

ENVIRONMENTAL PRODUCT DECLARATION FOR LAMMHULTS PRODUCTS

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| Solid wood and veneer | <p>FSC and PEFC forestry certification has not been fully adopted in the forestry industry. According to our suppliers it can be difficult to get hold of timber / raw product from FSC and PEFC certified forestry. Of course, to the extent that it is available we use timber and forestry raw materials from FSC and PEFC certified forestry.</p> <p>Timber and forestry raw materials from rain forest areas or from illegal felling are not used in LAMMHULTS products.</p> |
| Wood-based stationery: | <p>Stationery used in our products is not chlorine bleached.</p> <p>Most of the stationery we use in our products is Eco-marked according to information from our sub suppliers.</p> <p>Formaldehyde emissions from wood-based components used in our products fulfil E1 standard ENV 717-1 (max 0.13 mg formaldehyde/m³ air).</p> |
| Metal: | <p>Low alloy steel is used in our products. All scrap metal from our manufacturing is recycled.</p> |
| Plastic: | <p>Plastic materials included in our products are recyclable or combustible for energy extraction.</p> |
| Adhesives: | <p>Upholstery stuffing adhesives. The majority of the glue we use is water-based glue Aqua Spray 2145. It contains no preservatives.</p> <p>For gluing veneer, plywood and solid wood we use Dynorit L-103. Hardener H-152, Hardener H-163. It contains no solvents or preservatives.</p> <p>For metal to wood gluing we use 2 Pack adhesive PUR whose hardener 1806 contains MDI prepolymer isocyanate. There is no alternative adapted to environmental health that corresponds to the requirement in our area of use. (We follow developments in the market continually in our search for replacement products with lower environmental impact).</p> |
| Textile clothing materials: | <p><i>The customer chooses the textile.</i> LAMMHULTS standard fabrics are not treated with flame-proofing agents.</p> |
| Leather clothing materials: | <p><i>The customer chooses the leather.</i> We supply vegetable-tanned leather according to customer requirements.</p> |
| Polyester fabric: | <p>PVC coated polyester fabric. Applies only to the bar stool Millibar. There is currently no other material that meets both our requirements and those of our customers regarding durability. We are always looking for environmentally suitable replacement material.</p> |

- Stuffing material:** Our stuffing material contains no brominated flame-proofing agents. CFC (Freon) expansion agents are not used in the manufacture of stuffing materials; we use instead steam as a leavening agent.
- Surface treatment - clear varnish:** *The customer chooses the varnish.*
Water based or acid hardened.
- Table tops use UV filler, VK 450 as base coat.
It contains no solvents or preservatives.
- Water-based varnish contains the preservative MTI, methyl trimethylene Isothiazolin, 0.0001 %.
Acid-hardened varnish contains spirit-based solvents, glycols and ethylene glycols, esters and aliphatic hydrocarbons.
- Surface treatment - stain:** *The customer chooses the stain.*
Water based or acid hardened.
- Water-based stain uses the preservative BIT 1,2-benzisothiazol - 3(2H)-one.
Acid-hardened stain contains spirit-based solvents.
Spirits = glycols and ethylene glycols, esters and aliphatic hydrocarbons.
- Formaldehyde emissions from varnish and stains used in our products fulfil E1 standard ENV 717-1 (max 0.13 mg formaldehyde /m³ air).
- Surface treatment - metals:** *The customer chooses surface treatment. LAMMHULTS products are powder coated as standard.*
Powder coatings contain no solvents.
LAMMHULTS has replaced all paints containing TGIC hardener, which means that those paints we do use have no known environmental or health risks.
Powder paint waste is sent for recycling.
- Chromium plating:** The chromium plating process fulfils Nordic Swan eco-label standards for furniture. Applies to the majority of LAMMHULTS products. For other products not covered by this, see below.
- Nickel plating: 99.5 % Ni - 0.5 % Carbon.
Chromium plating: 99.8 % Metallic Cr.
- Chromium plating is performed by our sub suppliers who have a permit to pursue this type of business. They are checked regularly by inspecting authorities and deliver annual environment reports to the Swedish Environment and Health Protection Administration.
- Dangerous waste is transported by, and handed to, approved companies for destruction according to current legislation and regulations.
- Dangerous waste is treated by SAKAB in a purification plant where metals are precipitated out leaving hydroxide and carbonate sludge for disposal at approved sites.
- If for some reason chromium plated parts must be scrapped, they are handed in for recycling. Chromium plated parts are recycled such that chromium and nickel are smelted together with the metal to form an alloy with the metal.

**Comparison chrome or varnish
Env. impact, service life:**

The environmental impact of different sanitary fitting surface treatments have been compared in a life cycle analysis where different environmental effects were compared according to the methods EPS and ECO indicator 95. Results give a clear indication that longer service life provides lower total impact.

This means that:

A powder coated sanitary fitting (10 year service life) has a bigger environmental impact according to EPS and ECO indicator 95, than a chromium plated fitting (15 year service life) if usage is more than ten years.

The environmental impact is of the same magnitude for powder coated sanitary fittings as for chromium plated fittings, according to EPS and ECO indicator 95, if usage is shorter than 10 years.

Surface treatment forms a small part of a sanitary fitting's total environmental impact. The powder coating process has a lower environmental impact than the chromium plating process.

A chromium plated product has a technical service life of 20 - 30 years. The less often a product is replaced, the smaller the environmental impact.

Source: IVF Swedish Institute for Metals Research.

No allergy risk:

Leaching tests in synthetic sweat have shown that extremely small amounts of nickel (**far below declared limits**) leached out from test samples with an intact chromium layer above the nickel. Nickel is an element. Chromium in chromium plating is in metallic form. Metallic chrome is not an allergen.

Source: IVF Swedish Institute for Metals Research.

The type of products plated are not covered by EU Directive 76/769 EEC regarding the sale of products intended for prolonged contact with the skin.

Our products, which are surface treated according to current standards, cannot cause allergies according to SP report 9425/1275.

No cancer risk:

There is no risk of cancer associated with the use of chromium plated parts.

Source: IVF Swedish Institute for Metals Research.

Remarks:

The service life analysis was performed on sanitary fittings. Because the surface treatment process and the content of the layers are identical, the service life analysis is fully comparable with LAMMHULTS products in the case of surface treatment.

Cleaning agents: (degreasing)

The degreasing of items for powder coating takes place in a sealed process. The phosphating chemical Duridine 3994 contains no chlorinated and halogenated organic solvents.

The alkaline water-based degreasing agent Pro-Clean 82, which is self separating and which is completely free from solvents, is used for manual degreasing.

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| Welding: | <p>LAMMHULTS welding equipment is highly efficient. (Welding is performed using MIG/TIG equipment). The gas contains a high concentration of argon</p> |
| Mechanical processes Drilling. Grinding. Turning: | <p>Lubrication and coolant emulsion. LAMMHULTS observes The Swedish Chemicals Agency prioritization guide PRIO and its Limitation List.</p> |
| Env. suited transport modes: | <p>In order to avoid unnecessary transport, our production engineers are in regular contact with our suppliers to ensure that promised delivery times will be kept. Transport planning is carried out every day.</p> <p>Our production engineers and drivers coordinate deliveries to and from suppliers, and to customers, so that we always run full trucks wherever possible, thus avoiding empty return trips. If changes occur during the day after a truck has left, we contact the driver and the truck is diverted whenever this is feasible.</p> <p>LAMMHULTS places demands on the external hauliers we hire in that they must adapt their business environmentally to cause the least possible environmental impact. Our hauliers optimize their transport through high utilization levels and they are certified according to SS-EN ISO 14001 Standards.</p> <p>We regularly replace our own vehicles with more eco-friendly alternatives. We drive in an eco-friendly manner. We rely on authorized workshops that use environmentally-suited products and take care of waste according to current legislation and regulations. We use eco-friendly tyres and fuels.</p> |
| Packaging: | <p>LAMMHULTS is a member of REPA - the Swedish Paper and Plastic private industry recycling initiative for plastics, cardboard, corrugated cardboard and packaging paper. Such packing material is recyclable, (the fibres in corrugated cardboard can be recycled 6 or 7 times).</p> <p>We use a minimum of packaging materials. If we were to further reduce our packaging there would be a risk of our products being damaged when they reach our customers. This would involve an additional burden on the environment in the form of new manufacture and unnecessary transport. To a certain degree, LAMMHULTS delivers products without packaging.</p> |
| Re-use and recycling: | <p>Our products are designed and manufactured to be used for a long time by many people. When a product is in need of any kind of renovation, we do this at LAMMHULTS.</p> <p>Our products are designed so that materials included can be separated for materials recovery or energy extraction.</p> |
| Environmental goals: | <p>LAMMHULTS will continually improve its business according to the company's established environmental objectives.</p> |

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| Environmental aspects analysis: | When we design new products, an environmental aspects analysis and risk evaluation is carried out at the product development stage in order to eliminate, as far as possible, materials and chemicals that affect health and the environment. |
| Environmental product declaration: | Environmental Product Declarations and Materials Specifications have been made for all products since 1998. An Environmental Product Declaration contains specific information regarding incorporated components and information about which environmentally classified materials and substances that will have an impact of the environment are included in the product. |
| Product choice principle: | In accordance with the Swedish Environmental Code's general rules of consideration, chapter 2 para.6 we follow developments in the market continually in order to phase out, as far as possible, chemicals and materials injurious to health and the environment. |
| Sub suppliers: | LAMMHULTS places demands on all its sub suppliers such that they must pursue environmental issues proactively, follow developments in the market and establish a documented environmental policy. An assessment is carried out on our suppliers using an environmental issues questionnaire as supporting documentation. |
| Reportable substances: | LAMMHULTS is a company with a duty to report certain substances, and it holds a permit for their use. |
| Self inspection programme Annual report: | <p>For all processes such as paint spraying and release volumes, there is an established Self-Inspection Program that includes among other things keeping a journal and performing visual inspections using company personnel. Inspections are regularly carried out by the inspecting authority.</p> <p>A report is sent annually to the inspecting authority in accordance with the Swedish Environmental Code.</p> <p>Inspections are carried out every four years by an external inspector in accordance with the Self-Inspection Program.</p> |
| Certification: | LAMMHULTS was certified in 1998 according to SS-EN ISO 14001 environmental management system standards, which require our being inspected regularly by an external auditor. |
| General: | <p>LAMMHULTS observes the Swedish Chemicals Agency prioritization guide PRIO and its Limitation List.</p> <p>LAMMHULTS is updated in accordance with the REACH chemicals ordinance.</p> |