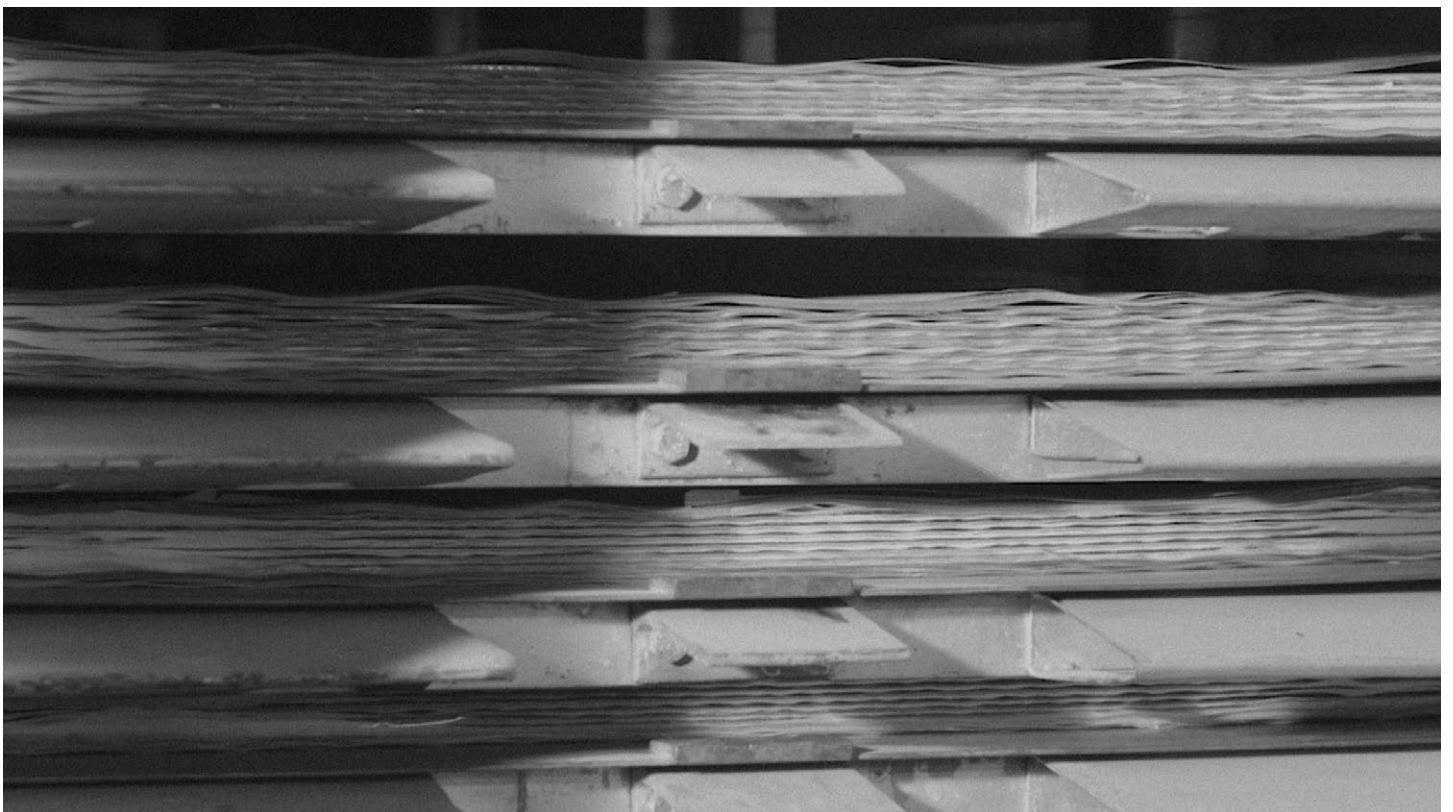


**SURFORMA<sup>®</sup>**

Shaping Spaces

# Technical Information



## 01 General Information

Decorative laminates are an excellent material for indoor and outdoor surfaces. They can be used either applied to suitable substrates or as self-supporting compact sheets. Decorative laminates meet the stringent requirements for hygiene, surface resistance, humidity resistance and mechanical properties.

Decorative laminates are available in a variety of colours, patterns and surface textures, providing extensive options for architects and designers. Decorative laminate surfaces are hard and resistant to wear, impact and scratching, making them long lasting, easy to clean and largely resistant to vandalism.

In addition to their physical properties, decorative laminates offer other benefits including quick and easy installation of compact laminate panels, and in renovation applications using dry construction methods, elimination of the need to remove existing wall coverings such as wallpaper, textile coverings, or ceramic tiles.

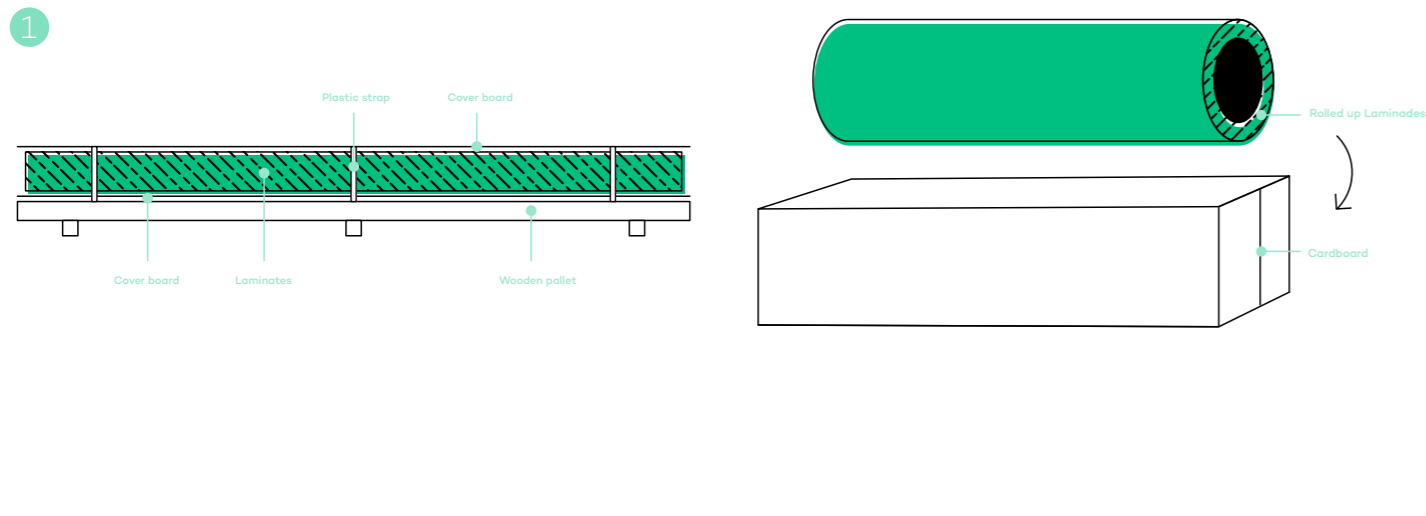
Decorative laminates are composed of paper layers which are impregnated with thermosetting resins and fused together under elevated temperature and high pressure. The laminate structure contains a number of core paper layers typically impregnated with phenolic resin, with the number varying depending on the laminate thickness, and a surface layer typically consisting of a decorative paper impregnated with melamine resin. Printed decorative paper may also include a clear overlay paper to enhance abrasion resistance.

## 02 Transport

Laminates are generally transported on pallets (1). The pallet is suitable for the long-term storage of the laminates.

Cardboard packaging (2) is used for minimum quantities and for deliveries via courier service.

We recommend unpacking the laminates after delivery and storing them according to section 3.1. Optimal conditions for the further processing of the laminates are only guaranteed under these circumstances.



## 03 Storage and handling

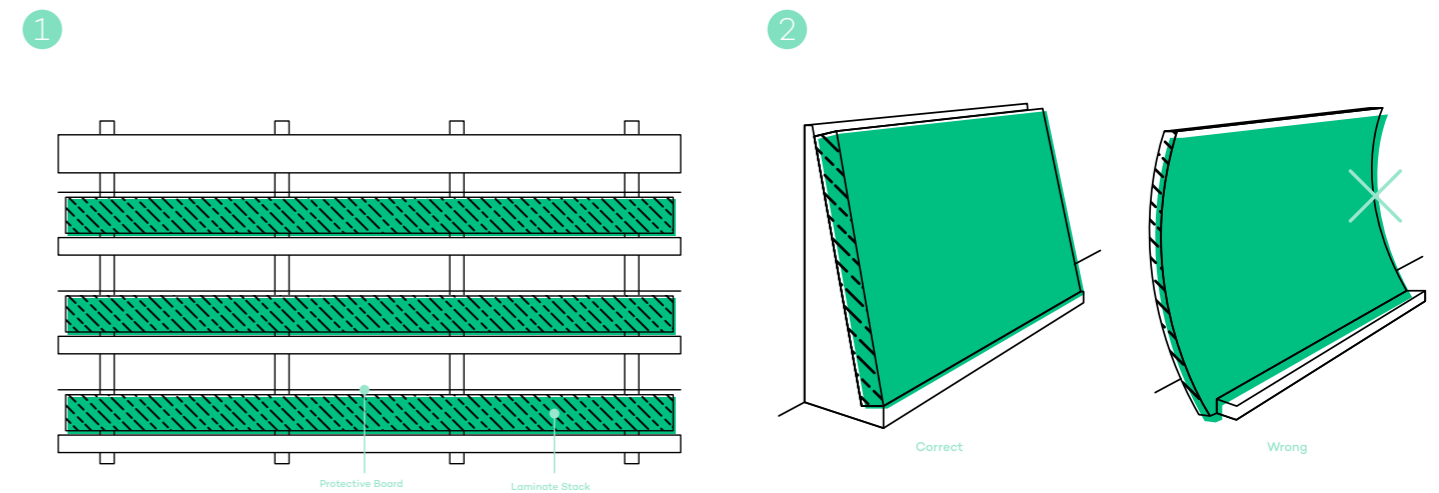
### 3.1 Storage

Decorative laminates should be stored so they are protected from moisture, humidity and direct sunlight.

The sheets should be placed flat on a suitable horizontal (1) surface (e.g. on a pallet with a backing plate). The stack should be held down with a heavy protective cover plate. If decorative laminates are supplied in film packaging, the film packaging should be re-closed and the cover plate replaced immediately after removing any sheets.

If horizontal storage is not feasible, it is recommended that the material be stored at angle of approx. 80° with support over the entire area as well as a counterweight on the ground to prevent sliding (2).

Decorative laminates should always be kept in an enclosed dry store together with corresponding substrate materials, backing boards and adhesives, at a temperature of not less than 18°C (65°F) and 45 to 50 percent relative humidity.



## 3.2 Handling

When handling or moving decorative laminates it is important that the sheets be lifted above adjacent sheets to avoid damage that can occur if the sheets are pulled or slid against each other.

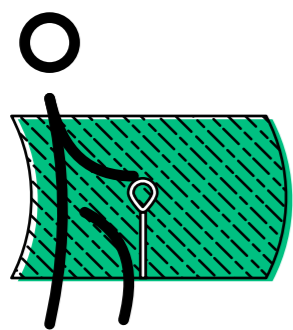
For larger sizes (2) it is recommended that sheets be carried arched along the longitudinal axis to prevent sagging.

Individual sheets (1) can also be rolled up for easier handling (roll with the decorative side to the inside,

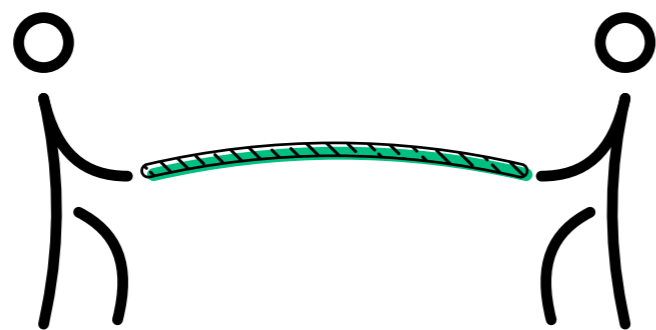
making sure to avoid any side-to-side sliding motions). The metallic and Ultra Smooth laminates should be transported and stored flat, they should not be rolled as this may induce a permanent bend.

When moving stacked sheets with transport vehicles, large and sturdy pallets should be used, with the stacked sheets secured to prevent sliding.

1



2



## 04 Conditioning

Decorative laminates are an excellent material. When materials are brought into a workshop from temperatures or humidity levels different from ambient (e.g. after delivery), they should be allowed to stabilise before fabrication.

Decorative laminates, substrates and if possible also the adhesives, should be conditioned simultaneously for at least 3 days before processing in order to obtain similar moisture content for both materials. Pre-conditioning ensures that the effects of differential movement, caused by the materials' reaction to changes in relative humidity, are minimized.

The laminates sheets that will form the opposite faces of the same composite board are best conditioned as a pair, with their sanded backs together. Sheets paired in this manner should be stacked, covered, and left for a minimum period of three days in order to reach moisture equilibrium.

Materials which are processed when too wet tend to shrink over time, which in turn can lead to cracking and warping. Materials which are too dry are more difficult to process and may expand over time, possibly leading to warping.

Acceptable moisture content of the materials can be achieved at environmental conditions of 18 – 25°C (65 – 77°F) and 50 – 65 % relative humidity.

The environmental conditions during subsequent use by the customer must be taken into account when planning and designing composite components.

If the finished composite component will be exposed to continuous low relative humidity during future use, it is recommended that the decorative laminate and substrate be pre-conditioned at a correspondingly low humidity prior to processing in order to reduce shrinkage stress. Bonding must be carried out immediately after conditioning and provision made to maintain conditioning while the finished product is transported to the installation site.

For questions about bonding and for new applications, please contact the technical field service of the adhesives manufacturer.

