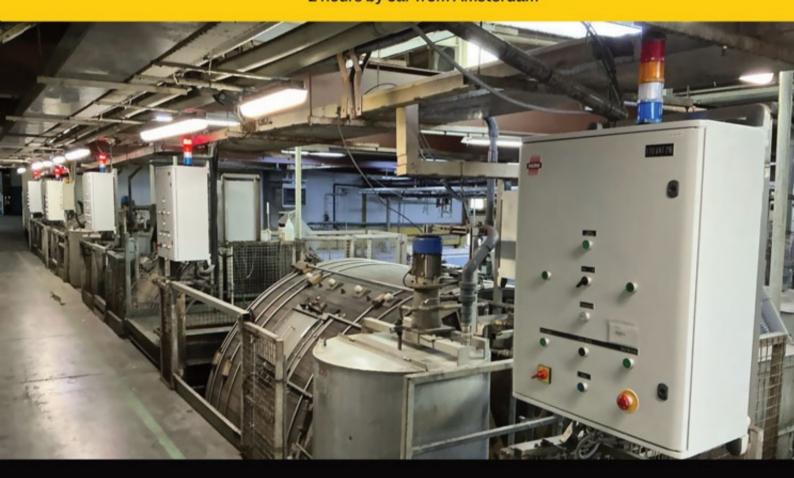


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US Tariff Blow: India's Leather Industry Eyes Russia, Africa

Trade delegations are set to visit Russia and Africa soon, with Commerce Minister Piyush Goyal expected to lead the mission in Russia. Buyer-seller meets are also planned in.

India's leather industry is confronting a significant challenge after the United States imposed new tariffs. In response, the Council for Leather Export (CLE) has decided to send delegations to Russia and Africa to explore future trade opportunities, as stated by CLE's Regional Chairman, Mr. Asad Iraqi. The industry is also turning its focus towards strengthening the domestic market. A key concern is the potential for large-scale unemployment, with 10 lakh people employed in the central region alone. While there is a risk that neighbouring countries could gain a competitive advantage, the industry believes India's strength as a manufacturing hub will help it endure. The CLE is coordinating with the Ministry of Commerce for support, including infrastructural aid, brand creation, and potential subsidies to navigate.

A steep 50% tariff imposed by the US on key Indian leather and footwear exports has raised alarm within the domestic industry, with concerns that up to 90% of trade could be impacted, according to R K Jalan, National Chairman of the Council for Leather Exports (CLE).

Speaking at a CLE meeting in Kanpur recently, Mr. R K Jalan said exporters are already under pressure from global buyers demanding price cuts of 20-25%. "Tapping into new markets is never a quick process," he noted, adding that the long-standing presence of Indian leather products in the US makes the sudden tariff particularly disruptive.

CLE has resolved to send trade delegations to Russia and African nations to scout for fresh opportunities. Mr. Jalan stressed that shifting markets is not easy, citing variations in shoe sizes, consumer preferences and design trends.

"Locating alternative markets on short notice is tough because shoe sizes, design preferences, and consumer trends vary widely between regions. We hope this tariff is temporary and that the government will extend a support package of 20-25%," he added.

At the Central Region meeting, former CLE Chairman Mr. Javed Igbal said the industry had reached a consensus to aggressively pursue trade in Russian and African markets. Current Chairman Mr. Asad Iraqi added that India's free trade agreement with the UK would also be leveraged for new opportunities.

Trade delegations are set to visit these regions soon, with Commerce Minister Piyush Goyal expected to lead the mission to Russia. Buyer-seller meets are also planned in African countries.

According to Mr. Ramesh Juneja, All India vice chairman, Council for Leather Exports and regional chairman eastern region said, that we are feeling the pinch of the 50% tariff that the US has imposed on Indian goods, including leather. While exports of leather units from the eastern region to the US are worth Rs. 1,100 crore, exports to Europe are four times more at Rs. 4,500 crore.

In 2024-25 India exported leather products and footwear worth \$5.7 billion. The US is the largest importer accounting for about 19.13% of India's leather and leather products exports, followed by Germany and the UK.

From Kolkata, the value of leather goods exports was Rs. 6,750 crore in 2024-25. Of this, the EU accounted for 60% or Rs. 4050 crore; the US 19% or Rs. 1,300 crore and the UK 15% or Rs. 1,000 crore.

According to Mr. Tapan Nandi, chairperson ILPA Leather Goods Park, Bantala said, Chennai and Kanpur, which account for 30% and 10% of India's leather exports to US, exposure of Kolkata's leather industry is limited.



Leather Auxiliaries – A Review PART – III

NSK Srinivasan1 & Hasmukh Shah2

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(Contd. from July 2025 Issue)

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Overview of the main tanning systems, International expansion to meet global demand – Stahl, TFL - 300 years of experience,	Cleaner production ,CLEANER TECHNOLOGIES, Green Chemistry, The 10 Green Chemistry Principles Applied		
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1. RESPONSIBLE CHEMISTRY AND LIFE CYCLE ASSESSMENT (LCA) 1

Focus is on three priorities to improve the environmental footprint of Leather Auxiliary Manufacturers and customers:

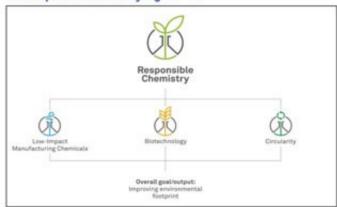
- · Using low-impact manufacturing chemicals
- · Using biotechnology to replace non-renewable resources
- . Using waste and recycled content contributing to circularity

1.1 Vision on Responsible Chemistry - Stahl Table - 1 A



From a sustainability viewpoint, it is equally important to look at what happens when the products we help to make reach the end of their respective roads. We actively try to replace petrochemicals with renewable resources.

1.2 Responsible Chemistry Figure -1 B



Using the Life Cycle Assessment methodology, we measure the impact of a product on the environment over the course of its life.

1.3 Twelve Principles of Responsible Chemistry - Stahl 1

Green Chemistry Principles	Explanation Table – 1 C	
Resource efficiency	We take care of the resources we use. Where possible, we avoid using limited, finite feedstock.	
	Renewable/C02/Waste2Chemicals and recycled feedstock	
Atom efficiency	We focus on creating chemical solutions with a high atom efficiency.	
Decarbonization of energy	We support energy decarbonization by using energy efficient operations and renewable energy where possible.	
Water management	We focus on responsible water usage and effluent outflow by us and our customers, so reducir the global pressure on water demand.	
Waste management	We understand the economic, social and environmental benefits of reducing waste, and the possibilities to assign value to waste as a resource for energy and new materials.	
Best available technology	We strive to use the best available technology in respect to sustainability/circularity.	
Support innovation	We love innovation because we love to change and make our world better, step by step. We are flexible and open minded.	
Share knowledge(educate) and work together	We are a knowledge-based company. We work together, share knowledge and celebrate our successes.	
Safety, health and the	Our chemical solutions and processes ensure that the risks of exposure to hazardous and	
environment	non-hazardous chemicals and emissions are kept to a minimum for our employees, customers and the environment	
Matching chemistry	Ve focus on understanding the whole value chain of our products – including recycling, composting – and so matching usage with end-of-life.	
Product stewardship	We promote services over the full life cycle of a product rather than products alone, drive chemical leasing, and promote efficiency over production rate.	
Measure and assess	We make smart decisions by using standardized methodologies to measure the impact of our products and processes on health, safety and the environment (LCA, ISO, ASTM 6866, EPD, VDA, etc.).	





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1.4 What is Life Cycle Assessment (LCA)? 1

LCA is a methodology that measures the impact of any product on the environment over the course of its life. The LCA methodology can provide quantitative data in a format that permits comparisons to be made. LCA will be an important value-added service for our customers in the supply chain in the future.

1.5 The 9 LCA impact categories explained

LCA Indicators Figure - 1 D

LCA indicators Climate Change Ablotic Depletion Land Use Water Consumption Eutrophication Acidification Toxicity Photochemical Ozene Formation

1.6 LCA defines nine impact categories

LCA defines nine impact categories Table - 1E

- Climate change: Climate change occurs when new lasting weather patterns emerge as a result of changes in the earth's climate system. Global warming is a critical factor within this impact categories.
- Abiotic depletion: Abiotic depletion is the use of non-renewable material resources like earth minerals, metal ores and fossil fuels, beyond their rate of replacement.
 - Land use: Land use is a pervasive driver of global environmental change. It includes all human activities and arrangements that hamesses terrestrial ecosystem services.
 - Water consumption: Water consumption is an important indicator for the environmental footprint of products and services.
- Eutrophication: Eutrophication refers to the potential of water to become overly enriched with minerals and nutrients which can lead to the excessive growth of algae (algal bloom) and reduced or insufficient oxygen (hypoxia). This ultimately can lead to a decrease in biodiversity.
- Acidification: An increase in the concentration of acidic elements can lead to a change in the natural chemical balance.
 This is called acidification. The major cause for acidification is the deposition of sulfur, nitrogen oxides and ammonia in the air. Acidification can lead to a decrease in biodiversity, damages to forests, corrosion and human health issues.

- Toxicity: Toxicity refers to the ability of a substance to produce an unwanted effect when it has reached a sufficient concentration within the body. If a product has a higher toxicity, a smaller concentration is necessary to cause harmful effects.
- Photochemical ozone formation: The formation of ozone at the ground level of the troposphere. This is caused by photochemical oxidation of Volatile Organic Compounds (VOCs) and sunlight. High concentrations can damage vegetation, human respiratory tracts and manmade materials through reaction with organic materials.
 - Ozone depletion: The release of chemical compounds containing gaseous chlorin or bromine gradually thins the earth's ozone layer in the upper atmosphere.

Reference: 1.0 & Figure – 1 B & 1 D & Table 1 C & 1 E . RESPONSIBLE CHEMISTRY INVOLVES RETHINKING PRIORITIES STAHL. https://www.stahl.com/responsible-chemistry/vision

Reference: Table - 1 A. Chemicals for Sustainable Leather Manufacture 53rd LERIG Prasanna Maduri, Campus Manager, 29 January 2020

The approval of the Leather Product Category Rules (known as PCR or PEFCR) by the Environmental Footprint Committee of the EU is a major milestone for the leather industry.

It defines how LCA can be used to calculate the impact of leather manufacturing on the environment.

It includes all aspects of leather manufacturing in tanneries; input data on hides, chemicals, water, energy, plus output data of water, air and waste.

2. CLEANER PRODUCTION 2

The terms Cleaner Production, Pollution Prevention and Responsible Care are often used interchangeably.

Cleaner production Table - 2 A

Cleaner Production stands for a proactive and preventive approach to industrial environmental management and aims for process and/or product-integrated solutions that are both environmentally and economically efficient ('eco-efficiency'). Cleaner Production (CP) and Pollution Prevention (P2) focus on a strategy of continuously reducing pollution and environmental impact through source reduction — that is eliminating waste within the process rather than at the end-of pipe. Waste treatment does not fall under the definition of CP or P2 because it does not prevent the creation of waste. Cleaner production (CP) is a general term used to describe a preventative approach to industrial activity It encompasses: waste minimization, waste avoidance, and pollution prevention.

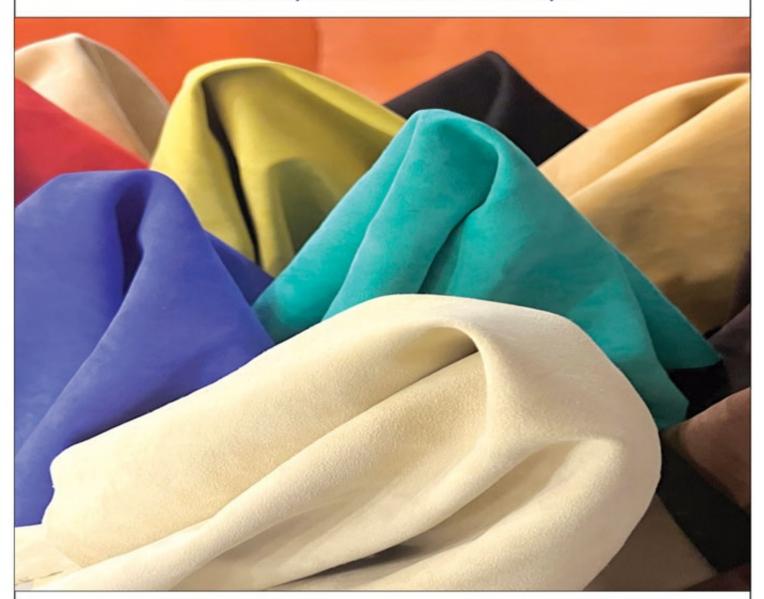
Reference: 2. & Table 2 A. A Cleaner Production and Pollution Prevention In the Chemical Industries, Prof. Dr. El-Sayed Khater, Cleaner Production and Pollution Abatement Consultant National Research Center, Department of Chem. Eng. And Pilot Plant



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3. CLEAN TECHNOLOGIES CONCEPT

The European Commission defined clean technologies as follows: Clean technologies are new industrial processes or modifications of existing ones intended to reduce the impact of production activities on the environment, including reducing the use of energy and raw materials.

To support the definition the main attributes of clean technologies were precisely formulated: Conservation of raw materials, Optimization of production processes, Rational use of raw materials, Rational use of energy, Rational use of water, Disposal or recycling of unavoidable waste, Accident prevention, Risk management to prevent major pollution, and Restoring sites after cessation of activities.

UNIDO continues to place an emphasis on the introduction of cleaner leather processing technology in developing countries. 3

The primary task of all cleaner technologies is to reduce the amount pollution emissions; and where possible change the nature of pollution emissions to reduce the pressure and costs of end-of-pipe treatment.

3.1 The expected results from cleaner technologies primarily include

The expected results from cleaner technologies primarily include: Table - 3 A

- · Lower water consumption better preservation of rapidly diminishing water resources.
- Lower total dissolved solids (TDS) content (including salinity)
 - lower risk of affecting the usability of the receiving water bodies for irrigation and livestock watering.
- · Avoidance of use in processing and/or presence in leather of substances from the Restricted Substances Lists (RSL) promulgated by national or regional legislation, leading (multinational) brands and/or ecolabel due to their proven negative impact on human health and ecosystems.
 - Proportionally higher volume of solid wastes suitable for processing into saleable by-products.
- Lower levels of BOD, COD and Nitrogen; their respective contents in conformity with local and widely prevailing legislative
- Low level of chromium in (C) ETP sludge the scope for land application and/or composting.
 - Lower hazardous and/or unpleasant air emissions.
- Appropriate occupational health and safety (OSH) standards better work conditions, fewer accidents.

Reference: 3. & Table 3 A Cleaner Technologies, 2018 leatherpanel.org

4. CLEANER TECHNOLOGIESAT A GLANCE

	CLEANER TECHNOLOGIESAT A GLANCE Table – 4 A			
Category/ Process stage	gory/ Process stage Cleaner methods			
EMSA	licensed or own Environmental Management System, incorporating OSH and Corporate Social Responsibility (CSR) in place			
	General			
Water	Strict water monitoring/control and savings measures at process, department and compa- level; batch washing, recycling			
Energy	Usual consumption/savings measures combined with the energy from renewable sources heat pumps, etc.			
RSL	Apply the global strictest Restricted Substances and SVHC lists and avoid any limitations and risks in exports of leather and leather products			
OSH	Strict segregation of acidic and sulphide containing streams, H2S monitors in place, staff trained.			
	Noise, vibrations, malodour control; appropriate lighting and ventilation, sanitary facilities			
	Occupational Safety and Health measures, general and personal (Personal Protection Equipment, PPE), including rigorously implemented and observed training			
	Beam House			
Preservation/ Soaking	Green fleshing Biodegradable surfactants Watch for harmful pesticides			



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Category/ Process stage	Cleaner methods			
Liming	Hair-save liming Consider reuse of liming liquors Ex-lime splitting			
Deliming	Low- or ammonium-free deliming (CO2) deliming			
Bating	Low- or ammonium-free bating agents			
	Tanyard			
Pickling and (chrome) tanning	Low-salt pickling Consider pre-tanning (wet white tanning) One or a combination of better chrome management systems			
	· optimization of process parameters · high exhaustion · direct recycling of spent bath			
	 reuse after chrome recovery Use of acceptable fungicides 			
	Wet Finishing			
Retanning	Use of acceptable retanning agents (phenol- and formaldehyde-free) Use of low salt retanning agents' High exhaustion rate Careful selection of auxiliary agents			
Dyeing	Avoidance of banned dyes Use of dedusted dyes High exhaustion rate Careful selection auxiliary agents			
Fatliquoring	Strict avoidance of halogenated (AOX) products High exhaustion rate Careful selection of auxiliary agents			
) 	Finishing			
Coating	Control of airborne particles/dust Use of water-based finishing systems Avoidance of harm cross-linkers Avoidance of pigments containing banned/restricted metals			
	Coating by advanced spraying equipment (airless, HVLP guns, scrubbers); curtain and roller coating			
	Solid Waste			
Consequent segrega	ation of different waste categories, innovative approach in utilization and safe disposal			
	Effluent treatment			
On-site pre-treatment a	and full scale (biological) on- or off-site treatment; compliance with local discharge norms			

Reference: Table – 4 A. The framework for sustainable leather manufacture, Second edition - Jakov Buljan, Ivan Kra¾ - 2019 the United Nations Industrial Development Organization

5. GREEN CHEMISTRY 5

In simple terms, Green Chemistry is maintaining environmentally sound practices through the lifecycle of a chemical product (design, manufacture, use and ultimate disposal) and processes.

The 12 Principles of Green Chemistry Table - 5 A

Pollution Prevention 2. Atom Economy 3. Less Hazardous Chemical Synthesis 4. Designing Safer Chemicals 5. Safer Solvents and Auxiliaries 6. Design for Energy Efficiency 7. Use of Renewable Feedstocks 8. Reduce Derivatives 9. Catalysis 10. Design for Degradation 11. Real-time analysis for Pollution Prevention 12. Inherently Safer Chemistry for Accident Prevention

Reference: 5. & Table - 5 A. What is Green Chemistry https://www.calpaclab.com/what-is-greenchemistry/

6.THE GOAL OF GREEN CHEMISTRY

Understanding the chemical aspects of renewable energy. Using sustainable resources. Designing new, greener and safer chemicals and materials. Preventing pollution at the molecular level (learn more about hazardous waste). Creating innovative solutions through safe chemical practices to solve real-world problems. Maintaining and designing new chemical products and processes to reduce intrinsic hazards.

6.1 How green chemistry differs from cleaning up pollution 6

How green chemistry differs from cleaning up pollution Table – 6 A

 Green chemistry reduces pollution at its source by minimizing or eliminating the hazards of chemical feedstocks, reagents, solvents, and products.



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- This is unlike cleaning up pollution (also called remediation), which involves treating waste streams (end-of-the-pipe treatment) or clean-up of environmental spills and other releases. Remediation may include separating hazardous chemicals from other materials, then treating them so they are no longer hazardous or concentrating them for safe disposal.
- Most remediation activities do not involve green chemistry.
 Remediation removes hazardous materials from the environment; on the other hand, green chemistry keeps the hazardous materials out of the environment in the first place.
- If a technology reduces or eliminates the hazardous chemicals used to clean up environmental contaminants, this technology would qualify as a green chemistry technology. One example is replacing a hazardous sorbent [chemical] used to capture mercury from the air for safe disposal with an effective, but non-hazardous sorbent. Using the non-hazardous sorbent means that the hazardous sorbent is never manufactured and so the remediation technology meets the definition of green chemistry.

Reference : 6 & Table 6 A . Basics of Green Chemistry - United States Environmental Protection Agency

7. THE 10 GREEN CHEMISTRY PRINCIPLES APPLIED FIGURE - 7 A



Reference : Figure 7 A . SUSTAINABILITY PERFORMANCE REPORT 2017 – 2018, Dystar www.DyStar.com

8. RESPONSIBLE CARE 8

Responsible Care is the global chemical industry's environmental, health and safety (EHS) initiative to drive continuous improvement in performance. It achieves this objective by meeting and going beyond legislative and regulatory compliance, and by adopting cooperative and voluntary initiatives with government and other stakeholders. Responsible Care is both an ethic and a commitment that seeks to build confidence and trust in an industry that is essential to improving living standards and the quality of life.

The Responsible Care Global Charter arose from an examination of chemical industry practices and performance that has evolved since the mid-1980s, and was shaped by considering the recommendations of independent stakeholders from around the world.

The Charter goes beyond the original elements of Responsible Care since its inception in 1985. It also focuses on new and important challenges facing the chemical industry and global society, including the growing public dialogue over sustainable development, public health issues related to the use of chemical products, the need for greater industry transparency, and the opportunity to achieve greater harmonization and consistency among the national Responsible Care programmes currently implemented.

The International Council of Chemical Associations (ICCA), through Responsible Care, will continue to undertake actions consistent with the environmental principles of the United Nations Global Compact.

8.1 The Responsible Care Global Charter Contains Nine key Elements

THE RESPONSIBLE CARE GLOBAL CHARTER CONTAINS NINE KEY ELEMENTS Table – 8 A

- 1. ADOPT GLOBAL RESPONSIBLE CARE CORE PRINCIPLES.
- IMPLEMENT FUNDAMENTAL FEATURES OF NATIONAL RESPONSIBLE CARE PROGRAMMES.
- 3. COMMIT TO ADVANCING SUSTAINABLE DEVELOPMENT.
- 4. CONTINUOUSLY IMPROVE AND REPORT PERFORMANCE.
- ENHANCE THE MANAGEMENT OF CHEMICAL PRODUCTS WORLDWIDE – PRODUCT STEWARDSHIP.
- CHAMPION AND FACILITATE THE EXTENSION OF RESPONSIBLE CARE ALONG THE CHEMICAL INDUSTRY'S VALUE CHAIN.
 - ACTIVELY SUPPORT NATIONAL AND GLOBAL RESPONSIBLE CARE GOVERNANCE PROCESSES.
 - ADDRESS STAKEHOLDER EXPECTATIONS ABOUT CHEMICAL INDUSTRY ACTIVITIES AND PRODUCTS.
- PROVIDE APPROPRIATE RESOURCES TO EFFECTIVELY IMPLEMENT RESPONSIBLE CARE.

Reference: 8 & Table - 8 B INTERNATIONAL COUNCIL OF CHEMICAL ASSOCIATIONS. Responsible Care. www.icca-chem.org www.responsiblecare.org



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9. SUSTAINABLE CHEMISTRY 9

Sustainable chemistry is a scientific concept that seeks to improve the efficiency with which natural resources are used to meet human needs for chemical products and services. Sustainable chemistry encompasses the design, manufacture and use of efficient, effective, safe and more environmentally benign chemical products and processes, oecd.org

9.1 Criteria for Sustainable Leather Auxiliaries

CRITERIA FOR SUSTAINABLE LEATHER AUXILIARIES

 Use of renewable resources • Good absorbability • Ready biodegradability . High proportion of bio-based raw materials . High concentration of active matter . Safety for both the user and the environment . Fulfilment of highest quality standards concerning modern automotive leather products . Establishment of a responsible resource management for our own production and supply chain

Reference: 9 & Table 9 A. LEATHER AUXILIARIES -For the sustainable production of automotive leather Zschimmer & Schwarz www. ZSCHIMMER -SCHWARZ.COM

10. ESG 10

"ESG" describes a set of environmental, social and governance factors. Responsibility to participate in sustainable development is not only as a duty to society but as an opportunity to do well by doing good. ESG is a simple acronym for environmental (natural resource use efficiency and impacts), social (stakeholder engagement) and governance (oversight and management topics).

10.1 Select ESG Factors Figure - 10 A



Reference: 10. & Figure - 10 A .ENVIRONMENTAL, SOCIAL, AND GOVERNANCE (ESG) for Private Equity: The Basics.

10.2 ESG commitments 10 B

Continuously minimize direct environmental impact and carbon

footprint. 2. Ensure a safe working environment and a diverse culture for our employees. 3. Consolidate Stahl's ESG leadership position by engaging with influential. NGOs and IGOs on responsible chemistry, positioning ourselves as a trusted and knowledgeable partner. 4. Nurture diversity and inclusion to continuously improve employee skills and company attractiveness. 5. Foster ethical behavior by providing training and robust compliance programs. 6. Select and engage with suppliers based on recognized ESG standards. 7. Promote a sustainable development mindset, to motivate employee throughout our organization.

10.3 Identified four areas of strategic importance 10 B

Digital transformation, Open innovation, Renewable feedstocks, Sustainable development.

11. ESG LANDSCAPE - ENVIRONMENT, SOCIAL & GOVERNANCE REPORT-2019, STAHL GROUP 11

The below ESG landscape provides a flavor of all the laws and regulations, (mandatory and voluntary) guidelines and initiatives that impact the company. Stahl is subject to continuous assessment of its ESG performance, e.g.: ISO certification, safe workplace monitoring, water controls, social audits, risk assessment questionnaires and chemical conformance testing of its products.

ESG landscape - Stahl Figure - 11 A



Reference: 11.& Figure 11 A.- ESG Landscape - Environment, social & governance report-2019, Stahl Group

Area Measuring machines for finished leather Hi-tech and user friendly

LAMM 2020

Conveyor type area measuring machines



Suitable for all finished leathers





Table type with extended receiving end Suitable for all types of finished leather; (Stamping device optional)



Automatic Measuring System connected to Stacking Machine

Leather automatically getting transferred to the measuring conveyor





Automatic Measuring System connected to Sammying Machine. Measuring is done immediately after Sammying.

No additional labour.



Auto Spray with Drying Chambers





Office: No.5, IV Cross Main Road, Thanthai Perlyar Nagar, Pondicherry-605 005. India.

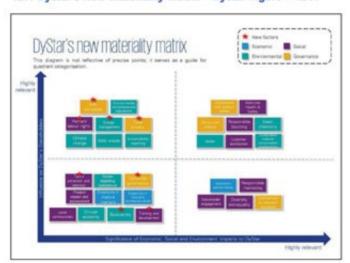
Works: RS No.25/7, Door No.73, New Colony, Perambai Village, Villianur Post, Vanur Taluk, Villupuram District,
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12. DYSTAR'S NEW MATERIALITY MATRIX

Dystar's New Materiality Matrix highlights the key ESG areas that are significant both for Dystar and stakeholders. It also guides sustainability approach and targets.

12.1 Dystar's New Materiality Matrix - Dystar Figure - 12 A



12.2 Economic, Social, Environment and Governance - Dystar Figure - 12 B



Reference: Figures 12 A & 12 B. Integrated Sustainability Report 2020-2021 Dystar

13. CREATING SUSTAINABLE VALUE THROUGH BUSINESS MODEL

13.1 Sustainability Vision and Values – Dystar Figure 13 A

Creating Safer and Better Products	Consening the Environment	Caring for Our People	Communicating Our Value Creation
We containly increase and develop higher-quality, sales, and greener products and services, which we have done so over the years to onsize value for our partners and consumers?	DySur ha a two-flid sustainability appraich-reducing our own operational impacts and helping costimers reduce their impact in line with this dual approach, we have enablished an argunizational sustainability structure, broad strategies and goals across the value chain and a regular sustainability reporting process with robust data solection and environmental performance monitoring. These continue to help DySur aptimize our carbon efficiency and conserve finite resources like water, waste end energy throughout our value chain.	Our people are our best asset. Dyfore his policies in place to ensure a fair, diverse and inclusive working environment in addition, we invest in training and developing our employees to each their professional aspiration, which in turn enhance the capabilities within our organization and the wider local communities.	Opfor disclose its sutainability offorts and performance in an annual integrated Sectionability Report. Ne slign all our efforts and contenies to the UK-Sectionable Development. Gods where prostile.

Reference: Figure - 13 A. Integrated Sustainability Report 2020-2021 Dystar

14. PRODUCT STEWARDSHIP ACROSS VALUE CHAIN- DYSTAR

At DyStar, product stewardship is an integrated process for identifying, managing and minimizing environmental, health and safety impacts at every stage of a product's life cycle.

It is recognized that the indirect impact of a product can be comparable, if not greater, than that resulting from our internal activities. In taking a comprehensive approach, they assess all products for health, safety and environmental consequences at each stage of the value chain - product concept development, R&D, registration, manufacturing, marketing and promotion, warehousing, distribution and supply, use and disposal, reuse and recycling.

What happens in the first stages of value chain has lasting impact long after a product has left our doorsteps. For this reason, Product Stewardship at DyStar begins at the front of the value chain - with design and sourcing.

14.1 Product Stewardship across Value Chain- Dystar Figure - 14 A





ORGSHIELD - THE FUTURE OF WATERPROOF LEATHER



Manufacturer of Leather Chemicals Cordially invites you to visit our exhibit at ACLE 2025

ACLE 2025 (03-05) September 2025 BOOTH NO: E2-E07C

Visit our booth to explore more about

Product Stewardship across Value Chain- Dystar Figure - 14 B



Reference :14. & Figures 14 A & 14 B. 2015 Sustainability Performance Report, Dystar

15. PRODUCT STEWARDSHIP AT ARCHROMA FOCUSES ON THREE STRATEGIC AREAS - ARCHROMA

Product stewardship at Archroma focuses on three strategic areas - Archroma Table - 15 A

- Laboratory support to ensure compliance of our raw materials and resultant manufactured products to the health, safety and environmental standards of authorities, or brands and retailers. We continuously develop our expertise within our team of dedicated scientists, in order to provide accurate compliance assessments of our products against the increasing number of regulatory, brand and consumer requirements.
- 2. An advocacy program, aimed at assisting authorities, NGOs, brands and other stakeholders to increase understanding of the environmental and health impact of our products and their chemical components. In this respect, Archroma acts as a partner and regularly consults on topics and ingredients which are under scrutiny or evaluation. We are engaged to work hand

in hand with regulators and various ecolabels in order to implement proportionate and enforceable restrictions/limitations. We welcome the new Chemical Strategy for Sustainability presented by the European Commission, and work together with CEFIC and the Commission on a strategy that drives the design of the "chemistries of tomorrow".

3. An annual operating plan with strict targets and monitoring tools and processes, aimed at increasing the efficiency of the safety assessment of chemical substances at an early stage of the product development. Building on the REACH database, we use predictive toxicology tools to accelerate chemical safety testing while minimizing animal testing in order to support the move to less hazardous chemicals where technically and economically possible.

Archroma is committed to ensuring the safety of chemicals and to providing all the necessary and relevant information on the potential impact of the substances on human health and environment, as required by REACH. Therefore, we voluntary committed to contribute to improving REACH dossier quality, and address data gaps, if any, to better identify substances of potential concern, and ensure the safety of chemicals.

15.1 Archroma - Products Launch

All new global products are launched with a package addressed to the marketing & sales organization and containing

Products Launch- Archroma Table - 15 B

- 1. An internal launch letter containing information on e.g., marketing positioning, business opportunity, production site, packaging options, performance, application field, recipe, fastness tests, and the available certifications.
 - The respective technical data sheet(s).
 - The respective material safety data sheet(s).
- Promotional information to support the new product(s), such as promotional flyers, supporting technical customer presentations, etc.

Innovations are also further introduced to the marketing & sales organization in dedicated webinars allowing deeper training.

The marketing & sales organization is then responsible for the introduction of the product to the customers and market, supported on an ad hoc basis by media activities such as press releases and advertisement, or social media activities. Any products removed from the portfolio or reformulated trigger a similar communication process to the sales organization.

Committed to excellence

Quality perfected

Trust secured

Unveiling new launches

Levocol L-HP

Effective performance auxilliary for enhancing the perspiration and wet fastness of leather

Levocol L-CS

Efficiently scavenges the Chromium VI content in leather as well as elevates the radiance of leather

Coloderm Cat Black CD

A cationic black dye to augment Jet Black dyeing with optimal levelling and consistent tone exhaustion







This information is provided in the form of:

This information is provided in the form of: Table - 15 C

- Technical Data Sheets (TDS) which are established for each product and provide information about its technical properties (for example appearance, pH, density etc.), field of application, typical application recipe, available packaging and handling recommendation.
- An online database of product TDS is maintained and managed by the respective product manager and is accessible to all Archroma sales and marketing organizations for communication to customers

Innovations are also further introduced to the marketing & sales organization in dedicated webinars allowing deeper training.

The marketing & sales organization is then responsible for the introduction of the product to the customers and market, supported on an ad hoc basis by media activities such as press releases and advertisement, or social media activities. Any products removed from the portfolio or reformulated trigger a similar communication process to the sales organization.

15.2 Sustainable Sourcing - Archroma

Sustainable sourcing is critical as our vendor network has a significant influence on our production and our resultant systems sold to our customers. Not only in terms of the raw material conformance to specification (quality), but also product hazardous chemical contamination that directly affects the safety of our products and the environmental pollution in production and when in use.

Our aim is to establish mutually beneficial relationships with our third-party suppliers and contractors in order to support our objectives of internal safety, health, environment and quality standards, which incorporates corporate social responsibility and Responsible Care. We require our suppliers and service providers to adopt standards comparable to Archroma's policies. Our vendors shall also bind their own suppliers to a similar level of compliance.

A vendor's sustainability performance affects our own overall sustainability profile as well as our brand image in the industry and therefore vendor management, including sustainability criteria, is essential. As a specialty chemical manufacturer, we have extensive knowledge and experience in purchasing, handling and inventory control for chemical raw materials.

15.3 Consumer Product Safety - Archroma

Of high importance to our value chains, increasing focus is being given to ensure that products used in manufacture do not pose a health and safety risk to the users and final consumers.

Environmental health is referred to under the other topics of "Climate change", "Resource optimization", "Waste (solid)" and "Wastewater management".

The Product Stewardship organization is fully integrated within Archroma's processes in order to ensure that hazardous chemical risks are identified and controlled. Deep knowledge of current and future regulatory requirements, often specific to countries and regions, is essential. In addition, other value chain stakeholders (consumers, brands, NGOs) influence market demand and specifications in order to manage the risk of chemistry which may pose a hazard to consumers and the environment.

All these requirements have to be gathered, consolidated and communicated to all internal stakeholders to ensure that product design, innovation, registration, production and the resultant application conforms to these changing requirements.

The Product Stewardship organization has the gatekeeper function for raw material sourcing and production processes. In this respect, an essential process required in specialty chemical manufacturing is a competent chemical inventory management system incorporated in master data management systems.

The Archroma Product Stewardship organization has two dedicated testing laboratories at its disposal in order to control and confirm product compliance to market-related restricted substance lists in addition to regulatory requirements. These laboratories are located in Pakistan and India. In order to support the necessary regulatory support processes and market required compliance certifications, we have invested in a dedicated global team, trained and qualified with the necessary scientific knowledge in order to deliver the highest standard of product stewardship in the industry.

In particular, Archroma is committed to develop our products in compliance with the major eco-labels or other third-party certification requirements of our industries, such as bluesign® (985 compliant products), Global Organic Textile Standard (GOTS, 577 compliant products), ZDHC (2 973 products compliant withZDHC MRSL 2.0), Cradle to Cradle Certified™ (97 compliant products), Nordic Swan (151 compliant products),Blue Angel (189 compliant products). In addition, we currently have 325 products suitable for food contact applications.

Eco-labels and certifications:

https://www.bluesign.com/ https://www.global-standard.org/the-standard.html https://www.roadmaptozero.com https://www.c2ccertified.org/ https://www.nordic-ecolabel.org/product-groups/ https://www.blauer-engel.de/en

ASP PRODUCTS REGISTERED WITH ZDHC LEVEL 3

MRSL v.3.1



Meet us at ACLE 2025 Shanghai Hall E2 | Stand B17b



ASP Chemisch

ISO 9001:2015 ISO 14001:2015 AEO CERTIFIED COMPANY ONE STAR EXPORT HOUSE

It's our nature to protect - For our innovation efforts, this means making chemical products that are safe to manufacture, safe to use by our customers, safe for consumers using our products, and safe for our environment at every stage of their products lifecycle.

In the face of the rapid spread of the coronavirus, Archroma mobilized our R&D experts and developed two products to support urgent needs in sanitizing products, even though this is not our usual scope of business.

Reference: 15. Tables - 15 A & 15 B & 15 C. Sustainability report Fiscal year 2020, Archroma

16. STAHL BETAN: LEATHER SOLUTIONS FOR RESPONSIBLE **TANNERIES 16**

The leather industry is changing. The focus on sustainability puts processes and the use of resources in tanneries at the forefront. With the release of the Stahl BeTan® portfolio for beamhouse and tanning, Stahl offers support to tanners who intend to meet these challenges and produce responsible, highquality leathers. For Stahl, staying ahead of the market and providing chemistry that enables the industry to meet the most stringent demands has always been our strength. Stahl BeTan® is our answer to current times, where a cleaner tanning process with a more positive footprint is necessary. Stahl BeTan® is a portfolio of responsible tanning solutions, compliant with the Zero Discharge of Hazardous Chemicals (ZDHC) Manufacturing Restricted Substances List (MRSL). It aligns or tanning portfolio with Responsible Chemistry, combining sustainable technologies for the wet-end process, from soaking and liming to tanning auxiliaries.

16.1 Stahl BeTan® offers a one-stop-shop for tanners, who wish to:

Stahl BeTan® offers a one-stop-shop for tanners, who wish to:

- · Meet environmental standards for fashion, mobility or interior products.
 - . Reduce water consumption and the effluent load of their processes.
 - . Limit the use of chemicals, energy, and salt.
 - · Implement cost-effective solutions that yield high-quality, responsible leathers.
 - Speed up their process, possibly saving time and energy.

16.2 Solutions tailored to each tanner process

For tanners, who aim to reduce their environmental footprint, there are two main focus areas. One is machinery and equipment, where investments can help reduce energy use and maintenance costs. The second is in chemical-use, which is essential for turning hides into quality leather. This is a challenge, because every tannery functions differently and has specific requirements. Another issue is a new technology for one step might not be compatible with the rest of the process. Stahl BeTan® solves this concern with a diverse portfolio of compatible tanning solutions. For each process step, a variety of solutions is available. Experienced technicians help tanners find the perfect fit, tailored to their process demands. We even offer extended services to provide tannery staff with the right knowledge and training to optimize the implementation and guarantee the best possible results.

Reference: 16. & Tables 16 A & 16 B .STAHL BETAN : LEATHER SOLUTIONS FOR RESPONSIBLE TANNERIES WWW.STAHL.COM

17. SERVICES - DYSTAR 17

DyStar Textile Services (DTS) is dedicated to supporting brands, retailers and their industry partners with fast and innovative global solutions. DyStar has a unique approach to the textile supply chain. We not only work with brands and retailers at the design and specification stages of product development but also with the mills who process the fabrics that are required to meet the shade, fastness and ecological requirements of any given product line.

17.1 The elements of the DyStar offer

The elements of the DyStar offer Table - 17 A

Color Solutions - Color Solutions International (CSI) creates color inspiration, communication and realization tools for many or the best-known apparel brands and retailers in the fashion and sportswear sectors. CSI products use dyes and chemical auxiliaries covered by DyStar econfidence commitment.

Testing Solutions - Texanlab provides reliable eco testing service to ensure compliance and resolve failures in your supply chain. Texanlab is a boutique laboratory with ISO 17025 accreditation, in addition to having accreditation, to test on behalf of, leading brands and retailers in both apparel and home textiles.

Ecology Solutions - econfidence from DyStar - ensures that for every product on the range there is an eco-specification in place to check for the most likely chemical contaminants which may be subject to legal or commercial prohibition or restriction. It is our commitment to keeping undesirable hazardous chemicals out of our customers' supply chains.

Reference: 17.& Table 17 A. Services - DyStar. The elements of the DyStar offer. www.dystar.com

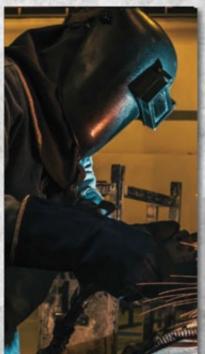


Where Class is Sewn into Every Stitch

We provide complete sewing solutions along with Value Added Services like Technical Seminars, Thread Recommendations and Thread Consumption.









Filament Threads Portfolio

Anefil Nylon ECO100

Recycled nylon 6.6 Bonded & Soft

Anebraid

CF Polyester Braid Lubricated & Waxed

Anefil Nylon

Nylon 6.6 Bonded & Soft

Anebraid ECO100

Recycled CF Polyester Braid Lubricated & Waxed

Anefil Poly

Recycled CF Polyester



Poly Cotton Corespun Glaced

Anefil Poly

CF Polyester Bonded Soft

Anesafe

Spun Meta-Aramid Sewing Thread

Vardhman Yarns & Threads Limited Central Marketing Office

1st Floor, Palm Court, Sector-16, M.G Road, Gurugram, Haryana-122001 Ph:0124 4981600-04, Fax: 0124 4981605, E-mail: amefird@vardhmanthreads.in

www.vardhmanthreads.com | www.amefird.com

18. ZERO DISCHARGE OF HAZARDOUS CHEMICALS (ZDHC) 18

Ø ZDHC

ZDHC is a multi-stakeholder organisation comprising over 170 contributors from across the industry including Brands, Manufacturers, Chemical Suppliers, and Solution Providers.

The Roadmap to Zero Programme, by ZDHC, leads the fashion industry to eliminate harmful chemicals from its global supply chain by building the foundation for more sustainable manufacturing to protect workers, consumers and our planet's ecosystems.

About ZDHC Table -18 A

How can we clean up the fashion industry's complex supply chain? Here's what we've achieved so far and where we're headed

Where we've come from.

In 2011, Greenpeace issued a wake-up call to the fashion industry, its stakeholders and consumers with the launch of its Detox campaign.

The campaign drew attention to the impact of hazardous chemicals in the manufacturing of clothing and footwear in production countries. Six brands individually signed public commitments with Greenpeace to commit to zero discharge of hazardous chemicals by 2020. This was the beginning of ZDHC's Roadmap 2020 Programme.

In 2015, the ZDHC Foundation was established in Amsterdam with an updated vision of brands working collaboratively to implement sustainable chemistry, drive innovation and commit to best practices in the fashion industry to protect consumers. workers and the environment.

Who we are.

The ZDHC Roadmap to Zero Programme is a collaborative initiative of fashion brands, chemical suppliers, manufacturers and laboratories working to reduce the chemical footprint of apparel and footwear.

Together, we drive the global implementation of ZDHC's sustainable chemical management framework and empower the global value chain to substitute or phase out hazardous chemicals in the production process and drive chemical and process innovation.

What we do.

We are advancing the apparel and footwear industry towards zero discharge of hazardous chemicals by:

 a) Creating aligned, industry-endorsed guidelines and tools for sustainable chemical management

- b) Driving effective implementation of these standards on the ground
- c) Engaging a network of relevant stakeholders to empower every point of the supply chain to manufacture safer products

Who we work with.

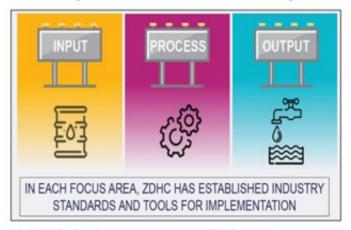
The ZDHC Programme is a collaboration of 30 signatory brands, 101 value chain affiliates and 19 associates - all organisations that are active in the textile, apparel, leather and footwear industry. Our contributors are collaborating to develop and jointly implement ZDHC's sustainable chemical management framework.

Reference: 18. & Table -18 A. ZDHC Impact Report, November 2019.

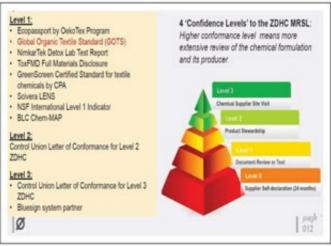
19. THE ZDHC PROGRAMME 19

A holistic approach to Sustainable Chemicals Management

19.1 The Programme is divided into 3 FOCUS AREAS Figure -19 A



19.2 MRSL Conformance Levels and ZDHC accepted 3rd party certifications - Figure - 19 B



Reference: 19. & Figures 19A & 19 B. A presentation on The ZDHC Tools and Risk based testing by Prasad Pant Director- South Asia, ZDHC 29th May 2018 Coimbatore

Enzymes For Extra Yield & Fluffy Feel



Texzyme-19 Texzyme-ZXL Texzyme-HS Texzyme-AP SPL











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www.texbiosciences.com



20. ZDHC V2.0 MRSL

ZDHC V2.0 MRSL Table -20 A

Who is ZDHC?

ZDHC stands for Zero Discharge of Hazardous Chemicals which is an organisation dedicated to eliminating hazardous chemicals and implementing sustainable chemicals in the leather, textile, and synthetics sectors.

The ZDHC Programme is a multi-stakeholder group that includes brands, value chain affiliates, and associates, that work collaboratively to implement responsible chemical management practices.

The ZDHC V2.0 MRSL has been developed by an organisation commonly referred to as ZDHC. This tool is designed to support brands, retailers, suppliers, and manufacturers with a unified approach to managing chemicals during the processing of chemical formulations, within the apparel and footwear supply

The ZDHC MRSL contains a number of restricted substances which are segmented into two chapters:

Chapter 1: MRSL for Textiles and Synthetic Leather Processing Chapter 2: MRSL for Leather Processing

Reference: Table 20 A. ZDHC V2.0 MRSL https://mrsl.roadmaptozero.com

21.1 ZDHC V2.0 MRSL ZDHC MRSL Chapters 21

21.1 Chapter 1: ZDHC MRSL

This applies to chemical formulations and substances used during creation and wet processing of textile fibres, and during creation and processing of (coated) fabrics, leather, rubber, foam and adhesives.

Group A: Supplier Guidance

Group A substances are banned from intentional use in facilities that process raw materials and manufacture finished products.

Group B: Formulation Limit

Group B substances are restricted to concentration limits in chemical formulations commercially available from chemical suppliers. These limits ban intentional use while allowing for reasonable expected manufacturing impurities, which should be consistently achievable by responsible chemical manufacturers.

21.2 Chapter 2: ZDHC MRSL Candidate List

Found in Chapter 2 of the ZDHC MRSL. Proposed ZDHC MRSL additions can meet listing criteria, as described in the Principles and Procedures, yet lack safer alternatives at scale. Including such substances on the Candidate.

21.3 Chapter 3: ZDHC Archived Substances

Archived substances, or those without strong evidence of current use in Industry, but with clear evidence of historical use.

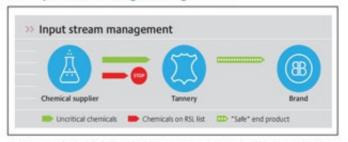
21.4 Process for ZDHC MRSL Revision

The ZDHC MRSL is a living document. It is updated as needed to expand the materials and processes covered and to add substances that should be phased out of the value chain. The Principles and Procedures document contains and explains the process used to update the ZDHC MRSL. Part of this process allows anyone to submit suggested changes to it. This includes the limits for existing compounds, the addition of new compounds, or delisting compounds through the ZDHC MRSL Submission Platform, which will be launched in the coming months.

22. From RSL to MRSL 22

- . The mind shift in chemicals management has been achieved by developing and implementing a manufacturing restricted substance list, or MRSL. This is a list of chemical substances banned from intentional use in the facilities that process textiles, leather and footwear.
- Before the ZDHC was formed in 2011, brands typically managed product safety through a restricted substance list, known as an RSL, which only addressed chemicals that may be present on finished products. Focusing on RSL compliance only meant that hazardous chemicals could be used in the manufacturing process, as long as they weren; t present above a certain concentration on the finished goods.
- By introducing ZDHC's MRSL, we have expanded the industry; focus to manufacturing, in an effort to avoid hazardous chemicals even entering the supply chain. The textile manufacturers must commit to using chemicals that conform to our MRSL and chemicals manufacturers must also meet our requirements by testing and certifying that their formulations do not intentionally contain any of the chemicals listed in our MRSL.

22.1 Input Stream Management Figure - 22 A



Reference: Table 22 A. Restricted substances in leather. TFL Eco Guidelines. Guide through the maze of RSL lists



N lac BSG/BCX - Both soluble High solid NC based Glossy lacquor ,Melliable too with high Degree of fastness and smooth silky touch

Sasyol SR - Pure synthetic based light fast versatile fatliquor,can be used for nearly all types of leather made in Different proportions.good softness with spongy feel and excellent exhaution

Sasyol SJB - Polymeric based pure synthetic fatliquor where softness and round feel is required, best suitable for all types of leather processed

Sasyntan MLB Liquid - Advance chemistry syntan with light fastness, recommended for white leathers too, enhances fullness, roundness and spongyness required

N Cryl SB 100 - Non tacky medium soft acrylic binder, can be used in Base coats and intermediate coats for required results, recommended for all types of finish done

NICHOLAS PIGMENTS & INKS

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22.2 Chemical Management System Figure - 22B



Chemical Management System Setting the framework

With focus on ZDHC Chemical Management System CMS frame work:

- Plan-Do-Check-Act cycle
- Elements of CMS (as per ZDHC CMS Guidance Manual)
- Further references



22.3 Areas of Attention Figure 22 - C



Reference: Figures 22 B & 22 C. A presentation on Chemicals Management in textile and leather industry. Chemical Management System setting the Framework, Resource Efficient Management Of Chemicals (REMC)

23. ZDHC- WHAT DOES ZDHC'S MANUFACTURING RESTRICTED SUBSTANCES LIST (MRSL) MEAN FOR LEATHER MAKERS

What does the ZDHC MRSL mean for the Leather Industry? Table - 23 A

- . The value of one standardised MRSL is that it provides a clear way for a tannery to communicate chemical restrictions with their chemical supplier.
 - . One standard, used by all, reduces confusion and helps ensure consistent implementation across the supply chain.
- . In contrast to an RSL, which sets product and material limits, the ZDHC MRSL clearly defines the standard that a chemical formulation must meet, making it much easier for the chemical industry to manage.
- · As Echols explains, "this is a great tool for helping to improve compliance and support a brands' goal of zero discharge of hazardous chemicals."

What can ZDHC's MRSL do for the Leather Industry? Table - 23 B

- · Like all raw material manufacturers, moving to a system of 'input management' is a different way of managing chemical restrictions. This will take time to implement, so continued support and commitment from the industry is needed as we move forwards with this new approach.
- The ZDHC Programme encourage tanneries to download a copy of the MRSL and use this as a tool for procuring chemical formulations. Conformity guidance will be finalised shortly, and in the meantime the interim guidance is available here.
- . The value of the MRSL is driven by industry-wide adoption and we are hopeful that tanneries will see the value in using this; it is a milestone standard for our industry

Reference: Tables - 23 A & 23 B. What does ZDHC's Manufacturing Restricted Substances List (MRSL)mean for leather makers? ZDHC Foundation, www.zdhc.org

24. THE ZDHC TOOLBOX 24

The ZDHC Toolbox Table - 24 A

We have created chemical management tools which are designed to enable the industry to be more transparent about the use of chemicals in our value chain. They offer support in finding safer alternatives for the substitution of hazardous chemicals and help assess the performance of facilities in their efforts of implementing the ZDHC programme.

- · Chemical Module is the world's first verified database of safer chemistry for the apparel and footwear industry. It enables suppliers to evaluate the ZDHC MRSL conformance level of chemical formulations used in production processes.
- Wastewater Module is a global online platform to register and share verified wastewater test data against the ZDHC Wastewater Guidelines. Via the ZDHC Gateway - Wastewater Module, ZDHC continues to promote transparency in an opaque supply chain
- · ZDHC InCheck Report is a universally accepted chemical inventory standard that enables suppliers to measure their input chemistry conformance via an online inventory assessment.
 - ZDHC ChemCheck is a ZDHC MRSL Conformity Certificate specifically for chemical formulators to use to prove the conformance of their products to their customers.







CHHATARIYA

DYESTUFF PVT.LTD.

Manufacturer & Exporters of :
Non-Benzidine Dyes, Spray Dried & Salt Free Dyes
Acid Dyes & Direct Dyes for LEATHER

We are exporting our products to International Market and also earned a reputed name in local market.

SPECIALIST IN LEATHER DYES

Acid Black: 1,52,194,210,234

• Acid Brown: 14,15,58,75,83,97,98,106,147,161,163,165,188,191,282,348,355,365,425,432,452

Acid Green :68:1, 114
Direct Black: 19,155,168
Mordant Brown: 1,79

Mordant Black: 11

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- ClearStream gives suppliers a way to understand and communicate their laboratory's wastewater test results. By doing so it helps them to position as a leader in striving for environmental protection.
- The ZDHC Academy is the go-to training platform to create awareness, build knowledge and enable skills on sustainable chemical management and ZDHC tools along the textile, apparel, footwear (including leather) supply chains.
- The Implementation HUB is the vehicle with which ZDHC is driving continuous improvements and progress around our offerings for brands, retailers and manufacturers with regard to baselining, strategy setting and implementation. The HUB leverages existing expertise and offers a platform to find ZDHC accredited experts for chemical and environmental management projects.

Reference: 24. & Table 24 A .ZDHC Impact Report, November 2019

25. ZERO DISCHARGE OF HAZARDOUS CHEMICALS (ZDHC) CERTIFICATION AND TESTING PROGRAMS 25

Help you manage your supply chain to reduce the amount of hazardous chemicals that are discharged into water waste. This is done in compliance with the ZDHC program, which supports the implementation of best practices to protect the environment.

25.1 Overview

The use of hazardous chemicals in the manufacturing process that can be discharged into waste water is under particular scrutiny. Numerous initiatives have emerged to address this issue, the most comprehensive being the ZDHC Program. The program supports the implementation of sustainable chemistry and best practices in the textile, leather and footwear industries to protect consumers, workers and the environment.

As an official contributor of the ZDHC Program, we can provide certification of compliance to the ZDHC Program_i's Manufacturing Restricted Substances List (MSRL) as well as testing, training and on-site assessment services to help reduce the discharge of hazardous chemicals into wastewater.

These comprehensive and customizable services, which are based on ZDHC and priority chemical substance groups, include:

 Wastewater testing – Seven UL laboratories have been granted provisional acceptance for testing in connection with the ZDHC Gateway – Wastewater module. Our analytical instrumentation and benchmarked limits of detection can be based on your specific needs.

- · Wastewater sampling and pre-sampling coordination
- Posting of test results to public platforms including preparation, data input and data verification.
- On-site assessments that cover management systems, chemicals and hazardous substances, water use, quality and monitoring, wastewater treatment and emergency responsiveness, as well as supply chain training and education.
- Compliance certification to ZDHC MRSL Level 1, which requires a third-party documentation review (formulation disclosure, MSDS (safety data sheets), chemical inventory, test reports, etc.) to ensure the data meets requirements. If there is a lack of data, we can perform Verification testing.

25.2 Benefits

Our team is committed to helping you gain greater control and visibility over your supply chain by offering a full-range of sustainable chemistry and supply chain management services. We will help you integrate several ZDHC initiatives into your supply chain by providing comprehensive training on common textile production processes and guidance on the requirements of the Manufacturing Restricted Substances List (MRSL).

With so many resources at our fingertips, we can also offer a complete range of employee education services. Our experts can customize your training courses, including interactive exercises and case studies, and deliver them in multiple languages around the world.

Why UL - As a ZDHC MRSL Conformance accepted certification body, we can help you protect and advance by managing the amount of harmful wastewater that is discharged into surrounding ecosystems and communities — minimizing your risk.

Backed by our independent rigor and integrity, working with us will also enable you to demonstrate your commitment to environmental stewardship by complying with the appropriate safety regulations, including Greenpeace's global Detox campaign. By signalling a willingness to invest in the future through sustainable and ethnical practices, you will be differentiating yourself in a competitive green marketplace.

26. ABOUT UL 26

As the global safety science leader, UL helps companies to demonstrate safety, enhance sustainability, strengthen security, deliver quality, manage risk and achieve regulatory compliance. UL, LLC is a global safety certification company headquartered in Northbrook, Illinois.



We care for the environment

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It maintains offices in 46 countries. Established in 1894 as the Underwriters' Electrical Bureau (a bureau of the National Board of Fire Underwriters), it was known throughout the 20th century as Underwriters Laboratories and participated in the safety analysis of many of that century's new technologies.

UL is one of several companies approved to perform safety testing by the U.S. federal agency, the Occupational Safety and Health Administration (OSHA). OSHA maintains a list of approved testing laboratories, which are known as Nationally Recognized Testing Laboratories.

27. WORLDWIDE RESPONSIBLE ACCREDITED PRODUCTION (WRAP)



Worldwide Responsible Accredited Production (WRAP) is an independent, objective, non-profit team of global social compliance experts dedicated to promoting safe, lawful, humane and ethical manufacturing around the world through certi-

fication and education. It is Headquartered in Arlington, Virginia, USA with offices in Hong Kong and Bangladesh and representatives in India and Southeast Asia.

WRAP was formed out of the desire to create an independent and objective body to help apparel and footwear factories around the world verify that they are operating in compliance with local laws and internationally-accepted standards of ethical workplace practices.

American Apparel Manufacturers Association (now the American Apparel and Footwear Association) moved to coordinate an industry response to the issues like excessive working hours, unsafe conditions, and the denial of several legally-mandated benefits to workers. Today, WRAP has grown to become a global leader in social compliance and a trusted independent supply chain partner for dozens of companies around the world. Its comprehensive facility-based model has made it the world's largest independent social compliance certification program for the apparel/footwear & sewn product sectors.

WRAP 12 Principles: The WRAP Principles are based on generally accepted international workplace standards, local laws and workplace regulations, and include the spirit or language of relevant conventions of the International Labor Organization (ILO). The Principles encompass human resources management, health and safety, environmental practices, and legal compliance including import/export and customs compliance and security standards.

27.1 WRAP 12 Principles Figure - 27 A



Reference: 27, & Figure - 27 A. BSI group India Pvt. Ltd. is an approved WRAP Monitor visit at http://www.wrapcompliance.org/ documents/ MonitorSelect.php

Going Forward

Leather Chemicals and Auxiliary Manufacturers paly a great role in the development, growth and sustainability of Leather Industry. It is an ongoing activity.

Besides Leather Chemicals & Auxiliaries, this industry has portfolios like Textile & Paper Auxiliaries, Performance Coatings, Polymers, Shoe Finish & Aftercare etc for catering the needs of allied industry.

Quality Assurance and Customer Support, having Center of Excellence and Application & Fashion Centres, Product stewardship, Products Launch, Sustainable Sourcing, Consumer Product Safety, Solutions & Services are key support areas for successful business activity.

Responsible Manufacturing, Clean Technologies Concept, Practising Green Chemistry & Sustainable Chemistry & Best Available Techniques, Getting Certifications to Standards, Having associations in Industry Organisations & Business Associations are gaining momentum for survival and growth and sustainability.

Innovations, Solutions to challenges faced by the Leather Industry and Extrapolating novel technology from allied industry would definitely help Leather Industry for successfully facing the competition from Synthetics and other non -leathers products. The Leather Chemicals and Auxiliary Manufacturers would do a major contribution in this regard.

Leading players in Leather Auxiliaries industry have adopted various strategies to achieve additional market share. Key strategies adopted by these players include product launch, joint venture, acquisition, partnership, expansion, and investment.

Leather Auxiliaries and Chemical manufacturers of both National & Global, have been accredited to Relevant certification and audit bodies active in the leather industry. Global players also show their ESG Commitments (A set of environmental, social and governance factors). Chemical Management System (ZDHC) is actively implemented for offering safe products.

Innovative and ECO Products Launch, CONSUMER PRODUCT SAFETY, LEATHER SOLUTIONS FOR RESPONSIBLE TANNERIES, Solutions tailored to each tanner process and related activities are becoming focus areas of Leather Auxiliaries and Chemical Manufacturers for offering Total Solutions to Leather Industry.

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(Concluded)

About the Authors



Shri NSK Srinivasan has About 50 Years' experience in the area of Colouration of Textiles, Leather and Paper. Done M.Tech from University of Madras as well as awarded FSDC - a fellow of the Society of Dyers and Colourists, UK for the contribution in the area of Colouration of various substrates for more than four decades.

He has served in Atul Limited Atul (29Yeras), Central Leather Research Institute, Madras (6.5 Years), Centre of Excellence, Vapi (13 Months) and In Leather Manufacturing Area - A . Abdul Shukoor & Co, Vaniyambadi, Tamilnadu (2.5 Years) and associated with UMTA Management & Texstyles Academy, Vapi for more than three years.

He has rich experience in Technical Services, Quality Assurance, Product Promotion and Marketing, Projects, Providing Solutions to Customers and within the Organization.

Participated in National & International Fairs and presented Papers on Leather, Textiles, Dyestuffs and Quality. Visited Customers in India extensively for Technical Discussion, Promotional efforts, Trials & Demonstrations, Business Development and Receivable Management,

Widely travelled in India visiting customers from Textile, Leather Paper and related application areas, Visited USA, UK and Turkey for Technical Services, Business Promotion, Marketing and Innovation Approaches. Lived in Turkey for one and half years for Technical Services, Business Promotion and Marketing

Contributed to the sustainable & profitable growth and diversification of the Organization, from QA, Business Development, Product Management, Promotional Efforts, Paper Publishing and Presentation, Customer Interactions and Corporate Image Enhancement.

Papers Published - More than 60 Nos. Papers Presented - Lectures - 50. Consultancy Projects carried out - 3 Nos in the areas of Colourants, Textiles, Leather, and Colouration and related areas. Also participated and interacted in more than 200 seminars.

He is presently with UMTA Management & Texstyles Academy, Vapi is a non - profit & service-oriented organisation involved in creating awareness as well as imparting training & skill development in Eco Needs and Sustainable Solutions.

Born at Madurai in 1951, married, having two well settled daughters ,one in USA & another in Pune and settled in Valsad with wife.



Shri Hasmukh M Shah has more than five decades of experience in Textile Field involving Yarn Trading for handlooms and power looms, Yarn Dyeing and Yarn Mercerizing as well as Supplying of products including RFD yarn and Fabrics for standardization of Dyes, Pigments and Auxiliaries and preparation of Shade Cards, Lab Instruments and Standards for Textile and Colour Industry.

He has been awarded the Life Time Achievement Award for his contribution in the field of Textiles by Textile Association of India (TAI) in the seminar organized by TAI at Vapi on 22nd April,2017.

He has served as a board member of Bombay Yarn Merchants Association for 25 years. He is actively associated with Vapi Industries association, Vapi - holding the position of Chairman for the committee of Textiles, Railway as well as Skill Development. He is also a member of SDC, UK and AATCC, USA.

Excellent interactions and relations with Institutions - ICT, DKTE, MS University , LD Engineering , Textile College , Sirempur - involving Knowledge Sharing, Skill Development and Innovation.

Mr. Shah is presently involved in the business of RFD Fabrics and Yarns for testing of Dyes, Pigments and Textile Auxiliaries, Lab Instruments for the Laboratories of Colours and Textiles, Consumables - Staining Fabric, Mulitifibers, Detergents, International Standards and related areas, supplying to leading organizations like Huntsman, Archroma, Dystar, Atul, Colourtex, Jay Chemicals, Longshen -Kiri and others.

Assisting students doing PhD, M.Phil and research in Colours & Textiles by providing RFD Fabrics, Yarns and Consumables and Helping them in Placements in Industries. Assisted more than 300 students in Industrial Training in Industries in Vapi and surrounding areas Visited UK & Europe and ITME Paris & Birmingham .Actively associated with establishment of a Service Centre for Textile Machineries near Bardoli with involvement of 50 Crores investment for Developmental initiatives from Government of India. Paper Publications, Presentations in Seminar and Interaction with Industry Team for development activities.

Active collaborations with Uka Tarsadia University, Gujarat: MANTRA Surat, Vapi Industries Association, Vapi; SDC, Mumbai; ICT, Mumbai and Institutions in Silvassa, Daman & Vapi for Taring, Skill Development, Placement, Education and Development Initiatives in the areas of Textiles, Colors and related fields. Interactions with Institutes in Mumbai, Surat and Ahmedabad for Textile Policy Initiatives and Development work.Running two apps in Whatsapp in Textiles for development initiatives and knowledge dissemination efforts - Textyles Technocrate and Texstyle Academia. Members are well learned people and progressive contributors.



In his own words, Pulok Mazumder is "a perfectionist, an avid reader, obsessed with plants and nature, and occasionally with leather." An alumnus of the University of Calcutta, Pulok holds a B Tech in Leather Technology. He also counts ISB Hyderabad and IIM Lucknow among his alma maters.

Pulok has extensive experience producing, marketing, and selling chemicals crucial to the leather processing Industry. In addition, he has first-hand knowledge about setting up new businesses and solving operational challenges specific to this industry.

Pulok started his career with production stints at tanneries in Kolkata. He then spent the next 19 years at Sandoz India Ltd and Clariant Chemicals India Ltd . handling different operational and business development responsibilities.

He is currently working with TFL Quinn India Private Ltd for the last 16 years as the General Manager, Head of Sales, Finishing. He is also associated with institutions like Hartcourt Butler Technological University. Kanpur, the Northern Chapter of ILTA, and not-profit organizations like Parivartan and Impact & Dialogue Foundation. As part of his job, Pulok has to travel extensively worldwide, which fuels his creative instincts.

Pulok discovered his love for writing during high school. He started by writing poems and essays in local magazines and college newsletters. Pulok was eventually selected as a regular contributor to Sainik Samachar, a Ministry of Defence publication.

After working for over 40 years in the leather industry, he still finds time to read and write regularly. A husband and father of two young adults, Pulok's other interests include innovative terrace gardening and parenting canines.

Today we will discuss In this third Part 4 of High Performance Leather about "Finishing of Furniture Upholstery Leather -Definition, raw material, market, consumer, producer and key Criteria of leather processing of this kind of leather, selection of product, Formulation -Specification and challenges faced by tanners and leather Engineer".

High Performance Leather - Part 6 Finishing of Flame-Retardant Leathers, Global & Regional Specification and their Market and Leather Articles in demand

Pulok Mazumder Technical Consultant, TFL Quinn India Pvt Ltd

(Contd. from July 2025 issue)

INTRODUCTION

Flame Retardants are chemicals which are added to combustible materials to render them more resistant to ignition. Thera redesigned to minimize the risk of fire starting in case of contact with a small heat source such as cigarette, candle or an electrical fault. The flame regardedmaterial, or an adjacent material has ignited, the flame retardant will slow down combustion and often prevent fire from spreading to other items.

Since the term "describes a function and not a chemicals class, there is a wide range of different chemicals which used for this purpose, Flame Retardant.

These materials are e.g. used in parts of electrical equipment, cars, airplanes, building materials and textiles, leather safety upper.

WHY DO WE NEED FLAME RETARDANTS

Flame Retardancy (FR) is an area of interest for many reasons, least of all the protection it offers us against one of man's greatest fears, fire! We find FRs in every place where people inhabit, gather socially and in the workplace.

Our homes and offices contain an increasing potential "FireLoad" of flammable materials because of the development of electrical and electrical equipment and rising goods (Furniture, Carpets, Toys, magazines and paper and other household's goods). The potential causes of fires also tend to increase, especially in electronic equipment's where the accelerating processor power, electronic sophistication, result in concentration of energy and an increase in risk of local overheating or other electrical fire risk. Flame Retardant can prevent an increase in fire risk from the growing numbers of consumer and electronic goods in homes and offices. Flame retardants protect modern materials such as technical plastics, buildinginsulation, circuit boards and cables from igniting and form spreading a fire.

Once fire starts in a room of a house, it can develop rapidly, if it is spreads to items other than that first ignited. Once number of items are burning, the temperature in the room will rise, and may reach "Flash over" point, when hot burning gases cause effectively the whole room to catch light, oftenviolently.

Once this occurs, escape from the room is impossible, and spread of the fire to other room is very likely. Flame retardants act both by preventing the initial start of the fire by impeding ignition and delaying the spread of the fire, thus increasing escape time, and preventing 'flash over' FRs don't just prevent fires from spreading but more importantly they in many cases give us time! Time to get out!

LEATHER AS FLAME RETARDANT

Leather has long been recognized as a natural FR due to its inherent resistance to burning. Leather is widely used in safety footwear, aviation seating, military gear, and protective clothing due to its durability and comfort. However, standard leather is flammable, so fire retardant (FR) Treatments are necessary to meets industry - specific safety standards. For legislative purposes quantitative tests must be performed against specifications for leather to beaccepted by industry for FR purposes. The leather must have a FR guarantee!!!

How does fire develop?

Afire can basically be split into three phases:

- ✓ The initiating fire,
- ✓ The fully developed fire
- ✓ The decreasing fire.

The Burning Process: starts with Three constituents -

- Substrate (setting combustible material e.g. an upholstered arm chair)
- ✓ Ignition source (heat/flame e.g. match)
- ✓ The flash over (flammable gases Fuel Oxygen)

Enough heat, fuel and substrate will lead to a fire getting out of control very quickly. The fire spreads ,heats up the surrounding and once the materials in the room have formed enough flammable gases and are sufficiently hot, flash over takes place and the whole room is engulfed in the fire .This is the start of the fully developed fire, where temperature up to 1200* can be reached .The fire will later decreases as the available fire loads is consumed by the fire or if the fire occurs in a totally closed room the fire can die because of oxygen deficiency.

How do FRs work:

Flame retardant describes a function rather than a chemical group hence the wide variety in use. Often, they are used in combination with each other!

Main function is to interrupt the phases of the burning process and slow down the combustion of the substrate.

FRs in action:

FRs act at one or more key phases by.

- i) removing H+ or OH? radicals
- ii) preventing pyrolysis
- iii) producing FR charring
- iv) emitting N or other non-flammable gases
- v) release H20 to cool and dilute the flame

The most efficient FRs interact to synergize and combine these effects

Stopping the fire:

Most FRs work by blocking the fire either chemically or physically or both!

The combustion process is physically retarded by;

- a) Cooling
- b) Forming a protective layer
- c) Dilution i.e. releasing H2O or CO2 whilst burning occurs.

Chemical reaction:

Chemical reaction after pyrolysis (gas phase) reacts with oxygen to reduce combustion Reaction in solid phase also happens where solid is melted and flows away from the source of combustion. Char formation i.e. a layer of Carbon is formed which prevents spreading 3 dimensionally Catalyst accelerates conversion of carbon containing compound to char Blowing agent releases a non-combustible gas causing charred material to froth and expand Resin binder forms thin rigid layer on the foam reducing speed of gas escape.

Where is Market for Fire retardant Leather:

Aviation Industry - leathers used in air crat interiors, seats, and trim must comply with FAA Bun and smoke toxicity regulation. Must pass vertical burn test and resist dripping or toxic smoke emission

Safety Footwear Uppers - For industrial, firefighting, and military boots. Leather treated to withstand short flame exposure, preventmelting, maintain strength. Often used alongside Kevlar or Normax linings.

Oil & Gas, Foundry, Welding Industries - Require leather with multi-layer protection, resistingmolten metalsplash flame, and high radiant heat. Chrome -tanned, fire -retardant leathers are commonly used here. Automotive - Mainly seat upholstery, head liners, door panels, trim in high-end or specialized vehicles. Requirements must comply with FMVSS 302 or ECE R118 fire safety standards for burn resistance. In Automotive industry this specification compliance reduces the spread of flame in accidents. Enhances passenger safety. Provides premium aesthetics with high safety compliance.

Public Transport - Buses, trains, subways, aircraft seats and walls. Requirements of safety norms must comply FOR RAIL-EN45545-2(EU), BS6853 (UK) FOR AVITION: FAR 25.853 (USA) In public transport key requirement to limits flame spread and smoke toxicity. Withstands high traffic and wear while maintain compliance. Essential evacuation scenarios to reduce fatalities and injuries.

Domestic Furniture - Sofas, armchairs, recliners, and other home seating. The objectives of fire retardancy in domestic furniture are to avoid ignition from cigarettes, matches, or open flames. Particularly important for child-safe and elderly care furniture. Often combined with flame-retardant foams and linings. Public Buildings. Requirements must meet fire safety codes like California TB117 and BS 5852.

Public Building Interiors: Auditoriums, Theaters, Hotels, Lobbies, Cinemas, Conference halls, and airport lounges. To ensure public safety during fire emergencies. Maintain luxury feel while meeting stringent codes. Used in both fixed seating and wall paneling. Requirements of fire safety varies by region often includes NFPA 260/261, BS7176, AND EN1021 Standards.

Industrial Protective Clothing-Jackets, Gloves, Apron, and boots for Foundry worker, welders, oil and gas personnel, fire fighter (Outer gear in combinations with other materials). Requirements for a.m. uses of leather ISO11612 (heat and flames), EN531, NFPA1977/ 1975. Said specification ensure thermal insulation, molten metal splash resistance, and flame resistance. Leather offers high durability and flexibility under extreme conditions.

Challenges & development of fire-retardant leather:

To maintain leather breathability and flexibility after FR treatment. Eco friendly alternatives to halogenated retardant are in demand. Bio based flame retardant and Nanotechnology (e.g. nano clays, silica is emerging research areas.

What is the test method globally and region wise opted till today:

The most important fire tests for combustible materials used in building, motorvehicles, railways, aircraft, ships, electricalengineering, furniture, mattresses and textiles mainly cover the parameters flammability, spread of flame, heat release and smoke development. Some of the major fire tests are :

- Building (which we avoid discussing here)
- · Transportation:

Automotive: FMVSS 302 (Federal MOTOR Vehicle Safety Standard, USA)

Railways: Different National Tests and pending new harmonious European Tests 'EN TS 45545'

Aircrafts: Various Bunsen Burner tests, OSU (Ohio State University) heat release and kerosene burner tests.

- Electrical Engineering and Electronics (We avoid discussing here)
- Upholstery Furniture and textiles:

BS5852: Tests for assessment of the ignitability of upholstered seating by shouldering and flaming ignition sources.

EN4021: Cigarette and match tests for furniture filling and cover (Part 1 and Part 2)

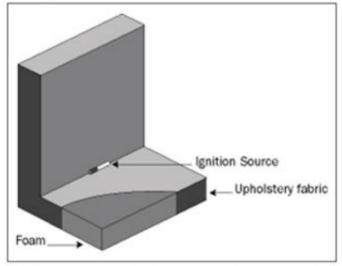
16 CFR Part 1633: US federal mattresses flammability standard (USA2006)

This is an absolute minefield!No single EU legislation to cover domestic, hospitality, aircraft or public transport leather for FR. There is not one place where complete testing can be carried out. Large portion of aircraft leather is for the US market and their tests are federally enforced!

Summary of Test Method in general:

EN 1021:1994

-Test rig constructed from leather / fabric and foam in a simulated chair shape



Allows ignition source to kept in permanent contact with both back and seat throughout test.

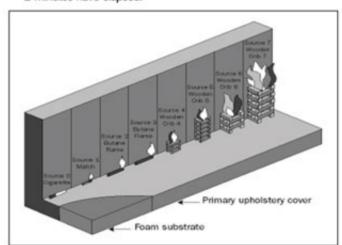
EN1021:1994

Part 1: Cigarette test

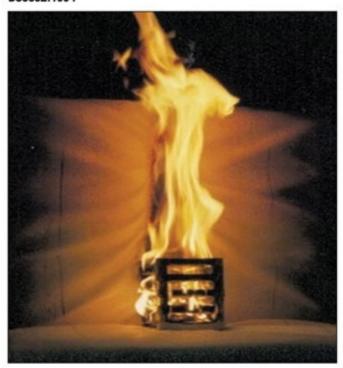
- Lighted cigarette placed in the angle of the test rig and left to smoulder along its entire length
- After 60 mins, no smouldering or flaming of the material should be observed

Part 2: Simulated match test

- Butane flame 35mm height used to represent a burning match
- Applied for 15 seconds in angle between test rig base and back
- After flame is removed, no burning of fabric should occur after 2 minutes have elapsed.



BS5852:1994



BS5852:1990

- Chair type rig is constructed (as in EN 1021)
- 8 ignition sources specified.
- Sources 4, 5, 6 and 7 are wooden cribs.
- For a pass, all flaming should cease within 10 minutes
- · No damage should be seen beyond marked boundaries on the sample.
- Only 20% of all fabric inc. leather pass this test.

Other European Standard:

- BS 476 Part 7 which assesses flammability of any product used in construction of walls or ceilings
- . Germany DIN 4102 Part 1 assesses any material used in construction
- · Germany DIN 4102 Parts 15/16 for upholstered fabrics, 'fire shaft' test, very severe test!
- France NFG 92-503 also used in Spain, Portugal and Belgium used to assess fabrics used in upholstery by exposure to radiate heat and pilot light Assessed for damage and production of burning droplets throughout the test.

USA Standard: No national standard but most commonly quoted are:

California Technical Bulletin (TB)

Boston Fire Department

New York / New Jersey Ports Authority

California Technical Bulletin:

- TB 117 Section E mandatory requirement for all upholstered furniture components.
- Measures resistance to a small flame after 1 sec exposure. Nearly all upholstered fabrics pass this test.
- TB 116 Cigarette test on a horizontal surface.
- A failure if there is obvious combustion or a char is 2" or 5 cm. or more.

California TB133:

- · Test for completed items of furniture in 'high risk' occupancies (hospitals, hotels, prisons)
- Furniture exposed to open flame in a standard room.
- Various parameters evaluated to determine whether pass or fail.

New York/New Jersey Port Authority :

- TB 133 in force for chairs going into buildings.
- Also upholstered fabric requirement for vertical open flame test.
- Vertical sample subjected to 1.5" methane flame for 12sec.

After-flame, drip burn, and char length monitored.

Test Result:

The test method was the same as before, 12 second vertical burn measuring flame time, burn length and afterglow.

Fire retardant chemicals suitable for Fire Retardancy:

After many trials a few products are available from chemical manufacturer to meet specification and test requirements -

· a FR fat liquor and an FR additive

Two were chosen as they cover both the need to produce a suitable leather both aesthetically and technically.

Challenges & development of fire-retardant leather and chemicals:

To maintain leather breathability and flexibilityafter FR treatment. Eco friendly alternatives to halogenated retardant are in demand. Bio based flame retardant and Nanotechnology (e.g. nano clays, silica is emerging research area's.)

Types of fire-retardant Chemicals and treatment :

Added during leather processing wet and finishing stage.

- a. Flame retardant Additives Ammonium Phosphate (APP), Mélamine Dérivatives, Aluminium Hydroxyde, Boroncompounds and Phosphores - base retardant.
- Intumescent Coatings- Applied to the surface of finished leather. Swell and form a char layer when exposed to flame, slowing heat transfer and oxygen access.
- c. Synergistic Systems Combined phosphorous, nitrogen, and halogen-free compounds for eco -friendly FR systems. E.g. Phosphonamidite's, and bio-based retardant (under research).

After many trials two products have been selected -

- 1. Fire Retardant fat liquor and Fire-Retardant Additives in wet Process.
- 2. Fire Retardant Compound for base coat formulation of finishing

A fire-retardant Fat-liquor must have -

- Normal fatliquor with FR properties Flame Retardant Upholstery
- Can be used in combination with standard fatliquors
- . Offer up to 15% 20%but smaller amounts can be used when combined with other suitable oils.
- Works by emitting water to cool the flame and remove Oxygen.

A fire-retardant Additive must have -

· Additive added at the end of wet end processing - Fire Protection Additive

- Works by creating an FR barrier to both the grain and flesh sides of the leather
- Need 15-20% based on shaved weight without float.
- · Should be added undiluted to drum and with no float present for 60mins before dropping, should be allowed to exhaust, penetrate over a period of 45-60 min.
- . In a very short, warm float at 30°C prepare in addition of 0.5% Formic Acid.
- No rinsing or washing to be carried out after its application.

A fire-retardant Base Coat Compound is effective with below properties -

- Non-flammable or flame sup pressing nature
- · High thermal stability, low emission-formulated to minimize toxic or dense Smoke
- · Compatibility with other finishing system-pigments, topcoats.

With over 40 years of experience in leather market as a solution provider and article maker, the author has witnessed a growing global demand for flame retardant shoe uppers, furniture leather, and Aviation-grade leather. Customers across diverse industries seek high-performance materials that meet safety and durability standards.

As a solution provider affiliated with European supplier of specialty chemicals and a technical article maker, the author successfully navigated the evolving technological landscape to develop customerspecific leather articles that adhere to all required specifications. The ability to merge innovation with compliance has been a key driver of success throughout the author's career.

In the second part of Flame-Retardant Leather will discuss some of the article and their requirement-

Leicester Furniture Upholstery Leather:

A well-known leather type for a classical furniture, Leicester is full chrome tanned leather. The leather is richly aniline dyed and treated with special hand rubbed finish. The skilfully applied to reproduce the unique hand antiquated, smooth and lustrous finish of the past, but maintains the long-life performance required of the present.

Leicester meets the highest s for pigmented upholstery leathers. Fire retardancy as per 95/2B/EG automotive -industry and BS 5852 PART 1 FOR CIGARETTE AND MATCH TESTS, Leicester Comply with CRIB 5.

European standard requirement.

Specification:

Thickness - 1.0/1.1 mm DIN EN ISO 2589, IUP 4

Average Hide Size - 5.5-6 sqm 2

Finish - Breathable full pigmented finish on water base

Performance Characteristics:

Lightfastness - Min 5 DIN EN ISO 105 -B02, IUF 402.

Flexometer Test - 50,000 (No damage) DIN ISO 5402, IUP 20.

Rubbing - Dry 500, Wet 250 -rating 3/4 Sweat 80-3/4 DIN ISO 11640.IUP450.

Adhesion to Finish - > 2N/CM DIN ISO 11644, IUF470

Tear Test - > 40N DIN ISO 3377, IUP 40

Flammability:

Complies to EN 1021-1/2 (Furniture)

IMO A.652 (16) (Ship/offshore)

DIN 75200 (Furniture)

BS5852 Crib 5.

Author developed Leicester Furniture Leather as special project for a Kanpur Customer -

TheCrusting Process:

To achieve above mentioned specification the crust process followed using **Special Fire** - Retardant chemicals 20% End of the fatliquoring process run 60* min then toggle to dry. Total fatliquor used is 20% which can be combination synthetic, and ester based fat.

The finishing process:

Corrected grain Stuccoed crust followed by basecoat compound embossed milled and applied add on coat and topcoat by PU Topcoat as per gloss need.

A test report to determining burning behaviour vertical method following the Crib 5 Procedure of Flame Proof Upholstery made by author for Kanpur customer.

Specification; Requirement Result

Duration of Flame exposure time: 60 Sec

Time of Burning: time in sec, after the removal of the flame until the test samples stops burning (Acceptable is burning for max.15 sec)

Burn length

(<152 mm = 6 inches)

Recipe 1 340/220 mm 61/17 sec

Time of Dripping: flame time of drips falling no drips found (acceptable is dripping for max.5 sec)

Burn side effect :

Comments:

IKEA Furniture Upholstery Leather

IKEA Furniture Upholstery Leather enjoys high global demand due to its affordability, functionaldesign, and sustainability commitment.

As a GLOBAL BRAND, IKEA source large volume of Furniture Upholstery leather, especially for Sofas, Armchairs, and recliners across Europe, North America, and Asia.

IKEA uses corrected grain pigmented for its furniture, typically sourced from bovine hides. The leather is designed to meet strict environmental, quality, and safety standards,including durability, resistance to wear ,and ease of maintenance and flammability.

Its often chromium free or produced using low-impact tanning method in line with IKEA's sustainability goals.

A project taken by a Indian MNC whose unit situated Madhya Pradesh, being consistent service provider last 30 years, GM Production and CEO asked us to take IKEA project, successfully we developed said article on chrome free leather, below test passed and we achieved the targeted result, due to cost factor and said unit donot have lime split facility as well as no Beamhouse operation in said premises, its very difficult for them to run production with acceptable cost of production.

IKEA's standard requirement and test result of our trial :

Specification& Requirement	Result obtained
Thickness - 1.1/1.2 mm EN ISO 2589	1.1/1.2 mm
Finish - Breathable full pigmented finish on water base	Finish asp rqmnt.
Performance Characteristics:	

· onomiano onaracionosco.

EN ISO 105 -B02:1999, Xenon Ac light and Blue wool Scale (BWS)

EN ISO 105 -B02:1999, Xenon Ac light and Blue wool Scale (BWS

Flexometer Test - 50,000Dry / No damage

25000 Wet (No damage)

Light fastness - Min 3

EN ISO 5402:2002,

VeslicFastness to Rubbing

Dry 500 -rating min 3	4-5
Wet 250 -rating min 3	4-5

Perspiration

Colour Change - 20 rub-rating min 3	4-5	
Staining - 20 rub -rating min 3	4-5	

EN ISO 11640:2009

Adhesion to Finish -

EN ISO 11644:2009

Dry/Wet - minimum 2 N/10m Dry 11.56/Wet 4.80

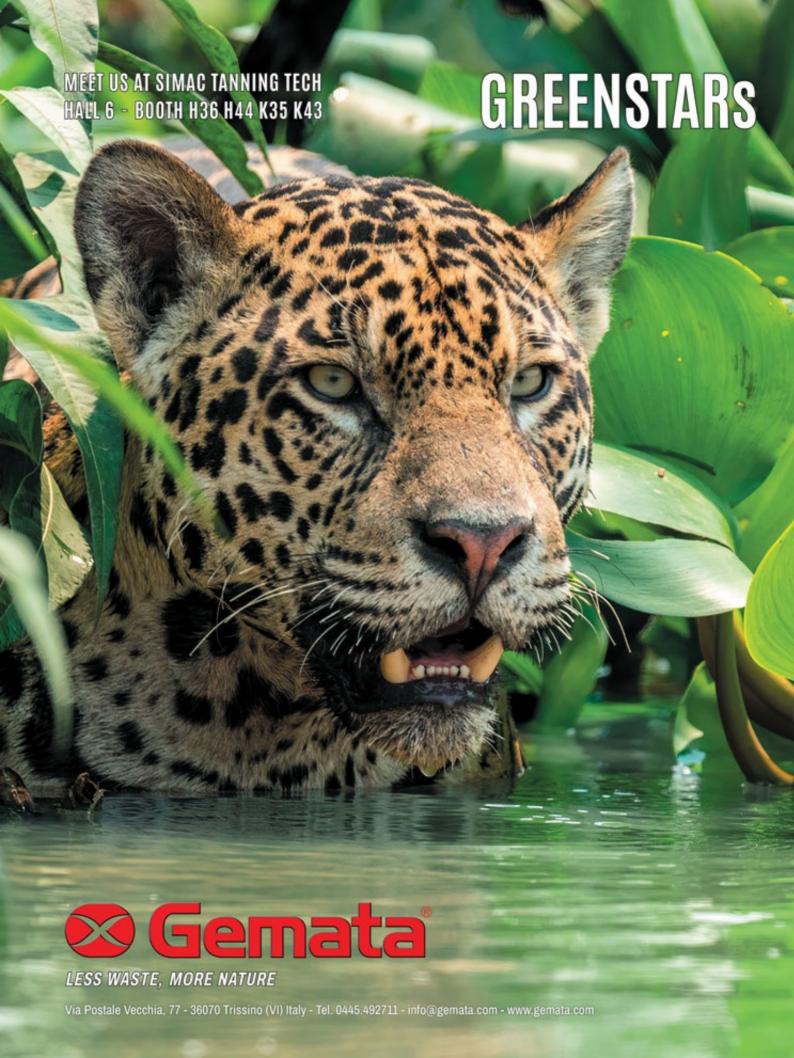
Water Spotting

EN ISO 15700:1999 - colour change -minimum 3 4-5

Maintainability

IOS-TM-0012 Assessment according to ISO105-A02

Cour change rating 3-4



Gemata presents MULTI GREENFINISH and STARGREEN at Simac Tanning Tech 2025



t the upcoming Simac Tanning Tech 2025 in Milan, Gemata SpA will present two key innovations in leather finishing: MULTI GREENFINISH, a high-performance, versatile finishing line, and STARGREEN, a new roller machine developed to meet the demands of emerging markets.

Building on the success of the GREENFINISH line, with over 40 systems sold since 2021, Gemata proudly presents MULTI GREENFINISH. This innovative finishing line is engineered to process leathers up to 2500 mm in width. In addition to using release paper, the line features embossing rollers capable of producing coarser and more customized grain textures than those typically found on the market.

Thanks to the specialized Multipress calender, MULTI GREENFINISH can operate with both the conventional release paper system - ideal for ovine and half-bovine leathers for footwear and leather goods - and an innovative system featuring protective film and chrome-plated steel embossing rollers. This configuration allows for the creation of customized grains such as Saffiano, Dollar, and faux floral designs. Both configurations ensure a uniform, defect-free finish that preserves the leather's natural softness.





Like its predecessor, the GREENFINISH, MULTI GREENFINISH stands out for its low environmental impact and reduced energy consumption. Its versatility extends beyond leather finishing, as this line can also be used for finishing regenerated leather and other synthetic rolled products increasingly sought after in the market. This capability significantly contributes to promoting a circular economy and reducing resource waste.

The second major innovation is STARGREEN, a roller machine designed in Italy and manufactured in Brazil. It's engineered to deliver performance comparable to the GREENSTAR but with simplified electronics, making it easy to use even for nonspecialized operators. The STARGREEN will be supplied directly from Italy with engraved cylinders and a next-generation transport belt, both designed specifically for the Greenstar and Globalstar lines.

Gemata will be exhibiting at the fair alongside its subsidiary, Costa Srl. The companies will be showcasing all their latest innovations and the most advanced technological solutions for leather finishing.

www.gemata.com | www.costaimpianti.it

SIMAC TANNING TECH 2025 Hall 6 Booth H36 H44 K35 K43



Technical Article

Colour change of light-coloured leather

after coffee and red wine test: minimum 2-3

Pass

Resistance to Denim staining on medium to light coloured leather)

Grey Scale rating-GSR) ISO 105-A02 -Colour change

3

minimum 3 Not required for black colour.

Cold Crack resistance

EN IS 17233:2002 -No crack

No finish crack at -10°C

observation at -10°C

Flammability Requirement :

Cigarette test :

EN 1021-1(Worst case test over filling 1and 2)

Pass

Cigarette Test :

The furniture and furnishing (Fire)(Safety) regulations

Pass

1988, Schedule 4" and (Amendment Regulations 1989

(Worst case test overfilling 1 and 2

Match Test:

The furniture and furnishing (Fire)(Safety) regulations

Pass

1988, Schedule 4" and (Amendment Regulations 1989

(Worst case test overfilling 1 and 2

Aviation Leather

Aviation Leather by a progressive Kanpur Tanners which made by author as special project with collaboration of overseas team.

Aviation leather is full chrome tanned leather. The leather is richly aniline dyed and treated with finish. The finish maintains the longlife performance required of the present.

Aviation leather meets the highest s Fire retardancy as per FAR 25. 853.requirement burn length = < 203 mm, Flame Time = < 15 Sec. Drips = <5 Sec.

Crusting Process:

To achieve above mentioned specification the crust process selected products in wet end and finishing process support vertical burn behaviour, optical smoke density and toxicity, followedby using Special Fire-Retardant chemicals 20% End of the fat liquoringprocess run 60* min then toggle to dry.

Frequently a high degree of flame resistance is required of automotive leather and specially for aviation leather .In this case naturally tanning and re-tanning are important. Whereas pure chrome-tanned leather with no pre-fat liquoring is very flammable and burn s rapidly ,chestnut tannage is very good when it comes to flame resistance .If it is not possible to tan or re-tan with chestnut due to the type of leather required ,then this effect can be achieved with suitable syntans.

Those fat-liquoring agents which contain nitrogen or chlorine containing compounds are suitable .Thus it is good idea to use chloro-paraffin sulfonates (a) when producing low-fogging leather which at the same time is flame retardant .As well as the use of chloro-paraffin sulfonates we want to mention a process which also improve flammability along same lines, but which carried out on finished leather.

This is the application of mixture of inorganic and organic ammonium hydrogen phosphate compounds(c)In finishing special fire-retardant compact binder used apart from other auxiliaries like pigment and topcoat with additive.

These are applied to the flesh side to guarantee sufficient diffusion and distribution within the leather. It is also possible to apply them in the drum. Ifflammability, restricted at the edges of the leather of 12 seconds is required, werecommend application of 450g/m2.

The flame proofing agent is therefore also particularly suitable for finishing automotive or aircraft leather, as it is does not have a negative effect on fogging.

There is a slight insignificant change to the handle of the leather if 300-450 g/m2 is applied. Another method of achieving relatively high flame retardance is by drumming with diammonium hydrogenphosphate. This is an inexpensive salt with also used as fertiliser Normally it is applied to the last bath, withoutfloat, and then mechanically drummed. Depending on purity of compound and the amount used, it is not always possible to exclude an effort on fogging in contrast with flame retarding agent mentioned above.

Finishing Process:

Corrected grain leather stuccoed with higher grade i.e. automotive grade, applied by RRC consumption 3-3.2 gr/sqft, restovernight buff 1x240 emery paper.

Base coat comprising special compound flame resistance

Pigment: Compound: Polyurea cross linker =100:850: 15 1XAirless 12 g sq/ft, restovernight, Emboss - dry mill-Stake

Add on Spray

Pigment: Compound: Iso-cyanite cross linker =100:850:20 1X spray 3-3.2 gesq/ft

Topcoat:

PU Topcoat Gloss: PU Topcoat Dull: Iso-cyanite Cross linker: Additive = 450:150: 60:40

1XSpray 2.4-2.6 gr sq ft

European standardtest report of our trial:

Result obtained		
1.1 mm		
Finished 820g/m2		

Finish - Breathable full pigmented finish on water basePigmentd water base

Performance Characteristics :

Colour Fastness to artificial Light- 5

5

5/5

(DIN EN ISO 105 B02)

Flexo meter Resistance -50,000 dry (No damage) no damage

(DIN ISO 5402)

Colour fastness to Rubbing - Dry 500 cycle, Wet 200

cycle -rating 4/4

(DIN ISO 11640)

Adhesion to Finish - > 2.5 N/10 mm

10 N/10 mm

Passed

(DIN ISO 11644)

Flammability:

(FAR 25.853 a-vertical 12 Sec) Burn length = < 203, 29/30 mm

Flame Time =< 15 Sec. 2/2 sec Drips =< 5 Sec No Drips

Optical Home Density - Flaming Mode =200 Passed

FAR 25,853 c

Toxicity - HCN 50 ppm/CO 1000ppm. Passed

HF 100ppm/HCl 150ppm

AITM 3.005 NO 100ppm/SO2 150ppm

After completion of Finish, check point from wet blue to finishing

weight to be managed:

Wet blue -630 g/m2

Crust -810q/m2

Finish -820g/m2

A test report to determining burning behaviour vertical method following the FAR 25.853 b Procedure of Flame Proof Upholstery made by author for Kanpur customer.

Duration of Flame exposure time: 60 Sec

Time of Burning: time in sec, after the removal of the flame until the test samples stops burning (Acceptable is burning for max.15

sec)

Burn length (<152mm = 6 inches)

Recipe 1 61/17 sec 340/220 mm Recipe 2 0/0 sec 160/175 mm

Time of Dripping: flame time of drips falling

(acceptable is dripping for max.5 sec)

For all samples no drips found

Burn side effect:

Comments: (to be Contd. Part- 7)

Fire Retardant Safety Upper for Industrial uses :

The most effective materials for fire-retardant uppers in industrial footwear are those that provide high thermal resistance, durability, and compliance with safety standard. Treated leather having fire resistant treatment to enhance its flame-retardant properties. Leather offers durability and flexibility, making it ideal for industrial applications.

Australian /New Zealand standard requirement for fire fighters:

Specification: Performance Characteristics:

Substance - 1.1/1.2 mm

DIN EN ISO 2589.

Water resistance - 2011/DIN ISO20345:2011

DIN ISO20344

Water Vapour Permeability - 0.8 mg/cm2/min

Water Vapour Co-efficient - 15 mg/cm2/min

Tear Strength - 120 N min

EN ISO 20345:2004

Tensile Strength - 15 N /MM2 MIN

EN ISO20345 :2004

Finish -Breathable full pigmented finish on water base

Water Resistance -Bally Flex Test

EN ISO 20345:2011 -120 MIN

Colour fastness to Rubbing - Dry 500 cycle, Wet 200 cycle - rating 4

DIN ISO 11640.

Adhesion to Finish- > 2.5 N/CM

DIN ISO 11644.

Determination of Tear Load -by Test method

EN ISO 3377-2 :2002

Flammability:on a flat, horizontal surface with burner and flame in a vertical position.

ENISO 15025:2002

REFERENCES:

- The European Flame Retardants Association
- Newsletter Salem Oil Co. USA
- Protect line Newsletter TFL.
- California Protocol Flame retardant Leather and specification.
- New Zealand & Australian norms on Fire retardant leather
- Author Trials and development of Flame-Retardant Upholstery and Safety upper





789 Nov. 2025

%GRA TRADE CENTRE Village Singhna, NH-19, Agra









MEET AT AGRA

LEATHER, FOOTWEAR COMPONENTS & TECHNOLOGY FAIR



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ILPA organised a curtain-raiser for the upcoming global AILPA sourcing Fair

AILPA 2025 Curtain Raiser launched on 16th July, at Hyatt Regency, Kolkata

he Indian Leather Products Association (ILPA) held the Curtain Raiser Program for upcoming show AILPA (AII India Leather Products And Allied- Sourcing Fair) to Kolkata's grand leather goods product is scheduled for October 28th, 29th and 30th 2025 at Biswa Bangla Exhibition Centre, Kolkata. Organised by ILPA, Govt of West Bengal and IEM Ltd.

This is a B-2-B (Business) event. AILPA 2025 will have on display Leather products and accessories, Finished Leather, Leather Chemicals, Machinery, Metal accessories also Handicrafts from Bengal and the parts of India. The event provides an opportunity to the trade and industry to showcase their products and finalize their business with national and international buyers. The fair is expected to have about 200+ exhibitors and 15.000 business visitors from India and abroad.

On this occasion the Consul General of Kolkata Consulate attended this function with their countries' counterparts China, France, Russia and Belarus. They were very much impressed and ready to give their support from their countries for visitors, exhibitors and buyers for this big event to be held for the first time in Kolkata city.

AlLPA Fair offers Indian hub for the world of leather goods manufacturers products and accessories, Handicrafts from Bengal and India a unique platform to directly connect with the world consumers, maximize profits, and establish their brand identity on the global stage.

Kolkata - In a groundbreaking initiative to connect Indian manufacturers with the booming world market, the AILPA Fair is set to redefine the global perception of Indian craftsmanship. This innovative trade platform eliminates intermediaries, empowering Indian brands to showcase their products directly to world buyers and consumers, ensuring they retain full control over pricing, branding, and customer engagement.

With the world's increasing appetite for authentic, high-quality Indian products, the AILPA Fair offers manufacturers a chance to maximize profits and gain international recognition.

Where Indian Heritage Meets Global Opportunity

The AILPA Fair aligns with the 'Make in India' initiative, celebrating Indian craftsmanship while promoting it on the global stage. With a focus on sustainable practices and authentic storytelling, this fair is more than a business opportunity-it's a movement to elevate Indian brands worldwide.

Event Details:

Dates: 28-30 October 2025 | Venue: Biswa Bangla Exhibition Centre - Kolkata | Duration: 3 Days - B2B

The Fashion Show will be held on 29th October 2025 at the Hyatt Regency, Kolkata.



CURTAIN RAISER

16th July 2025, Hyatt Regency, Kolkata



















Think Leather, Think Bengal!!



CLC TANNERS ASSOCIATION GENERAL MEETING

held on 13th August 2025 at Kolkata for Calcutta Leather Complex Members, Bantala headed by Mr. Imran Ahmed Khan, General Secretary (H), along with the Executive Committee of the Association









SUPERPRESS 24/3.0/3.2



ABOUT THE NANO PRESS TECHNOLOGY

The Embossing Roller made of special materials give an effect of natural haircell and grain on the leather. It can realize more natural touch than artificial one on the embossed leathers.

ABOUT THE EFFECT ON THE LEATHER

It can avoid the folding and wrinkle on various kinds of leathers by operating the Feeder and Spread Belts seperately.

The Nano Technology can realize natural effects on all of leathers from Cow, Lamb, Goat and Pig.

ABOUT THE DUST-SUCTION

The simultaneous function of the brushing and suction can eliminate dusts ocurred on Rollers and Belts in the course of embossing leathers.

ABOUT THE HEATING BY THERMAL OIL

It can preserve the same temperature on the cells of the embossing roller's surface.

ABOUT THE SOLIDITY OF THE PRESSURE ROLLER

The pressure roller is specially made of Rubber, Silicon & Tefron, etc... So, it can endure the high pressure and temperature.

ABOUT THE PROSPECT

It is possible to print Natural Haircell, Shrunken, Dry Milled Type, etc.. Also, we have been doing efforts to develop many kinds of embossing design in cope with meeting the request

from Tanneries around world.



X 3.0/3.2







Working roller is pressed by 3 pressure rollers

28ig rollers pressed by dually hydraulic or pneumatic cylinders which are adjustable independently and activated by hinge system researched and projected to avoid loose grain even for soft kind of leathers. This system allows the rollers' moving freely and sensitively during working.

Pneumatic cylinders adjusted by pressure regulator can give uniform ironing effect on the leather This system is fantastic to work in low pressure range.









JUMBOPRESS









New Development!
Heavy Duty Pressure
Strongest M/C in the World
Special Designed

INDIAN LEATHER TECHNOLOGISTS' ASSOCIATION

Platinum Jubilee - cum - 75th Foundation Day Celebration and Prof B. M. Das Memorial Lecture held on 14th August 2025 at Kolkata



The Indian Leather Technologists' Association celebrated its Platinum Jubilee at the Science city Auditorium on 14th August 2025 at Kolkata. Mr. Ramesh Juneja, Vice-President of the Council for Leather Exports (CLE), Mr. Arnab Jha, President of the Indian Leather Technologists' Association and Mr. Susanta Mallick, General Secretary of the ILTA at the event.

Mr. Ramesh Juneja emphasised the importance of the ILTA as a knowledge hub for the leather industry and Mr. Susanta Mallick unveiled a new digital roadmap for the association while announcing the launch of the new ILTA website, he said

"To reach globally, ILTA must go fully digital".

The celebrations commenced with Mr. Susanta Mallick, General Secretary, ILTA, extending a warm welcome by presenting a bouquet of flowers to Smt. Snigdha Mitra Mukherjee. Following this, Smt. Mitra Mukherjee recited a Sanskrit Shloka, which was both beautiful and spiritually uplifting, creating an inspiring ambience for the initiation of the event.

Thereafter, Mr. Susanta Mallick, General Secretary, ILTA, formally inaugurated the Platinum Jubilee-cum-Foundation Day Celebration. He introduced the Master of Ceremony, Mr. Raj Ray, with a bouquet of flowers.

At the ceremonial inauguration Dr. Amitava Bandopadhyay, Former Director, ICAR-National Research Centre for Groundnut and Founder National Coordinator, ICAR-National Agricultural Science Fund, delivered Professor B M Das Memorial Lecture.

A panel of discussion on livestock analysis and quality of bovine and ovine skins brought together entrepreneurs of the leather industry and officials from the department of animal resource development and the West Bengal University of Animal and Fishery Sciences.









Dr. Manoranjan Roy, Faculty of Veterinary and Animal Sciences, West Bengal University of Animal and Fishery Sciences, Dr. Chandi Charan Panja, manager operations, West Bengal Livestock Development Corporation Limited and Mr. Ratan Choudhury, human resources coordinator of ILTA spoke at the programme.

Thereafter, Mr. Susanta Mallick, General Secretary, ILTA, announced the names of the award winners and invited them to the dais to receive their felicitations, which included the Prof. B. M. Das Memorial Medals, the Prof. J. M. Dey Memorial Medal, and Certificates.

The second edition of the book "Comprehensive Footwear Technology (2nd Edition)" authored by Mr. Shome Nath Ganguly was then formally launched. For the launch ceremony, Mr. Tapan Nandi, Mr. Arnab Jha, President, ILTA, Mr. Susanta Mallick, General Secretary, ILTA, and Mr. Ramesh Juneja was present on the dais.

To conclude the session, Dr. Buddhadeb Chattopadhyay, Former Principal, Government College of Engineering & Leather Technology, Kolkata, and MCKV Institute of Engineering, Howrah, offered a summing up of the lectures, integrating the key points and underlining their relevance for the industry and academia alike.

The event was concluded successfully and filled with fellowship and celebrations.





2024: FOOTWEAR PRODUCTION REBOUNDS, EXPORTS RISE IN VOLUME BUT NOT IN VALUE JUL 31, 2025 WORLD FOOTWEAR YEARBOOK

In 2024, global footwear production recovered, increasing by 6.9% and regaining the 1.5 billion pairs lost in 2023. Footwear exports also improved in volume, rising by 4.6% compared to the previous year. However, the total export value remained nearly flat, growing by just 0.1%. These are some of the key conclusions of the data published in the World Footwear Yearbook 2025, just released by APICCAPS, the Portuguese Footwear Association

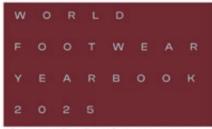
In 2024, footwear production and exports increased by 6.9% and 4.6%, respectively, according to data published in the World Footwear Yearbook 2025, recently released by APICCAPS, the Portuguese Footwear Association. Global footwear production rose to 23.9 billion pairs, increasing 1.5 billion pairs and recovering from a similar decline in 2023. This recovery was driven by stronger consumption in key markets, including the United States (+168 million pairs), China (+469 million pairs) and the European Union (+121 million pairs).

Last year, 14.8 billion pairs were exported worldwide, marking a 4.6% increase compared to the previous period. Although the total value of exports remained nearly flat at \$170 billion in 2024, this still represented the second-highest level on record.

GLOBAL FOOTWEAR PRODUCTION REBOUNDS

In 2024, global footwear production rose by 6.9% to 23.9 billion pairs, recovering from the decline in the previous year - the lowest point in a decade, excluding the pandemic years of 2020 and 2021.

The footwear industry remains heavily concentrated in Asia, where nearly 9 out



of every 10 pairs of shoes are manufactured, accounting for 88% of global production.

China continues to lead as the world's largest footwear producer, manufacturing 13 billion pairs in 2024 and holding just over 54% of the global market share. India further increased its share, now accounting for 12.5% of global production. Vietnam ranks third, with a 6.5% share.

GRADUAL GROWTH IN ASIAN FOOTWEAR CONSUMPTION ENDURES

In 2024, Asia's footwear consumption accounted for more than half of the global total (55.5%), reflecting an increase over the previous year. North America and Europe followed, with shares of 13.6% and 13.5%, respectively.

Per capita footwear consumption varies significantly across regions - from just 1.4 pairs in Africa to 4.8 pairs in North America.

China remains the world's leading consumer of footwear, having strengthened its share to 18.6% of global consumption. India follows with 13.3%, while the United States maintains its position in third place with a stable share of 9.8%.

The European Union, considered as a single region, ranks fourth, with 2 069 million pairs consumed in 2024.

GLOBAL FOOTWEAR EXPORTS INCREASE IN 2024: CHINA CONTINUES TO LOSE SHARE

In 2024, global footwear exports increased

by 4.6% in volume compared to the previous year, signalling a steady recovery in international trade. Asia remained the dominant player, accounting for 85.1% of total exports - slightly above the 84.5% share recorded a decade earlier.

Between 2015 and 2024, global footwear exports grew modestly in volume - up by 1.2% - but surged by 31.4% in value, rising from \$129.2 billion to nearly \$170 billion.

Asian countries consolidated their dominance in the global footwear trade, with their collective share increasing from 84.6% in 2023 to 85.1% in 2024. Conversely, Europe's share declined slightly to 12.6%.

China remains the leading exporter, accounting for 62.2% of total exports, although its share continues to decline (down from 63.8% in 2023). Vietnam ranks a distant second with 10.7%, followed by Indonesia at 4.1%. Together, these three countries account for more than three-quarters of global footwear exports.

AFTER A DECADE OF STEADY GROWTH, THE AVERAGE EXPORT PRICE OF FOOTWEAR DIPPED TO \$11.47

Over the past decade, the average export price of footwear rose significantly - from \$8.83 per pair in 2015 to a peak of \$11.98 in 2023 - marking a 36% increase. This upward trend reflected rising production costs, a shift toward higher-value products, and inflationary pressures across global supply chains. However, in 2024, this trend saw its first notable reversal, with the average price dipping to \$11.47. This decline may indicate an adjustment in product mix or pricing strategies following two years of sharp value growth.



AUTOMATION AND AI. ZUND AND ITS PARTNERS ARE REDEFINING LEATHER PROCESSING

Zund is setting new standards in highly automated and integrated leather cutting, together with partners Mind and Mindhive Global. At Simac in Milan, the three technology partners will be unveiling the Captura Workflow. Industry experts will experience firsthand how AI, machine vision, and digital cutting systems are working together perfectly to make hide capture, classification, and cutting even more precise, reliable, and faster than ever before. all within a fully networked environment.

When Simac Tanning Tech opens its doors in Milan on September 23, (almost) everything at Zundfs booth A48/B47 in Hall 10 will revolve around the fully automated detection of defects in order to achieve perfect cutting results. Together with technology partners Mind and Mindhive Global, the Swiss specialist in digital cutting systems will showcase the Captura Workflow, a completely integrated solution for precise and efficient leather cutting.

The leather-processing and production workflow encompasses Mindhive Finish Select., which uses Al support to capture, evaluate, and measure hides in seconds; MindCUT software from Portuguese software partner Mind; and digital cutting technology in the form of a Zund cutter.

Automation in an increasingly digitalized leather cutting environment is no longer a vision of the distant future . its todays reality. And itts fundamentally transforming how leather hides are captured, evaluated,



At Simac Tanning Tech, Zünd will present the new Captura Workflow, an Al-powered complete solution for automated leather processing with an end-to-end digital workflow that is fast and precise.

graded, and ultimately cut. In the Captura Workflow, artificial intelligence has entered the picture and is taking the hide evaluation and grading process to an entirely new level. Hide evaluation and grading were previously an interpretive process that was largely manual, error-prone, and inconsistent.

With Captura, innovative technology leaders Zund, Mind, and Mindhive Global are showcasing a technological breakthrough that enables highly automated and standardized leather cutting using AI, image-based quality assurance, cuttingedge nesting and cutting software, as well as a powerful digital cutting system. Captura empowers leather processors to make the leap to smart, data-driven processes that deliver consistently repeatable quality and digital integration.

The components

- Mindhive FinishSelect[] creates a highresolution image of the hide, using machine vision and deep learning to detect more than ten different defects in mere seconds with an accuracy of up to 0.17 mm (0.0067b) and classifies hides according to user-defined criteria. The Al-powered solution grades the hides so precisely that up to 90% fewer parts are rejected in quality control prior to sewing.
- · Transport table with labeler from Zund
- MindCUT software

The MindCUT operating software is the cutting-room control center. MindCUT is flexible, adaptable, and offers all the necessary components for digitalization, nesting, cutting, and parts removal.

· Zund cutter

Zund cutters are ideal for efficient digital cutting of hides in all different sizes. Zundfs digital cutting workflow enables unmatched flexibility in leather cutting. Zund cutters also set new benchmarks in terms of speed and efficiency.

The workflow

The entire process – from scanning the leather to cutting – is digital, efficient, and requires minimal manual intervention. Hide evaluation now takes just 15 seconds, saving companies up to ten minutes per

unit, while simultaneously providing complete digital documentation for each individual hide. In addition to realizing significant time savings during the evaluation process, users also benefit from the comprehensive material documentation they can use for traceability, quality assurance, and production planning.

G3 compact cutter

With a compact G3 cutter, Zünd will showcase yet another master of leathercutting efficiency in action. This limitedfootprint cutting system meets the technical requirements specific to the leather industry. With a working area of 227 x 160 cm, the G3 compact cutter is ideal for processing medium-sized hides and offers sufficient space for nesting, cutting, and parts removal on one machine. For maximum user convenience, cutter operation, hide loading, and parts nesting are all handled centrally from the front of the cutter. The cutting workflow runs from front to back and is split into three areas: loading, cutting, and parts removal. This enables loading and capture of a new hide, or removing cut parts, all while cutting is in progress. It eliminates downtime and significantly boosts productivity.



TFL TO PRESENT LATEST SOLUTIONS AT ACLE 2025

TFL is pleased to announce its participation in ACLE 2025, which will take place from September 3rd to 5th at the Shanghai New International Expo Centre (Hall E2-E03).

With over 20 years of experience and presence in China, TFL invites industry professionals and valued customers to discover the latest chemical trends, innovations, and technologies.

At ACLE 2025, TFL will present an exclusive collection of high-quality leathers. These have been designed using premium chemicals and expert advice. They are available in the fashion colors predicted for the Autumn/Winter 2026/27 season.

Beyond the traditional uses for shoes and leather goods, TFL will also show how these seasonal colors and materials can be seamlessly integrated into automotive leather interiors, blending style and functionality in this sector.

If you are looking for genuine replacement syntans with extremely low or zero BPS/BPF content that still have the required tanning power, look no further. With our expanded TANIGAN® range, you can stay



one step ahead of any legal or brandspecific restrictions and produce leather with a bisphenol content below the detection limit of 10 ppm.

We also focus on lightweight leather, which is in demand because it saves energy in transportation and makes upholstery, shoe uppers and clothing more comfortable. Visit us to find out how careful selection of TFL products and application methods can reduce the weight of leather by around 20%.

For leather finishing, TFL is introducing RODA® Line: a special product range developed for state-of-the-art transfer coating technology. This offers an environmentally conscious alternative to conventional leather finishes, from fashion to high performance articles, with excellent reproducibility.

Please visit us at ACLE to see how these advances meet the highest performance standards, comply with ever-evolving regulations and help you to remain at the forefront of industry trends.

KEY CHANGES IN TFL'S LEADERSHIP TEAM

TFL announces important leadership updates that will further strengthen the company's position and support its longterm growth strategy.

Effective September 1, 2025, Samer Al Jabi will assume the role of Chief Commercial Officer (CCO). Samer has been with TFL since March 2025 and has been instrumental in leading TFL's five-year strategic plan. In his new role, he will drive the company's growth through commercial excellence and strategic initiatives. With his extensive experience in the chemical industry, Samer has successfully led global businesses, built high-performing teams, and executed transformative acquisitions. His leadership and vision will be key as we enter this next phase of growth.

Effective July 1, 2025, Kaija Korolainen was appointed Group Chief People Officer (CPO). Kaija has a strong track record of strategic HR leadership across multiple industries and geographies. At TFL, she is responsible for leading the people strategy, with a focus on

building an inclusive, high-performing culture and driving organizational excellence to enable the successful execution of TFL's strategy.

Our valued COO, Henrik Pedersen has decided to retire on January 1, 2026, after nearly 21 years with TFL in various key roles. We have launched a search to find a successor for him.







Samer Al Jabi, CCO

"These leadership appointments reflect our commitment to strengthening TFL's strategic and people agenda while ensuring continuity in our operations, all with the goal to deliver the best value to our customers" said André Lanning, CEO. "We warmly welcome Samer and Kaija to their new roles and extend our sincere thanks to Henrik for his outstanding service at TFL."



DIETRICH TEGTMEYER CONFIRMED TO LN SUPERVISORY COUNCIL FOR A 2ND TERM

We are pleased to confirm that Dietrich Tegtmeyer has been confirmed as a member of the LN Supervisory Council for a second term!



Dietrich brings over 30 years of global experience in the leather industry, with past

roles at Bayer, LANXESS, and TFL Ledertechnik GmbH, where he most recently led Business Development and Industry Relations. Now focused on consulting, he continues to contribute his deep industry insight and commitment to responsible leather production. He initially joined the LN Supervisory Council in 2021.

About the LN Supervisory Council

The Leather Naturally Supervisory Council is one of the two governing bodies leading the organization. The Supervisory Council is responsible for the supervision of the Management Board and serves an advisory function. The current Council is composed of the following members:

- Amaud Backbier
- Carl Flach, ISA TanTec
- Dietrich Tegtmeyer
- James Lang, Scottish Leather Group (Chair)
- · Thomas Yu, Jollity Enterprise

The next election for the LN Supervisory Council will happen in 2027, or earlier if a current member chooses to step down.

We'd like to express our thanks to all members who took part in this election process. Your continued engagement is what allows Leather Naturally to do what it does best!



COATS GROUP ACQUIRES ORTHOLITE: A \$770 MILLION DEAL TO DOMINATE THE FOOTWEAR MARKET

British company Coats Group, a world leader in the production of industrial yarns, has announced the acquisition of US footwear insole specialist OrthoLite for an enterprise value of \$770 million, including debt. The transaction, expected to close in the fourth quarter of 2025, aims to create a super tier 2 supplier in the footwear components sector, significantly strengthening Coats' position in this market.

A Strategic Move for Growth

The acquisition is considered a strategic move to accelerate the growth of Coats' footwear division by entering the highpotential insole segment. OrthoLite is an ideal partner due to its customer base, distribution model, and strong alignment on the values of sustainability and innovation. The integration of OrthoLite is expected to boost Coats' operating margin and earnings per share within the first full year.

David Paja, CEO of Coats Group, called the merger "fantastic news for both companies and the footwear industry," noting that the union of two market leaders with a shared vision could "reshape the future of the industry."

OrthoLite and Innovative Cirql Technology

OrthoLite holds a dominant position in the global open-cell foam insole market, with a 36% share. The company supplies over 500 million pairs of insoles annually to approximately 550 customer brands and



David Paja, Chief Executive Officer, Coats Group | Glenn Barrett, Founder and CEO, OrthoLite

"I'm excited to merge OrthoLite, the footwear innovation business that I founded 28 years ago with Coats Group plc. This alliance forms a powerful partnership of industry leaders to provide a platform for OrthoLite and Cirol to continue to serve our customers with the most innovative and sustainable footwear components in the world."

manages more than 310 co-branding agreements.

The agreement also includes Cirgl, a proprietary foam technology recently launched by OrthoLite. This innovative material, intended for the midsole market, is biodegradable or fully recyclable, offering a competitive advantage in terms of sustainability.

Financial Details and Outlook

The transaction is expected to deliver a significant financial return, with estimated annual savings of \$20 million by 2028. The agreement also includes a potential contingent payment of up to \$10 million, tied to OrthoLite's performance in 2025.

To finance the acquisition, Coats will use a combination of new credit lines and proceeds from a retail equity offering. This transaction is part of a growth pipeline for Coats, whose footwear division reported revenues of £403 million in fiscal 2024 and expects further growth of 7-9% in the coming years.

(Source - Coats Group)

India UK CETA Deal Set to Boost Indian Leather and Footwear Exports



According to ANI & Livemint it's exactly the kind of breakthrough Indian leather & footwear exporters have been waiting for & could generate more than \$900 Million dollars in this sector's exports. 6 Key Takeaways from the India-UK CETA Deal That Could Boost Indian Leather & Footwear Exports Past \$900 Million.

The new trade agreement provides duty free access for Indian leather, leather goods & footwear exports to the UK.

Apparently UK is our 3rd largest export destination after USA & Germany.

In 2023-24, India exported goods worth \$400.77 million to the UK.

That number climbed to \$437.94 million in 2024-25 that is a 9.27% growth.

The UK already accounts for over 9% of our total leather & footwear exports.

With this deal, that share is expected to grow even further.

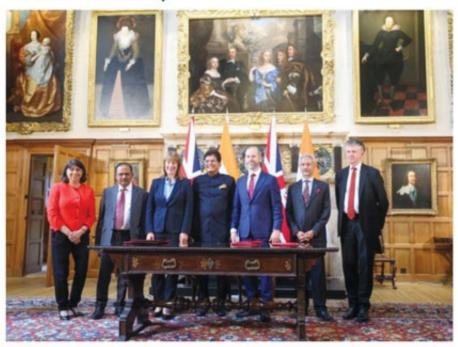
Some of the key points to note (from CLE's press release):



- [1] India will allow duty free imports of crust & finished leather from the UK
- [2] Duty free access in the UK for Indian leather goods (previously taxed between 2% & 8%)
- [3] Leather footwear that earlier faced 4.5% duty will now enter at zero duty
- [4] Non leather footwear, previously taxed at 11.9%, will also enter the UK duty free
- [5] Improved pricing power & better competitiveness for Indian brands Aiming to double exports to the UK in the next 2-3 years, targeting US\$1 billion
- [6] Stronger collaboration opportunities in technology, investment & JV's

"This is a huge opportunity for micro & small entrepreneurs to reach new international buyers, expand operations & compete on a level playing field with countries like Bangladesh & Vietnam."

- Dr. N. Mohan, Member, Cll Taskforce on Leather & Footwear



Assocalzaturifici Celebrates 80 Years Of Excellence

The year 2025 marks a milestone for the Italian footwear industry, celebrating three symbolic achievements: the 40th anniversary of CIMAC - the laboratory for testing and CE certification of PPE, which continues to grow with a client base composed 90% of non-member companies, confirming its authority in the sector; the 80th anniversary of Assocalzaturifici; and the 100th edition of MICAM - the leading global event for fashionable, high-quality, inno-vative, and sustainable footwear, scheduled to take place from September 7 to 9 at fieramilano RHO.

During the celebrations for the Association's 80th anniversary, President Giovanna Ceolini reflected on her first year in office, highlighting the actions taken to protect and promote the sector in a complex economic and geopolitical context.

The Association has been marked by significant efforts to address the industry's challenges, especially regarding the issue of tax credits for research and development.

Assocalzaturifici, through Confindustria Accessori Moda - the new federation uniting the main segments of the leather supply chain (footwear, leather goods, furs, and tanneries) - has given voice to the sector, advocating for the legitimacy of the investments made by companies.

Among the achievements:

 Approval of the amendment extending income support to companies with fewer than 15 employees, with a total funding increase to €73.6 million.

- Signing of a Memorandum of Understanding with Minister Tajani to promote Made in Italy and combat counterfeiting.
- Participation in the parliamentary hearing on DL 25, presenting concrete proposals on tax credits, moratoriums, and support for trade fair participation.

Through the creation of programs like the Digital Export Academy in partnership with ICE and the hosting of seminars on important subjects like global sanctions, green incentives, and digital transformation, the Association has made investments in training and strategic support.

Malack Abdul Wahab of KH Exports Elected to LWG Board as Leather Manufacturer Representative

The Leather Working Group (LWG) has confirmed the election of Malack Abdul Wahab, Managing Director of KH Exports India Pvt. Ltd, as the new Leather Manufacturer Representative on its Board starting October 2025.

With over 30 years of experience in the global leather industry, Abdul Wahab has been deeply involved in shaping the sector. He is currently the Regional Chairman (South) for the Council for Leather Exports and has been a member of its Committee of Administration for more than a decade. His leadership and industry knowledge are

expected to strengthen LWG's mission of driving environmental best practices within leather manufacturing.

Abdul Wahab's appointment marks a new chapter for the group as he replaces Thomas Gregor of ECCO

Leather, who has served on the Board for the past four years. LWG acknowledged Gregor's dedicated service and the impact of his work during his tenure.



"Thomas has been an outstanding representative, and his contribution has been invaluable in advancing the work of LWG".

Tariff Hike Puts 75000 Jobs at Risk in Tamil Nadu Leather Industry

The recent tariff hike by the United States is threatening the momentum of India's leather industry, putting thousands of jobs and exports in jeopardy.

The Indian leather industry reported exports worth \$4.69 billion in FY 2023-24 which equals about INR 35,782 crore. Among these exports, the United States alone accounted for \$980 million nearly 20.90% of the total, making it one of the biggest markets for Indian leather.

According to The New Indian Express, the impact could be severe in Tamil Nadu, where nearly 75,000 jobs in the leather sector are now at risk.

The state is a major hub for leather, footwear and leather goods exports and many companies are heavily dependent on the US market.

Industry sources say one of the leading leather and non-leather goods manufacturers, which

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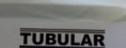
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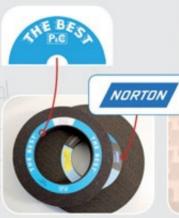




parts & consumables

























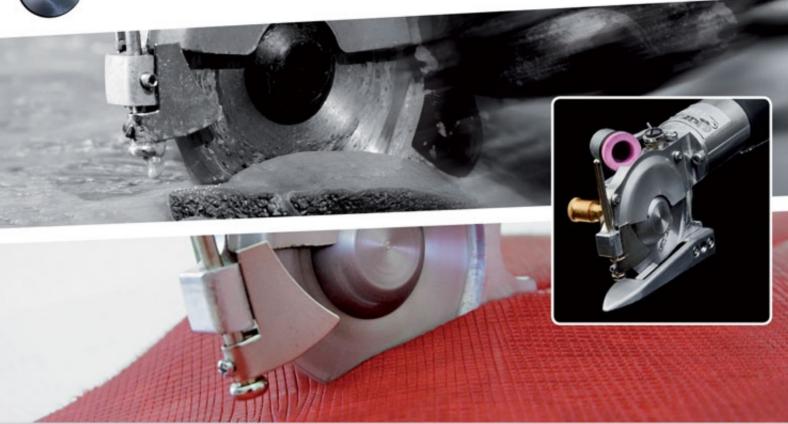








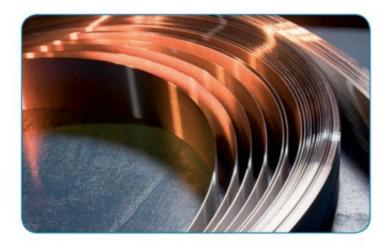
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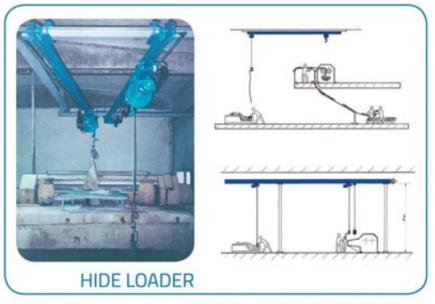
industrial machines











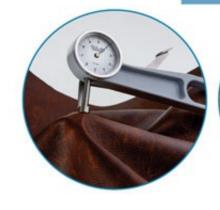
trade and upgrades of machines















relied on the US for over 80% of its business, has already shut down one plant and started job cuts.

On the other hand speaking to The New Indian Express, Malack Abdul Wahab, MD of KH Exports, said.

"The tariff will hit the sector very hard, US buyers are already demanding discounts of up to 20% which they expect exporters to absorb. That is not viable, US brands have put new orders on hold until the dispute is resolved."

Malack Abdul Wahab, MD, KH Exports

The industry fears that if the situation continues, exporters will face mounting pressure, leading to more closures and job losses in one of India's most vital export sectors.

Farida Group Starts Production of New Balance Shoes and to Invest Rs 1200 Crore in New Plant Says Rafeegue Ahmed

Farida Group has started producing New Balance shoes in partnership with Taiwan's CJ Enterprise, bringing the \$6.5 billion US sportswear brand's first exports from India.

Farida group's chairman Rafeeque Ahmed shared that the joint venture, signed about 18 months ago, is rolling out in 3 phases. The 1st stage, is already underway with the production of 2,500 pairs of New Balance shoes.

In the 2nd phase, Farida is building a new 20,000 sq ft facility with 16 manufacturing lines. This expansion, supported by an investment of Rs 200 crore, is set to go live by January.

Once ready, the unit will scale up production to 16,000 pairs of shoes. To strengthen capabilities, 20 supervisors from Farida completed a 3 month technical training program in Vietnam.

Ahmed also revealed plans for a larger project in Tamil Nadu's Tirupattur - Ambur region. The company is in talks with the state government to acquire 120 acres of T land.

With an investment of Rs 1200 crore, the facility will host 40 production lines and is expected to be

operational in 2 years. "The acquisition process is expected to be completed by the year-end," he said to DT Next.

With this large-scale factory, Farida aims to replicate the footwear manufacturing ecosystem seen in Vietnam by combining skilled labor, modern facilities and strong global partnerships.

By the completion of stage 2 itself, the joint venture is expected to boost Farida's exports by Rs 800-1000 crore annually.

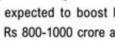
The shoes made through this venture will

serve both domestic and international markets. Exports will cover 16 countries including the US, China and Japan.

This move also marks Farida's entry into the fast-growing sports and synthetic footwear segment after decades of focusing on leather footwear.

The development strengthens Tamil Nadu's position as a global hub for footwear manufacturing and supports India's 'China+1' strategy to attract international brands to shift production.

(Source - leathernews.org.)





agreement for a strategic joint venture signed by Buckman and Atul



Atul Ltd and Buckman Laboratories (Asia) PTE Ltd, a wholly owned subsidiary of Bulab Holdings Inc and a global leader in water treatment, process chemistry and digital solutions headquartered in Memphis (Tennessee, USA) have signed an agreement for a strategic joint venture to manufacture, market and deliver advanced water treatment solutions in India and Sri Lanka.

The JV, which will do business as 'Atul-Buckman', will leverage and combine the widely recognised portfolio of water treatment chemistries, digital solutions and technical expertise of Buckman and strong manufacturing capabilities, market access and distribution strength of Atul in India. Headquartered in India, the JV company will focus on developing and delivering sustainable, innovative and performance-driven solutions for industrial water treatment and process optimisation across key industries including chemical, food processing, power, pulp and paper, textiles, as well as municipal and commercial utilities.



Buckman.

Simac Tanning Tech 2025 with 300 Exhibitors and 9000 Visitors Expected in Milan from September 23 to 25

The Simac Tanning Tech 2025 opens its doors in Milan from September 23 to 25. 2025. The international exhibition is recognized as the leading event for machinery and technology dedicated to footwear, leather goods and tanning industries.

The 2025 edition will feature about 300 brands from around 20 countries and is expected to attract visitors from 90+ nations.

Attendance has been steadily growing with a 5% rise recorded last year compared to 2023. This year organizers are preparing to host over 9,000 professionals across approximately 14,000 square meters of exhibition space.

Exhibitors will showcase machinery for footwear and leather goods factories. tannery equipment, automation software, chemicals, laboratory tools and purification systems. Live machinery demonstrations will allow visitors to see the latest innovations in action.

Held every year in Milan, Simac Tanning Tech takes place alongside Lineapelle.

ensuring a steady flow of international visitors.

The event focuses strongly on innovation with categories covering sustainability, process automation, ergonomics, energy efficiency and quality control.

Beyond technology, the exhibition also offers dedicated spaces for seminars and private meetings, helping companies build valuable international connections. In 2024.

anning

49% of visitors highlighted networking as a key reason to attend.

As the countdown begins, Simac Tanning Tech 2025 is ready to provide industry professionals with first-hand experiences, new business opportunities and insights into the future of leather and footwear manufacturing.

For more information Click to check out Simac Tanning Tech Website

Ethiopia Prepares to Build its Leather Industry Park

Ethiopia is preparing to set up a Leather Industry Park after the government approved a detailed feasibility study, according to the Leather Industry Research and Development Center (LIRDC).

LIRDC CEO Zulfigar Abajihad said the new park will help the country take advantage of its vast leather resources and play a stronger role in economic development.

He noted that the sector has already contributed to foreign exchange earnings, import substitution and job creation, but many challenges still stand in the way of reaching its full potential.

A revised 10-year strategy, launched in 2024, is guiding the reform process. Research has revealed major roadblocks including weak hide supply and quality, industry fragmentation. environmental issues, lack of modern technology and poor coordination.

To overcome these challenges, efforts are underway to modernize animal farming to improve raw material quality and to learn from international

examples in India, Italy and China.

The feasibility study identified Modjo as the best location for the park. The site is expected to improve farmers' livelihoods while supporting the leather industry's longterm growth. Preparations are already in motion with fundraising and the establishment of a temporary office to manage the project.



Zulfigar explained that concentrating leather businesses in one place will allow for a shared waste management system. He also pointed out that research is being conducted to recycle both solid and liquid waste into valuable products, helping to tackle health and environmental risks linked to tanning and processing.

(Source - Ethiopian Herald)



LEATHER AGE ASIA'S

ON LEATHER, FOOTWEAR &
ITS ALLIED INDUSTRIES



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Bata India Invests ₹300 Million to Modernise Batanagar Factory

Bata India is powering ahead in its transformation journey with a ?300 million upgrade to its historic Batanagar factory. aiming to boost manufacturing excellence and global competitiveness.

The investment includes the installation of cutting-edge PUDIP (Polyurethane Direct Injection Process) and IM EVA machines for producing Floatz and Bata Industrial footwear. These advanced systems feature robotic spraying, automated roughening arms, and mould handling processes to enhance product precision, consistency, and efficiency.

"This investment reflects our deep commitment to modernising our manufacturing and leading with quality," said Anjan Kundu, Head - Supply Chain Management, Bata India Ltd. "We are bringing back the glory to Batanagar with innovation and customer focus, setting new benchmarks for the industry."

Bata's Batanagar plant, a landmark in India's shoemaking history since the 1930s. continues to play a vital role in the state's and the country's industrial landscape. The facility adheres to rigorous safety standards while embracing modernisation.

In parallel, Bata India has expanded its retail presence with 130 new stores in the past year-over half in smaller towns-and is rapidly growing its franchise network to democratise access to global styles. Through its Bata Children's Program, the brand also supports underserved communities with education, mentorship, and footwear.

With its renewed focus on quality, sustainability, and innovation, Bata India is redefining heritage footwear manufacturing for the future-boldly aiming to "Shoe the World" from India.

Uttar Pradesh Govt Plans Big Boost for Leather and **Footwear Industry with New Policy**

Uttar Pradesh is gearing up to make major moves in the leather and footwear industry. Chief Minister Yogi Adityanath recently reviewed the draft of the Uttar Pradesh Footwear, Leather and Non-Leather Sector Development Policy 2025.

During a meeting with the MSME Department, he stressed the need to make the policy practical and result-oriented.

He asked officials to focus on a clusterbased development model. This means building industry-specific zones in areas best suited for growth. Uttar Pradesh already has a strong foundation with skilled artisans, abundant raw materials, and big industrial hubs like Kanpur, Agra, and Unnao.

The Chief Minister wants these resources to come together on a single platform that combines production, design, research and training. This, he believes, will draw in large investments.

He also highlighted the need for modern factory spaces, especially flatted factory complexes that provide efficient work environments.

Officials shared that the new policy could create around 22 lakh (2.2 million) jobs in



the coming years. That would be a big step in turning Uttar Pradesh into a global center for leather and footwear manufacturing.

India is currently the second-largest producer and consumer in the global leather and footwear market. And Uttar Pradesh plays a big part in that. Kanpur and Unnao together host over 200 tanneries. Agra is known as the 'Footwear Capital' of India.

The Chief Minister made it clear that the policy should not just support main manufacturing units. It should also give incentives to component makers like those producing soles, laces, heels, threads, buckles, and labels. Even machinery manufacturers for leather and non-leather shoes should be included.

He said that such an approach would build a full design-to-delivery setup within the state. And to ensure high quality and competitiveness, he stressed the need for strong efforts in training, packaging, and marketing.

To push for private industrial parks, he recommended offering capital subsidies, stamp duty relief and help with electricity and logistics. He also called for a single-window approval system and a fully digital platform for applying and tracking incentives.

(Source -Hindustan Times)

ANALYSIS - EXPORT PERFORMANCE OF LEATHER, LEATHER PRODUCTS AND FOOTWEAR **DURING APRIL-JUNE 2025-26 VIS-À-VIS APRIL-JUNE 2024-25**

As per officially notified DGCI&S monthly export data, the export of Leather, Leather products and Footwear for the period April-June 2025-26 touched US\$ 1203.57 million as against the performance of US\$ 1152.27 million in April-June 2024-25, recording a positive growth of 4.45%. In rupee terms, the export touched ₹ 102966.34 million in April-June 2025-26 as against ₹ 96130.34 million in April-June 2024-25, registering a positive growth of 7.11%.

EXPORT OF LEATHER, LEATHER PRODUCTS & FOOTWEAR FROM INDIA DURING April-June 2025-26 VIS-A-VIS April-June 2024-25

(Value in Million ₹)

CATEGORY	APRIL - JUNE 2024 - 25	APRIL - JUNE 2025 - 26	% VARIATION	% SHARE IN 2025 - 26
FINISHED LEATHER	10044.87	8790.57	-12.49%	10.45%
LEATHER FOOTWEAR	40317.99	43221.87	7.20%	41.94%
FOOTWEAR COMPONENTS	5160.75	6220.68	20.54%	5.37%
LEATHER GARMENTS	6579.95	7591.52	15.37%	6.84%
LEATHER GOODS	25794.13	27257.6	5.67%	26.83%
SADDLERY AND HARNESS	3772.82	4789.19	26.94%	3.92%
NON-LEATHER FOOTWEAR	4459.83	5094.91	14.24%	4.64%
TOTAL	96130.34	102966.34	7.11%	100.00%

(Source: DGCI & S) (Value in Million US\$)

CATEGORY	APRIL - JUNE 2024 - 25	APRIL - JUNE 2025 - 26	% Variation	% SHARE IN 2025 - 26
FINISHED LEATHER	120.41	102.8	-14.63%	10.45%
LEATHER FOOTWEAR	483.26	505.16	4.53%	41.94%
FOOTWEAR COMPONENTS	61.86	72.73	17.57%	5.37%
LEATHER GARMENTS	78.87	88.71	12.48%	6.84%
LEATHER GOODS	309.19	318.63	3.05%	26.83%
SADDLERY AND HARNESS	45.22	55.98	23.79%	3.92%
NON-LEATHER FOOTWEAR	53.46	59.56	11.41%	4.64%
TOTAL	1152.27	1203.57	4.45%	100.00%

(Source: DGCI & S)

MONTH WISE EXPORT OF LEATHER, LEATHER PRODUCTS & FOOTWEAR DURING APRIL-JUNE 2025-26

 $\Pi\Pi$ (Export Value in Million US\$)

PRODUCT	APRIL	MAY	JUNE	TOTAL
PRODUCT			100000000000000000000000000000000000000	The second of th
	2025	2025	2025	APRIL - JUNE 2025
FINISHED LEATHER	34.81	39.91	28.08	102.8
LEATHER FOOTWEAR	145.05	172.84	187.27	505.16
FOOTWEAR COMPONENTS	22.04	27.58	23.11	72.73
LEATHER GARMENTS	21.28	30.77	36.66	88.71
LEATHER GOODS	91.98	115.12	111.53	318.63
SADDLERY AND HARNESS	16.81	19.42	19.75	55.98
NON-LEATHER FOOTWEAR	20.48	20.56	18.52	59.56
TOTAL	352.45	426.24	24.92	1203.57

(Source: DGCI & S)

> Footwear (Leather Footwear, Footwear Components & Non-Leather Footwear) holds the major share of 52.96% in the total export of leather and leather products with an export value of US \$ 637.45 Mn.

ANALYSIS - COUNTRY WISE EXPORT PERFORMANCE OF LEATHER, LEATHER PRODUCTS & FOOTWEAR FROM INDIA DURING APRIL - JUNE 2025-26 VIS-A-VIS APRIL - JUNE 2024-25

Value in Million US\$

	EXP	ORT		Shara in	Shara in
COUNTRY	APR - JUN 2024 - 25	APR - JUN 2025 - 26	% Change 2025 - 26	total export APR - JUN 2024 - 25	total export APR - JUN 2025 - 25
U.S.A.	240.35	259.47	7.96%	20.86%	21.56%
GERMANY	130.21	136.93	5.16%	11.30%	11.38%
U.K.	105.68	108.65	2.81%	9.17%	9.03%
ITALY	79.89	81.71	2.28%	6.93%	6.79%
FRANCE	55.86	61.94	10.88%	4.85%	5.15%
SPAIN	50.15	55.91	11.49%	4.35%	4.65%
U.A.E.	25.75	32.09	24.62%	2.23%	2.67%
NETHERLANDS	43.02	69.90	62.48%	3.73%	5.81%
HONG KONG	16.09	9.73	-39.53%	1.40%	0.81%
CHINA	35.85	21.82	-39.14%	3.11%	1.81%
POLAND	24.93	23.91	-4.09%	2.16%	1.99%
BELGIUM	38.14	19.52	-48.82%	3.31%	1.62%
SOMALIA	7.24	7.78	7.46%	0.63%	0.65%
VIETNAM	23.22	21.42	-7.75%	2.02%	1.78%
AUSTRALIA	16.12	18.16	12.66%	1.40%	1.51%
PORTUGAL	13.10	17.19	31.22%	1.14%	1.43%
DENMARK	12.47	15.71	25.98%	1.08%	1.31%
KOREA REP.	11.04	9.63	-12.77%	0.96%	0.80%
JAPAN	15.31	16.82	9.86%	1.33%	1.40%
RUSSIA	14.21	18.84	32.58%	1.23%	1.57%
S. AFRICA	6.75	8.20	21.48%	0.59%	0.68%
CHILE	8.68	10.94	26.04%	0.75%	0.91%
MALAYSIA	8.67	7.44	-14.19%	0.75%	0.62%
AUSTRIA	8.79	11.31	28.67%	0.76%	0.94%
CANADA	14.45	12.84	-11.14%	1.25%	1.07%
SWEDEN	6.03	6.08	0.83%	0.52%	0.51%
NIGERIA	1.74	3.03	74.14%	0.15%	0.25%
INDONESIA	7.72	8.97	16.19%	0.67%	0.75%
MEXICO	11.61	8.03	-30.84%	1.01%	0.67%
SAUDI ARABIA	8.43	8.97	6.41%	0.73%	0.75%
KENYA	1.78	1.81	1.69%	0.15%	0.15%
SWITZERLAND	4.16	3.64	-12.50%	0.36%	0.30%
SLOVAK REP	2.91	0.38	-86.94%	0.25%	0.03%
HUNGARY	5.49	6.64	20.95%	0.48%	0.55%
THAILAND	4.31	5.01	16.24%	0.37%	0.42%
BANGLADESH	6.08	4.56	-25.00%	0.53%	0.38%
FINLAND	2.59	2.21	-14.67%	0.22%	0.18%
TURKEY	5.56	5.84	5.04%	0.48%	0.49%

Value in Million US\$

COUNTRY	EXPORT			Shara in	Shara in
	APR - JUN 2024 - 25			total export APR - JUN 2024 - 25	total export APR - JUN 2025 - 25
ISRAEL	3.93	3.53	-10.18%	0.34%	0.29%
CAMBODIA	3.56	2.06	-42.13%	0.31%	0.17%
CZECH REPUBLIC	2.58	5.44	110.85%	0.22%	0.45%
GREECE	2.15	2.09	-2.79%	0.19%	0.17%
NEW ZEALAND	1.73	1.48	-14.45%	0.15%	0.12%
OMAN	1.46	1.45	-0.68%	0.13%	0.12%
SRI LANKA DES	2.75	2.76	0.36%	0.24%	0.23%
SINGAPORE	3.57	2.81	-21.29%	0.31%	0.23%
SUDAN	0.06	0.04	-33.33%	0.01%	0.00%
TAIWAN	1.57	0.97	-38.22%	0.14%	0.08%
NORWAY	3.78	4.77	26.19%	0.33%	0.40%
DJIBOUTI	0.73	0.59	-19.18%	0.06%	0.05%
OTHERS	50.02	52.55	5.06%	4.34%	4.37%
TOTAL	1152.27	1203.57	4.45%	100.00%	100.00%

(Source: DGCI & S)

The **Top 15 countries** together account about **78.72%** of India's total leather & leather products export during April 2025 with export value of **US \$ 947.46 Million**.

Piyush Goyal Meets Leather and Footwear Exporters to Discuss US Tariff Impact and Growth Strategies

Commerce and Industry Minister Piyush Goyal met with key exporters from the leather and footwear sector in New Delhi on Monday, August 4. The urgent meeting came in the wake of new US tariffs that are starting to affect India's export-driven industries.

This was one in a series of meetings held by the Minister with exporters from various sectors that are considered labour-intensive and likely to be hit hard. These include agriculture, textiles, seafood, food processing and even some high-value sectors such as engineering goods, metallurgical coke and steel.



Piyush Goyal, Minister of Commerce and Industry, Government of India

During the meeting, leather and footwear exporters expressed their concerns and asked the government for help to deal with the rising challenges caused by the US tariffs.

"Held a meeting with stakeholders from the Leather & Footwear sector to discuss strategies for accelerating growth and unlocking greater export potential. Received valuable insights on our target to spur innovation, value addition and enhance global competitiveness."

According to CNBC-TV18, the industry is asking for a 5% duty credit scrip or some form of incentives to balance out the higher US import duties.

Exporters also requested interest subvention to help them manage their costs as they face growing global trade uncertainties.

Exporters further appealed for short-term relief for goods that are already prepared for shipment and called on Indian officials to urge the US to exempt leather and footwear items from the new tariffs.

Industry data shows that nearly half of India's total leather and footwear exports in FY25 were sent to the United States. In just the first quarter of FY26, this trend has continued, which is why exporters believe quick action is needed.

(Source - CNBC-TV18)

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