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Sustainable Textile and Regulatory Compliance Guide

Sustainability is no longer a marketing headline; it is a compliance requirement sitting at the centre of the purchasing decision and the audit. This guide brings together, on a single page, what a supplier needs to be ready for — from certified transparency to EU regulations and measured resource metrics.

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When a European brand's sourcing team evaluates a supplier today, it no longer looks only at price, lead time and quality; it asks about the origin of the fibre, the chemical list, the water and carbon data, and whether these can be independently verified. The reason is clear: regulatory pressure has shifted from voluntary commitment to mandatory reporting. A series of regulations — from textile waste to the digital product passport, from chemical restrictions to greenwashing audits — has turned unprovable claims into a risk in the supply chain. This pillar guide outlines the four axes for putting sustainability on a measurable and auditable footing, and directs readers who want to go deeper on each axis to the relevant articles. For a more comprehensive view, you can also take a look at our approach to sustainability. Contents Certified transparency Chemical management and ZDHC Readiness for EU regulations Water, energy and carbon Summary and resources Certified transparency A sustainability claim is only as valuable as it is verifiable by a third party. A declaration of organic or recycled content collapses under audit when it is not backed by a traceable document chain at every link of the production chain. That is why recognised standards have become a shared verification language for brands: each has a different scope, and together they form a holistic picture. StandardWhat it verifiesWho it serves GOTSOrganic fibre content + environmental and social criteria, end to endBrands carrying an organic collection claim OCSThe presence and proportion of organic content (content tracking)Those wanting to document organic cotton proportion GRSRecycled content + chemical, environmental and social criteriaThose using recycled polyester/cotton RCSThe presence and chain of recycled content (content tracking)Products declaring a recycling proportion BCIMore sustainable cotton farming practicesBrands improving their cotton supply chain KARCEM is certified under GOTS, OCS, GRS, RCS, BCI and UPMADE®; this means organic and recycled content is independently verified and remains traceable from fibre to finished fabric. We cover how traceability is documented in practice and how recycled content feeds into the carbon account in the GOTS/RCS and carbon article. You can see the full scope of current certifications on the certifications page. Do not confuse a content claim (OCS/RCS) with a process certification (GOTS/GRS): the former only tracks the presence and proportion of the fibre, while the latter also covers the environmental and social criteria of the production process. Auditors ask about this distinction. Chemical management and ZDHC Dyeing and finishing (textile finishing) is the stage where a textile facility's environmental impact concentrates; the choice of chemicals used directly determines both worker health and the quality of the discharged water. For this reason, chemical management is one of the first topics a brand asks about in a supplier audit today. The industry's common reference is the MRSL of the ZDHC (Zero Discharge of Hazardous Chemicals) initiative (Manufacturing Restricted Substances List): an approach that bans hazardous substances at source in the production input rather than in the finished product. **Input control:** Chemicals are screened for ZDHC MRSL compliance before they enter the facility; this means keeping the problematic substance out from the start rather than searching for it at the end of the process. **Automated dosing:** Automated chemical dosing on the dyeing line ensures recipe repeatability and prevents overuse; this benefits both colour consistency and the chemical load. **Discharge monitoring:** Process water is continuously monitored and recovered; the ultimate goal is a zero liquid discharge (ZLD) roadmap. KARCEM runs its chemical management on a ZDHC MRSL-compliant basis. We explain step by step how this framework is documented during the audit process and which evidence is requested in the ZDHC compliance article. Readiness for EU regulations For brands selling — or planning to sell — into the European market, the regulatory ground is tightening rapidly. At the centre is the ESPR (Ecodesign for Sustainable Products Regulation), which extends ecodesign requirements to sustainable products; textiles are one of this regulation's priority product groups. Understanding early what ESPR will introduce determines which data a supplier needs to start collecting today. **Durability and circularity:** A product's lifespan, reparability, recyclability and recycled content proportion are becoming design criteria. **Digital Product Passport (DPP):** A product's composition, origin and

environmental data will be gathered in a machine-readable record; this turns the traceable certificate chain into a requirement. **Green claim scrutiny:** Unprovable "sustainable" or "eco" statements become open to sanction under anti-greenwashing rules; every claim must have a measurable basis. We detail the practical timeline of these topics and which data a supplier needs to keep ready for the DPP in the EU Ecodesign and ESPR article. KARCEM's vertically integrated structure is an advantage in this preparation: since every link from fibre to finished fabric is in a single facility, the data that will feed the passport can be collected from a single source and in a consistent manner. Guides in this pillar How to Prepare for the EU Ecodesign (ESPR) Directives in Fabric Supply? How are ESPR, the Digital Product Passport and traceability reshaping textile supply? The data brands will request from suppliers and how to prepare. GOTS and RCS Certified Production: How We Cut Our Carbon Footprint GOTS verifies organic content, RCS verifies recycled content. KARCEM lowers its carbon footprint through vertical integration, 82% water recovery and… ZDHC Compliance: Why a New Global Standard for Textile Chemicals? What are ZDHC and MRSL, and why does managing input chemicals matter more than controlling output? We explain what it means for brands and auditors,… DPP-Ready Supplier: The Data Your Supplier Must Provide You for the DPP The data fields you should request from your supplier for the EU Digital Product Passport (DPP): fibre composition, origin, ZDHC/MRSL compliance,… REACH/SVHC and OEKO-TEX STANDARD 100: EU Chemical Compliance How do the REACH regulation, the SVHC candidate list and OEKO-TEX STANDARD 100 connect? The ZDHC/MRSL relationship, evidence documents for the buyer… CBAM, EPR and CSDDD: 2027+ EU Supply Chain Obligations How do CBAM border carbon, EPR textile waste responsibility and CSDDD due diligence obligations affect the supplier? The phased 2027+ timeline and… Low-Water and Sustainable Dyeing Technology A guide to sustainable dyeing approaches through low liquor ratio dyeing, water and energy savings, wastewater management (ZDHC/ZLD) and process… Scope 3 and Carbon Footprint: Providing Production-Stage Data The Scope 1/2/3 split in textiles, production-stage energy, water and chemical data, LCA/PEF logic and the supplier's contribution to brand carbon… The specific thresholds and dates of regulations such as ESPR are clarified through implementing legislation and may change. This guide gives the general framework; for binding obligations, rely on the current official text. Water, energy and carbon Certification and regulation frame the declaration; the real impact, however, shows up in the resource data measured at the facility. What separates sustainability from marketing is that these figures are reportable and auditable. KARCEM's verified current metrics make concrete where resource use stands at the production stage. AxisCurrent statusWhy it matters Water82% process water recoveryKeeping water — dyeing's most intensive resource — in the loop reduces discharge and consumption. WastewaterZLD (zero liquid discharge) roadmapThe goal is to bring discharged liquid waste down to zero; a natural extension of recovery. Energy35% renewable energy shareDirectly lowers the carbon intensity of production; affects scope-2 emissions. ChemicalZDHC MRSL-compliant managementLimits the load of hazardous substances reaching water and workers at source. These metrics are measured values, not target declarations; being reportable makes them usable in an audit. Indicators such as water recovery and reactive dyeing efficiency are concrete inputs to the per-product environmental impact calculation. For broader context and the current table, you can look at the sustainability page. Summary and resources In sustainable textiles, compliance is built on four axes: certified and traceable transparency, chemical management controlled at source, advance readiness for EU regulations, and measured water-energy-carbon data. These four axes feed one another; when one cannot be proven, the value of the others also drops under audit. To go deeper into the topic: GOTS/RCS and carbon — the certificate chain and how recycled content is reflected in the carbon account. ZDHC compliance — documenting MRSL-based chemical management in the audit. EU Ecodesign and ESPR — readiness for the digital product passport and circularity requirements. For technical terms you encounter for the first time, you can refer

to the Glossary. If you would like to add this guide to your audit file, download the PDF version. With KARCEM KARCEM is a vertically integrated structure that brings knitting, dyeing, printing and finishing under one roof; this means sustainability data is collected from a single source, consistently and traceably, from fibre to finished fabric. Our GOTS, OCS, GRS, RCS, BCI and UPMADE® certifications, our ZDHC MRSL-compliant chemical management, and our measured metrics such as 82% water recovery and 35% renewable energy provide the provable foundation that global brands and auditors expect. We make colour consistency concrete with a ΔE<1 target and production with a sample → approval → production flow. To clarify your collection's sustainability and compliance requirements, send us your sample and quote request; let our team guide you so you start with the right specification.