

High Pressure Laminate (HPL) in sheets, obtained through a high-pressure pressing process of a decorative paper, impregnated with melamine resin, and multiple backing layers of kraft paper impregnated with thermosetting resins. Intended for use as covering surfaces for interior fittings in furniture, construction and transport. HPLs are supplied with a single decorative side and backside treated by sanding, in order to promote fixing by gluing.

The following types are available (definitions according to EN438-1 standard):

- **VGS** (*Vertical, General purpose/moderate use, Standard grade*), recommended for vertical applications
- **VGP** (*Vertical, General purpose/moderate use, Postforming grade*), postformable, recommended for horizontal applications
- **HGS** (*Horizontal, General purpose/moderate use, Standard grade*), recommended for horizontal applications
- **HGP** (*Horizontal, General purpose/moderate use, Postforming grade*), postformable, recommended for horizontal applications



TECHNICAL CHARACTERISTICS^a

TYPE		VGS	VGP	HGS	HGP
SIZE AND THICKNESS [mm]		0,8x1300x3050 0,9 ^b x2040x2760	0,6x1300x3050	0,8x1300x3050 0,9 ^b x2040x2760	0,6x1300x3050
THICKNESS TOLLERANCE	EN 438-3 EN 438-2/5	≤1,0mm: ±0,10mm >1,0mm: ±0,15mm	±0,10 mm	≤1,0mm: ±0,10mm >1,0mm: ±0,15mm	±0,10 mm
LENGTH and WIDTH TOLLERANCE	EN 438-3 EN 438-2/6	+ 10 mm / - 0 mm	+ 10 mm / - 0 mm	+ 10 mm / - 0 mm	+ 10 mm / - 0 mm
RESISTANCE TO SURFACE WEAR	EN 438-3 EN 438-2/10	IP ≥ 50 revolutions	IP ≥ 50 revolutions	IP ≥ 150 revolutions	IP ≥ 150 revolutions
RESISTANCE TO WATER STEAM	EN 438-3 EN 438-8 EN 438-2/14	Rating ≥ 4 ^c	Rating ≥ 4 ^c	Rating ≥ 4 ^c	Rating ≥ 4 ^c
RESISTANCE TO DRY HEAT	EN 438-3 EN 438-2/16	Rating ≥ 4	Rating ≥ 4	Rating ≥ 4	Rating ≥ 4
DIMENSIONAL STABILITY TO ELEVATED TEMPERATURE (and humidity)	EN 438-3 EN 438-2/17	≤ 0,75 % longitudinal direction ≤ 1,25 % transverse direction	≤ 0,75 % longitudinal direction ≤ 1,25 % transverse direction	≤ 0,55 % longitudinal direction ≤ 1,05 % transverse direction	≤ 0,55 % longitudinal direction ≤ 1,05 % transverse direction
RESISTANCE TO SCRATCHING	EN 438-3 EN 438-2/25	Rating ≥ 1 Smooth textures Rating ≥ 2 Structured textures	Rating ≥ 1 Smooth textures Rating ≥ 2 Structured textures	Rating ≥ 2 Smooth textures Rating ≥ 3 Structured textures	Rating ≥ 2 Smooth textures Rating ≥ 3 Structured textures
RESISTANCE TO STAINING	EN 438-3 EN 438-2/26	Rating ≥ 5 Groups 1 and 2 Rating ≥ 4 Group 3	Rating ≥ 5 Groups 1 and 2 Rating ≥ 4 Group 3	Rating ≥ 5 Groups 1 and 2 Rating ≥ 4 Group 3	Rating ≥ 5 Groups 1 and 2 Rating ≥ 4 Group 3
LIGHT FASTNESS (XENON ARC)	EN 438-3 EN 438-2/27	Rating ≥ 4 grey scale	Rating ≥ 4 grey scale	Rating ≥ 4 grey scale	Rating ≥ 4 grey scale
FORMABILITY (METHOD A)	EN 438-3 EN 438-2/31	-	R ^d ≥ 10 x t ^f R ^e ≥ 20 x t ^f	-	R ^d ≥ 10 x t ^f R ^e ≥ 20 x t ^f

CLEAF HIGH PRESSURE LAMINATE

TYPE		VGS	VGP	HGS	HGP
RESISTANCE TO BLISTERING (METHOD A)	EN 438-3 EN 438-2/33	≥ 15"	≥ 10"	≥ 15"	≥ 10"
FORMALDEHYDE RELEASE	EN 438-7	Wood-based substrate covering with HPL does not change its classification in terms of formaldehyde release. Consequently, the classification of the substrate is transferred to the covered composite panel			

- Values reported herein are related to a standard product configuration. For customized products please contact our sales office
- For Cheope texture, 1,5 mm nominal thickness
- For the requirements of decors with metallised or pearlescent inks, EN438-8 (instead of EN438-3) applies, which establishes Rating ≥ 3 for water steam resistance
- Forming radius in bending axis parallel to fibres direction (parallel to sanding direction) testing condition
- Forming radius in bending axis perpendicular to fibres direction testing condition
- Nominal thickness in mm



ON REQUEST

- VGS, VGP, HGS, HGP, VGF, HGF HPL with claim FSC® Mix Credit ICILA-COC-000343
- FLAME RETARDANT HPL
B-s1, d0 UNI EN 13501-1: 2009.
 - VGF** (*Vertical, General purpose/moderate use, Flame retardant grade*), recommended for vertical applications
 - HGF** (*Horizontal, General purpose/moderate use, Flame retardant grade*), recommended for horizontal applications

Non postformable product, even for 0,6 mm thickness.
The product glued onto non-combustible substrate meets the fire reaction class B-s1, d0 UNI EN 13501-1: 2009.
The reaction to fire performance of the finished product in which the laminate is used must be certified according to the law.
- CLEAF MARINE LAMINATE
Marine Equipment Directive (MED) 2014/90/EU, Implementing Regulation (EU) 2024/1975
 - VGF** (*Vertical, General purpose/moderate use, Flame retardant grade*), recommended for vertical applications
 - HGF** (*Horizontal, General purpose/moderate use, Flame retardant grade*), recommended for horizontal applications

Non postformable product, even for 0,6 mm thickness.



STORAGE, HANDLING AND PROCESSING

Keep the products in a ventilated and dry environment, not exposed to direct sunlight.
Avoid making excessively high or unstable stacks.
Machinery and processing equipment should feature suitable dust extraction systems.
Before glueing the product to a substrate, condition both materials to the climate of processing.

CLEAF HIGH PRESSURE LAMINATE



RECOMMENDATIONS FOR USE

Colour and gloss match

Slight differences in colour and/or gloss may occur in the same product between different production runs due to raw material tolerances. Components used next to each other should therefore be checked for colour and gloss consistency. In some cases, the texture and colour of the laminate may differ from the matching panel and/or edge band due to differences in production technology or presence of overlay. Please request samples for personal evaluation before placing your first order.

Textures with geometric designs

Only for Cheope, Jiometori, Paglia, Riga, Tolda, Traccia, Sbalzo, Doga textures:

In case of textures with distinctly geometric designs, for the best aesthetic result it is recommended to take advantage of the squaring machining step to compensate for any angular deflection between the texture and the long side of the HPL covered panel, preferably choosing single panel machining, instead of multiple stacks. Although this deflection is inherent to the centring systems the presses are normally equipped with, Cleaf is committed to keeping its value within 2 mm/m.

When combining laminate aesthetics to panel aesthetics, for these textures it is recommended to consider a possible difference in the pitch of the designs, as the laminate undergoes a shrinkage during cooling that does not apply to the panel.

There is a family of items (further to the above list) that only *appear* to have a distinctly geometric design. In reality, the intention of the aesthetic effect in these cases is the opposite, i.e. to faithfully and realistically recreate even the irregularities inherent to the materials of natural origin or to the craft processes they simulate. For example, the FD05 decor or Nadir and Penelope textures reproduce the weave of a fabric, Mosaico texture reproduces a woven leather patch. The advantage of the design is precisely that it blends perfectly with the appearance of a fabric, where warp and weft can be tensioned to slightly different degrees from stitch to stitch. The requirement for angular deviation obviously does not apply to this group of items.



CLEANING AND MANTAINANCE

For cleaning, use only soft cloths and normal household hygiene products.

It is recommended not to spray products directly onto the surface, as this can cause halos.

In case of no-rinse cleaning agents, apply the detergent to a soft cloth and wipe the surface. In case of cleaning agents to be rinsed off, apply the detergent to a damp soft cloth, then clean, rinse with water to remove any residue, and finally wipe the surface with a soft cloth to avoid possible deposits of limescale from water.

Avoid using abrasive products and sponges, including melamine sponges (magic sponge), bleach or strongly chlorinated products, strong acids or bases. The use of cleaning products or sponges with an abrasive effect can lead to long-term polishing and loss of the product inherent resistance characteristics.

For further details see the instruction datasheet *Melamine Cleaning Instructions*.

Some faced surfaces are supplied protected with a special film. The film must be removed immediately after processing and, in any case, within 1 year after delivery to ensure the absence of any residue.

This technical data sheet has been drawn up in accordance with the current state of our knowledge and technical characteristics of the materials, however it is for informational purposes only and does not in any case represent a kind of guarantee even regarding the suitability for specific applications or regarding the properties of the products. This sheet is mainly based on the practical experience of our technicians as well as on internally conducted tests and therefore does not constitute incontrovertible scientific proof. Cleaf SPA therefore assumes no responsibility for any technical and/or application errors, inaccuracy in the application of standards or regulations or even misprints. Finally, we point out that this sheet may be outdated due to technical changes because of the continuous development of Cleaf SPA products, as well as changes in scientific and technical standards or on the base of the introduction of new regulations applicable to the reference industry. In light of the above, the content of the processing instructions can act neither as a manual for the use of the products nor for their applications nor as an element of identification of the object of the legally binding contract between the parties.