MRSL compliance status of used proprietary chemicals in the CIL (see 6.2.1) against ZDHC MRSL, or alternative industry-specific MRSLs. If alternative MRSLs are used, they should be equal to or stricter than the ZDHC MRSL.

3. If MRSL compliance status cannot be ascertained by specialized MRSL third-party verification, then the chemical formulator shall provide declarations of compliance with applicable MRSLs. These declarations shall be reevaluated and updated every 12 months.

4. The facility shall establish and maintain documented procedures for the selection and purchase of part processed materials that was produced in accordance with the facility's MRSL requirements.

6.4 Usage and Handling of Chemicals

1. The facility shall establish and maintain documented procedures for the safe handling of chemicals in accordance with SDS and risk assessments as specified in Sub-clause 4.2.

2. The facility shall be able to identify names, quantities, supplier and batch numbers of the chemicals used in the production of an individual batch of leather.

3. The facility shall make Safety Data Sheets (SDS) available for every chemical present on site. The SDSs shall be kept in readily accessible locations.

4. Critical safety information from SDS should be transcribed into simplified formats and be accessible to all workers in languages they understand.

5. SDS should comply with the standards and requirements outlined in the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) as implemented through applicable national or local laws and regulations.

6. SDS should be reviewed and updated at a minimum every five years, or sooner if new hazard information becomes available or if regulatory changes occur.

7. The facility should install automated chemical delivery systems, where possible, and especially for dosing hazardous chemicals to reduce manual handling.

6.5 Storage of Chemicals

1. The facility shall designate and maintain separate, well-ventilated storage areas for different chemical classes according to the nature of the chemical product and its hazard class and applicable laws.

2. Hazardous substances shall be stored in secure, sheltered areas to which only authorized access is permitted.

3. Whenever practicable, the storage area should be separated from the main production areas. The supply of hazardous chemicals for use on production floors shall be limited to the practical amount of time needed to complete the specific task. Otherwise, all hazardous substances shall be stored in designated locations separate from production areas.

4. The facility shall establish documented procedures to prevent contamination, leaks and deterioration and verify product integrity prior to, and during storage. These procedures shall include inspecting containers' integrity and labelling upon receipt, supervising bulk deliveries, conducting monthly inspections and maintaining records of these activities.

5. The facility shall establish and implement procedures to manage the shelf life of chemicals in storage such as:
   a) operating a First-In - First-Out stock control system to ensure older products are used before newer products,
   b) labelling chemical containers with the production date or date of entry into the storage area,
   c) having a documented process to identify and manage products that are past their expiration date, and
   d) removing expired chemicals from active storage areas followed by appropriate remedial action, such as safe disposal or return to the supplier, as applicable.

6. All storage containers shall be clearly labelled according to local GHS implementation requirements, indicating:
   a) name of chemical products and the manufacturer,
   b) hazard pictograms and/or hazard phrases,
   c) production data and batch number, and
   d) storage conditions

7. The facility shall store chemicals so that:
   a) Intermediate Bulk Containers (IBCs) are not stacked more than three units high to avoid risks of spills and collapses,
   b) incompatible chemicals are not stored together,
   c) liquid chemicals are not stored above powdered chemicals where racking is used,
   d) racks are weight-labelled and in good condition,
   e) chemicals are out of direct sunlight,
   f) appropriate temperatures are maintained at all times,
   g) high fire risk storage areas are equipped with explosion-proof lamps and smoke detectors, and
   h) drinking, eating and smoking in or near chemical storage areas is prohibited.

8. The facility shall protect flammable chemicals storage, as well as mixing and usage areas, against static electricity build-up and discharge.

9. The facility shall implement spill containment systems, such as raised boundaries, dedicated drainage to sumps and absorbent materials.

10. Safety information, including chemical compatibility matrices and hazard-specific guidelines, shall be visibly displayed in all storage and usage areas.

6.6 Disposal of Chemicals

Chemicals disposal requirements and recommendations are covered in Clause 9: Waste and By-products Management, in Sub-clause 11.5.

6.7 Competence, Training and Awareness

1. The facility shall provide all workers involved in the handling of chemicals with appropriate and periodical training in accordance with Sub-clause 4.8. The training shall be consistent with local legal requirements or, at minimum, include the following:
   a) safe chemical handling procedures,
   b) appropriate methods for chemical storage and disposal,
   c) interpretation and use of chemical labels and SDS,
   d) emergency response procedures, and
   e) correct selection, use and maintenance of personal protective equipment (PPE)

7. Product Safety

Commentary on Clause 7: A number of regulations require that consumer goods do not pose a risk to consumers in their daily use, particularly concerning the presence of hazardous chemical substance residues. Leather is used in a variety of consumers goods (upholstery, footwear, garment, etc.) and as such must comply with the applicable regulations. In response, brands have developed lists of restricted substances (RSL) that cannot be present in consumer goods, as well as MRSLs that prohibit the use of specific substances in chemical formulations used during the production of leather.

This clause outlines the requirements and recommendations for managing Restricted Substances (RS) and minimizing the risk of formation of Chromium VI (Cr(VI)) in leather manufacturing. It enables compliance with client-specific and/or internal RSL specifications, international standards, and environmental guidelines for safer leather production.

7.1 Restricted Substances Management System

1. The facility shall establish and maintain a written restricted substances (RS) management system. The RS management system shall contain formal procedures for determining legal and client specific RS requirements, the frequency of testing, qualifications and credentials of the testing organizations and categorization of product lines for the purpose of RS testing.
2. The facility shall define RSLs for all outgoing leather and/or part-processed materials in line with all applicable laws and regulations of the destination country, following AFIRM or GADSL RSL frameworks and according to the intended end use of the product line.
3. The facility shall review (and update where necessary) its RSL specifications at least once per year or more frequently if required by regulatory changes, client requirements and internal risk assessment.
4. The facility shall ensure that all outgoing part-processed and finished leather conforms to the applicable RS specifications.
5. If subcontractors are used for chemical processing, the facility shall verify that the subcontractors comply with its RSL requirements, including conformance with the industry standard of <3 ppm Cr(VI) limit, in accordance with ISO 17075.

6. The facility should establish and maintain effective procedures to respond to RS failures, including corrective and preventive actions taken to minimize or eliminate future occurrences.

7.2 Monitoring and Testing

1. The facility shall establish and maintain a testing frequency to support RSL compliance, with the testing frequency determined through a balanced consideration of industry-specific recommendations, the scale of operations and risk assessment

2. The facility shall at minimum test 1% of production batches for Cr(VI) compliance (excluding chrome-free or metal-free leathers) to demonstrate that all outgoing part-processed and finished leathers comply with the industry standard of < 3 ppm Cr(VI) limit in accordance with ISO 17075-1 or ISO 17075-2.
   Note: If test with aging is conducted, then ageing shall adhere to ISO 10198:2018

3. Testing should be performed by ISO 17025-certified laboratories or in a client-approved testing facility.

4. Test methods for each parameter in the RSLs should follow ISO test methods where available. In cases where ISO methods are not available, industry best practices specified by IULTCS, EN, SATRA, or APHA should apply.

5. The facility shall maintain an RS test register for outgoing materials that includes:
   a) Specifications (i.e. list of RS, limit and test method), and
   b) test results, including report number and date.
   The RS test register shall be retained for a minimum of 5 years.

7.3 Incoming Part-processed Material

1. The facility shall require its suppliers of part-processed materials to conform to their RSL standards, including but not limited to ISO 17075 for Cr(VI).
   Note: ISO17075-1 or, preferably ISO17075-2 with ageing as per ISO 10198:2018

2. The facility shall verify the compliance of incoming part-processed materials with its RSL through testing and/or written declarations.

3. The facility shall maintain a register of supplier compliance for incoming part-processed materials, including:

a) contact dates, response dates, and communication methods,
b) suppliers' acceptance of specifications,
c) amount used annually, and
d) review date.

7.4 Chrome Management and Chrome VI Prevention

1. The facility should determine the chromium content of chrome-tanned material through regular testing, conducted on a weekly basis, and at a minimum quarterly.

2. The facility should determine the chromium content of exhausted chrome tanning liquor through regular testing, conducted on a weekly basis, and at a minimum quarterly.

3. The facility shall monitor chrome uptake efficiency as part of process control. Where significant inefficiencies or high discharge levels are identified, the facility shall implement corrective actions to improve chrome fixation.
   Note: The difference between the applied and retained chromium can be used to estimate potential discharge to wastewater or waste streams.

4. The facility shall only use chrome tanning agents, and any other chrome-containing chemical formulations, that contain less than 10 ppm of Chrome VI, in accordance with ISO 19071.

5. Wherever possible, the facility shall eliminate or minimize all oxidizing factors[4] in the leather manufacturing process.

6. The facility should add antioxidants or scavenging agents to all chromium-containing product lines, following the supplier's recommendations regarding usage, process stage and processing time.

[4] See guidance notes

8. Water Usage

Commentary on Clause 8: Water is a vital resource in leather production, and its responsible use is essential for environmental protection, regulatory compliance and long-term business sustainability. This clause provides requirements and recommendations for managing, monitoring and optimizing water usage across all manufacturing operations.

This clause enables leather manufacturers to:

- understand and quantify their total water intake and usage from all sources,
- monitor water uses accurately and consistently,
- implement water reduction, reuse, and recycling practices and technologies,
- improve water efficiency and reduce dependence on fresh water, and
- maintain transparent records that support verification and continuous improvement.

By complying with these requirements, facilities can reduce their environmental footprint, improve operational efficiency, and demonstrate commitment to responsible resource management to its stakeholders.

8.1 General Requirements

1. The facility shall establish processes and controls that support facility's environmental policy and align with facility's objectives and targets as defined in Sub-clause 3.3.

2. The facility should adopt water-saving practices and technologies prioritizing water reduction, reuse and recycling in its operations.

8.2 Monitoring and Reporting

1. The facility shall monitor and maintain continuous records of the total quantity of water in m^3 or litres (L) entering the site monthly. The register of total water shall include:
   a) abstracted fresh water,
   b) recycled water (on-site ETP treatment),
   c) recycled water (after CETP treatment),
   d) recycled water (after METP treatment),
   e) run-off water (e.g. rainwater collected from gutters), and
   f) reused water (without pre-treatment, following use in another industrial facility).

2. The facility shall monitor and maintain accurate and continuous records of monthly usage of fresh water by source, including:
   a) Municipal water systems,
   b) wells and boreholes,
   c) rivers, canals and lakes,
   d) reservoirs and man-made water bodies, and
   e) other applicable sources.

   Note: The usage of water shall be expressed in m^3 or litres (L)

3. The facility shall determine the volume of water from each incoming water source through effective measurement methods, such as individual metering.

4. The facility should maintain accurate monthly records of water efficiency metrics in m^3 or litres (L) per square meter of leather (or part-processed leather) produced.

5. The facility shall regularly submit its monthly water usage data directly to LWG prior to the scheduled audit date, preferably quarterly, and at a minimum semi-annually. The data shall be submitted in accordance with this Standard and follow the format and structure defined in the LWG Water Usage Template.

6. The facility shall retain all records to support the submitted data for a minimum of 5 years.

8.3 Efficiency

1. The facility should maintain freshwater abstractions levels within LWG established benchmarks for water usage per unit of leather produced considering the type of leather and the range of operations.

   Note: Latest LWG Water Benchmark based on the industry averages are available on LWG website.

9. Wastewater Management

Commentary on Clause 9: Effective wastewater management is essential to responsible leather production. All effluent shall be properly treated to prevent environmental harm and comply with regulatory and industry best standards. This clause provides requirements and recommendations for treatment, monitoring, testing and reporting related to wastewater treatment operations.

The intent of this clause is to enable leather manufacturers to:

- protect water, marine ecosystems and soil quality by controlling pollutant and salt discharges,
- comply with applicable national regulations and LWG Limits for Conventional Parameters,
- promote transparency through consistent monitoring, testing and reporting, and
- drive continual improvement in environmental performance.

9.1 General Requirements

1. Where a facility has an on-site wastewater treatment plant capable of treating all generated wastewater, it shall be established and maintained in compliance with regulatory limits, applicable permits and LWG Limits for Conventional Parameters. Where an on-site treatment plant is not present, the facility shall treat wastewater at a reliable external Common Effluent Treatment Plant (CETP) and/or Municipal Effluent Treatment Plant (METP) capable of meeting regulatory limits, applicable permits and/or LWG Limits for Conventional Parameters prior to final discharge into the environment.

2. The facility should have separate site drainage systems for manufacturing process effluent, surface water runoff and sanitary effluent.

3. The facility discharging to a CETP or METP shall demonstrate that the discharged effluent complies with the CETP's or METP's inlet specifications, as well as any applicable regulatory requirements specified in the facility's permits.

4. If the facility operates its own effluent treatment plant and is legally authorized to directly discharge into marine environment, it shall discharge its treated effluent into marine receptors with turbulent flow to prevent creation of anoxic conditions on the sea floor.

9.2 Monitoring, Testing and Reporting

1. The facility shall continuously monitor and record the volume of all outgoing water prior to its exit from a treatment plant, using effective measurement methods.
   Note: Outgoing water refers to water discharged from the production site.

2. Where an on-site treatment plant is present, the facility shall carry out internal testing of the quality of its effluent at the final discharge point, preferably daily, but at a minimum monthly. Where a CETP is used the facility shall obtain internal test results from the responsible ETP operator. The key relevant parameters shall be monitored, such as:
   a) COD or BOD,
   b) total kjeldahl, total nitrogen or ammonia nitrogen,
   c) total suspended solids,
   d) total chromium or chromium VI,
   e) sulphide, oil & grease, phosphorous or phenol,
   f) heavy metals, and
   g) other prohibited contaminants as required by specific permits, local laws and regulations.

3. Where an on-site treatment plant is present the facility shall arrange independent verification of the effluent discharge quality through testing, conducted monthly, or at minimum quarterly. Where a CETP is used the facility shall obtain verification results from the responsible ETP operator. Verification shall be carried out by one of the following:
   a) ISO 17025-certified laboratories,
   b) laboratories specified by the regulatory authority, or
   c) governmental authority monitoring.
   Note: Analysis shall be undertaken in an independent laboratory unless the ETP is of a size or nature the indicates sufficient resource for reliable internal testing and reporting in accordance with LWG criteria.

4. The facility shall maintain at least 24 consecutive sets of monthly 3rd party effluent quality analysis reports from the final discharge point to the environment.

5. If all wastewater is evaporated, the facility shall:
   a) document and account for all sludge generated from the evaporation process in the waste management records,
   b) dispose of sludge in accordance with the applicable permits, and

c) accurately document and account for all energy consumption associated with the evaporation process in the energy usage records.

Note: If energy consumption data is missing, or is not credible, then LWG Reference Values shall be used.

6. In special cases where treated wastewater is used for irrigation, the facility shall demonstrate that the irrigation is legally authorized through the applicable permits, and that both the quality of the irrigation water and the condition of the soil are in compliance with all applicable legal and regulatory requirements and/or LWG Limits.

9.3 Treatment Efficiency

1. The facility shall demonstrate that the quality of its treated effluent meets, or is more stringent than, the pollutant threshold limits specified in the LWG Limits for Conventional Parameters at the point of discharge into the environment. Where discrepancies exist between the LWG Limits and applicable local or national legal requirements, the stricter requirements shall apply.

2. The facility should separate chrome tanning liquors for reuse, recycling, or recovery of the chrome tanning salts as part of effluent pre-treatment.

9.4 Salt Management

1. The facility shall remove excess physical salt from salted hides and skins prior to processing using methods such as desalting machines, shaking or brushing.

2. The facility shall document the destination of excess salt recovered from salted or brined hides and skins prior to processing.

3. Wherever feasible, recovered salt should be re-used to minimize landfill disposal.

4. The facility shall monitor and record the mass of chloride discharged to the environment per unit of production. The facility shall provide data demonstrating that all salt in applicable waste streams has been accounted for.

5. The facility should keep salt usage within LWG benchmarks for chlorides discharge per unit produced, considering the type of leather and range of operations.

10. Energy

Commentary on Clause 10: Energy consumption is one of the key environmental considerations in leather manufacturing, with implications for climate and operational efficiency. This clause builds on the core principles of the EMS evaluating the processes and controls in place to implement the environmental policy effectively and to support the achievement of defined environmental objectives and targets.

This clause provides requirements and recommendations for monitoring, managing, and improving energy performance across all relevant production operations to support the leather industry's contribution to global climate goals. The intent of this clause is to:

- accurately measure, document, and transparently report energy sources and amount consumed across all relevant activities,
- drive continual improvement in energy efficiency, in alignment with industry benchmarks and industry best practices,
- promote the transition to renewable and low GHG emission energy sources,
- provide data to accurately measure scope 1 and 2 GHG emissions, and recognise continuous improvement related to decarbonization.

10.1 General Requirements

1. The facility shall establish processes and controls that support facility's environmental policy and align with facility's objectives and targets as defined in Sub-clause 3.3.
2. The facility should seek and actively implement measures to improve its energy efficiency.
3. The facility should prioritise renewable electricity whenever economically feasible and accessible.
4. The facility should transition to low-carbon energy and replace fossil fuels with low-carbon alternatives.
5. The facility should work with its suppliers to transition to renewable and low-carbon energy.

10.2 Monitoring, Measurement and Reporting

1. The facility shall record its total monthly energy consumption by energy source. Energy usage shall include all site operations, i.e. administration, engineering and maintenance, space heating, forklifts, and wastewater treatment.
   Note: Accounting for the entire site, not individual departments or sections.

2. The facility should document accurate energy conversion factors for all fuels used onsite.
   Note: Energy conversion factors refer to fuel energy values expressed in MJ per kilogram or per litre of fuel.

3. The facility should document accurate emission factors for purchased electricity.

4. The facility shall record total monthly energy consumption of the critical operations performed off-site by e.g. CETPs and/or METPs. Energy usage shall include wastewater treatment and sludge stabilization.

5. The facility shall maintain accurate monthly records of energy consumption metric expressed in MJ per square meter of leather (or part-processed leather) produced.

6. The facility shall regularly submit its monthly energy consumption data directly to LWG prior to the audit date, preferably quarterly, and at a minimum semi-annually. The data shall be submitted in accordance with this Standard, and follow the format and structure defined in the LWG Energy Consumption Template.

7. The facility shall retain all records to support the submitted data for a minimum of 5 years.

10.3 Efficiency

1. The facility should maintain energy consumption levels within LWG benchmarks for energy consumption per unit produced, considering the type of leather and the range of operations.
   Note: Latest Energy Benchmark based on the industry averages are available on LWG website.

2. The facility should implement regular maintenance of all equipment used to ensure optimal performance of the site.

3. In accordance with 3.3.4, the facility should regularly review their progress against set environmental objectives and targets related to their energy efficiency, and the sources of its energy and electricity used.

11. Waste and By-product Management

Commentary on Clause 11: This clause provides requirements and recommendations for the systematic management of tannery waste and by-product materials in leather manufacturing operations to reduce waste generation, prevent pollution and support compliance with applicable laws, regulations and industry best practices. The scope includes solid waste, hazardous materials, and by-products generated as a result of leather manufacturing processes.

The intent of this clause is to:

- establish a robust waste management system,
- performing due diligence on final treatment and disposal of waste,
- promote material valorisation wherever economically and technically feasible,
- prevent uncontrolled emissions through careful monitoring, handling and storage, and
- record and report of key data and information.

This clause supports the leather industry's transition toward more circular production models by minimizing landfilling and uncontrolled incineration, promoting resource efficiency through material valorisation and ensuring safe and legal storage and disposal.

11.1 General Requirements

1. The facility shall establish a documented waste management plan integrated with the facility's general environmental management system (See Clause 3). The waste management plan shall include clear written procedures regarding waste identification, waste reduction and by-products valorization, as well as collection, storage, and disposal of hazardous and non-hazardous waste.

2. The facility shall designate individual(s) or position(s) responsible for the oversight of waste management. The name of the responsible individual(s) or position(s) shall be clearly stated and documented in the waste plan and communicated within the facility.

3. The facility should verify that the individual(s) responsible for waste management possesses appropriate qualifications, knowledge of applicable laws and regulations and/or relevant experience.

4. The waste management plan and procedures shall reference all applicable laws and regulations for waste management including storage and disposal.

5. The facility's training programme for its relevant employees shall include the following content:
   a) segregation of waste at source,
   b) waste reduction,
   c) handling hazardous waste safely,
   d) hazardous waste emergency response procedures, and
   e) understanding and completing waste tracking documentation (e.g. consignment notes, transfer notes, shipment records, etc).

11.2 Inventory, Monitoring and Reporting

1. The facility shall maintain an up-to-date inventory of all waste and by-products (including co-products) generated monthly. The register shall record, for each waste and by-product stream the following:
   a) names of waste or by-product,
   b) volumes or mass generated per month (e.g., kg or m^3),
   c) whether the waste is hazardous,
   d) source (originating process),
   e) removal arrangements for by-products,
   f) treatment method or disposal arrangement for waste, and
   g) identity of the disposal or valorization contractors.

2. The facility shall maintain accurate monthly records of waste designated for final disposal and by-products for recovery and reuse per square meter of leather (or part-processed leather) produced.

3. Procedures shall be implemented to address deviations from expected waste levels, including corrective and preventive actions if waste generation exceeds the facility's specified limits.

4. The facility shall regularly submit its monthly waste and by-products inventory data directly to LWG prior to the audit date, preferably quarterly, and at a minimum semi-annually. The data shall be submitted in accordance with this Standard, and shall follow the format and structure defined in the LWG Waste and By-products Inventory Template.

5. The facility shall retain all records to support the submitted data for a minimum of 5 years.

11.3 Materials Valorization

1. Considering economic feasibility and available technologies, the facility should valorize materials generated during and as a result of manufacturing processes through the means of reuse, recycling and recovery techniques.
   Note: Valorization does not necessarily require receipt of money for the product.

2. Incineration of waste or by-products, whether conducted on-site or off-site, shall only be carried out by third-party certified thermal plants (e.g. co-generation, heat recovery), that are regulated and actively monitored by competent authorities, in compliance with national laws and regulations.
   Note: Evidence of compliance, including monitoring data and regulatory approvals, shall be maintained and kept for a minimum of 5 years.

11.4 Storage

1. The facility shall segregate hazardous and non-hazardous waste, clearly mark it, and store it in adequately separated areas with appropriate storage arrangements to prevent soil contamination.

2. The facility shall inspect waste storage areas regularly for leaks, spills, or signs of contamination.

11.5 Removal and Disposal

1. The facility shall ensure that all waste and by-products are removed, transported, and valorized or disposed of legally and by authorized parties.

2. The facility shall document the following:
   a) authorized disposal routes or valorization methods, and
   b) the identity of licensed carriers and final disposal or valorization agents.

3. The facility shall maintain records and evidence of hazardous and non-hazardous waste collection and disposal for a minimum of 5 years. These records shall include waste transfer notes, collection receipts and all legally required waste consignment documents.

Disposal of Waste Chemicals

4. The facility shall carry out chemical disposal in accordance with local and national laws and regulations, and in accordance with the instructions on the product label and the safety practices outlined in Section 13 of the SDS.

5. The facility shall categorize and segregate chemical waste based on hazard classifications.

6. Whenever possible, unused chemicals and/or empty hazardous and non-hazardous chemical containers shall be returned to suppliers. If return is not possible, they shall be processed by licensed operators.

12. Air Emissions

Commentary on Clause 12: This clause provides requirements and recommendations for the management of air emissions generated by leather production facilities. It aims to enable the leather industry to maintain control over its air emissions through proper inventory management, monitoring and control mechanisms to minimize environmental impact.

12.1 General Requirements

1. The facility shall possess all necessary air emissions permits, as required by national and local regulations in accordance with Clause 5 of this Standard.

2. The facility shall comply with their applicable emission limits for air pollutants, such as nitrogen oxides (NOx), carbon monoxide (CO), sulphur dioxide (SO_2), volatile organic compounds (VOCs), and particulate matter. Where such legal limits are not defined or are less stringent, the facility shall apply the LWG Air Emission Limits.

12.2 Air Emissions Inventory

1. The facility shall complete a comprehensive air emission inventory, which details all points of forced emissions to air. It shall include:
   a) all emission points (e.g., boiler stacks, spray machines, local exhaust ventilation discharges, fume cupboards, etc[5]),
   b) identification of substance emitted from each type of source, and
   c) quantitative analysis of emissions from each type of emission source.

12.3 Control Measures

1. The facility shall identify, list and number all sources of emissions requiring control devices and install equipment designed to limit the release of specific pollutants according to best industry practice. For each emission source, facility shall specify:
   a) type and number of control device installed, and
   b) pollutant(s) the device is designed to control.

[5] Buffing, milling, polishing, curtain coating, roller coating machines and other emissions sources.

2. The facility shall identify, list and number all sources of emissions not requiring control devices and shall document the justification for why a control device is not required for each.

3. The facility shall maintain all air emissions control devices so that they are fully operational and functioning as intended to effectively manage emissions.

4. The facility shall establish a preventive maintenance schedule in accordance with manufacturer recommendations, conduct regular maintenance and operational checks to ensure control devices function optimally, and document compliance with the schedule.

5. The facility should manage and reduce VOC emissions by formulating and selecting low-solvent finishing systems wherever feasible and should calculate and record the volume of VOCs used as a percentage of total finishing chemicals applied.

6. The facility should assess and manage odour emissions from its operations. Where odour is identified as a potential or actual concern, then appropriate control measures should be implemented and maintained.

12.4 Monitoring, Documenting and Reporting

1. The facility shall monitor and document air emissions regularly, in compliance with local laws and regulations and as stipulated in the environmental permit conditions and at least annually.

2. The facility shall conduct regular third-party analysis of boiler stack emissions in accordance with relevant permits and local legislation, and at least annually, except for gas boilers, which shall be tested at least once every 24 months.[6]

3. The facility should conduct regular analysis of other stack emissions (e.g. for on-site waste incineration if allowed (see Clause 11)) at least annually, or more frequently as stipulated in relevant permits and local legislation.
   Note: Third-party analysis is desirable.

4. The facility shall monitor and document the VOC emissions associated with degreasing and leather finishing processes and keep these within LWG threshold limits of VOC emissions per square meter produced.

[6] See guidance notes for details

Note: Facilities that do not finish leather, or that can prove that less than 10 g/m2 is used may be exempted from some requirements. See guidance notes.

5. The facility shall regularly submit its monthly VOC emissions data directly to LWG prior to the audit date, preferably quarterly, and at a minimum semi-annually. The data shall be submitted in accordance with this Standard, and follow the format and structure defined in the LWG VOC Inventory Table.

6. The facility shall retain all records to support the submitted data for a minimum of 5 years.

13. Process Management

Commentary on Clause 13: This clause provides requirements and recommendations for the process management and implementation of best industry practices.

13.1 Process Management

1. The facility shall maintain calibration records for key processing equipment, including:
   a) Factory weigh scales,
   b) pH meters or standardized pH papers,
   c) thermometers, and
   d) water (flow) meters or equivalent measuring systems
   Note: Third party calibration is desirable.

2. The facility should control the amount of process water use through metering and/or dosing systems that would allow for accurate and consistent water application.

3. If the facility carries out fleshing operations those operations should be done in green state.

4. The facility should implement low-sulphide technology to reduce the use of sulphides in beamhouse operations.

5. The facility should use hair save system in dehairing operations.
   Note: Applicable in circumstances where the hair save system provides clear environmental benefits.

6. The facility should operate an ammonium-free or ammonium-reduced deliming process to minimize ammonia emissions and nitrogen loading in wastewater.

7. The facility should effectively control all leather production operations such as time, temperature, pH, etc at key points to enable process efficiency and high chemical exhaustion.

8. The facility should use wetting agents and surfactants that are biodegradable.

9. The facility should control the use of bactericides through regular monitoring, such as dip slide testing, to verify effectiveness and prevent overuse.

10. Fungicides used during retanning and dyeing should be carefully selected and applied in a controlled manner to avoid overuse.

14. Social & Labor Requirements

The social responsibility requirements in Protocol 7 are currently under review and any changes will be consulted on at a later date.

To meet the requirements of Protocol 7, Section 3 Social Audit, a tannery must have undergone an LWG recognised social assessment. For a social audit or certification scheme to be recognised it must be assessed as meeting the LWG social assessment requirements.

Section 3 is currently a non-critical, scoring section – meaning it contributes to the overall score of the audit, but it is not an essential requirement to pass. This is also being reviewed with the review of the requirements.

15. Due Diligence

The due diligence requirements in Protocol 7, Sections 6 and 7 are currently under review and any changes will be consulted on at a later date.

If you would like to provide feedback on these requirements, please click the link below to complete our feedback form:
https://www.cognitoforms.com/LeatherWorkingGroup2/LeatherProductionStandardConsultationDraft10