

## LAMCO HPL TUTTOCOLORE (BTS)

Material coloured on the surface and in the whole thickness, consisting of decorative surface layers and a core of cellulosic fibrous layers impregnated with aminoplastic thermosetting resins; all bonded together by means of high pressure ( $\geq 7\text{MPa}$ ) and heat ( $\geq 120^\circ\text{C}$ ). This material is produced in conformity to EN 438-9.

PROPERTY	TEST METHOD (EN 438-2: 2016)	PROPERTY OR ATTRIBUTE	UNIT	VALUE
<b>Thickness</b>	EN 438-2.5	thickness (t)	mm	S = 1,0 $\pm 0,15$ 1,0 < S < 2,0 $\pm 0,18$
<b>Flatness</b>	EN 438-2.9	maximum deviation	mm/mtl	100,0
<b>Resistance to surface wear</b>	EN 438-2.10	wear resistance	rev	IP $\geq 150$ A $\geq 350$
<b>Resistance to immersion in boiling water<sup>(1)</sup></b>	EN 438-2.12	appearance gloss finish appearance other finishes	rating	$\geq 3$ $\geq 4$
<b>Resistance to water vapour</b>	EN 438-2.14	appearance gloss finish appearance other finishes	rating	$\geq 3$ $\geq 4$
<b>Resistance to dry heat (180°C)</b>	EN 438-2.16	appearance gloss finish appearance other finishes	rating	$\geq 3$ $\geq 4$
<b>Dimensional stability at elevated temperature</b>	EN 438-2.17	cumulative dimensional change	% L=longitud. T=transv.	L $\leq 0,80$ T $\leq 1,40$
<b>Resistance to scratching<sup>(1)</sup></b>	EN 438-2.25	appearance gloss finish appearance other finishes	rating	$\geq 2$ $\geq 3$
<b>Resistance to staining</b>	EN 438-2.26	appearance groups 1-2 appearance group 3	rating	5 $\geq 4$
<b>Laight fastness<sup>(3)</sup></b>	EN 438-2.27	contrast	grey scale rating	surface $\geq 4$ core $\geq 3$
<b>Resistance to cigarette burns</b>	EN 438-2.30	appearance	rating	$\geq 3$
<b>Density</b>	EN ISO 1183-1	density	gr/cm <sup>3</sup>	$\geq 1,40$

(1) The moderate cracks lines run along all the edge of the specimen.

(2) Resistance to scratching is depending from finish and colour.

(3) Extraneous darkening and/or photocromism are due to the shock effect of accelerated exposure and are not characteristics of natural exposure.

N.B. The technology and type of pigments used may be the cause of colour difference to vary the production lot.

Furthermore, the decorative surface in the LAMCO<sup>HPL</sup>-TUTTOCOLORE version, could have a slight different tonality from decorative surface with the same colour code number of the other Lamicolor products. This slight difference is due to the different colouring of the core of the laminate.

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### ADVICE FOR MACHINING AND APPLICATION OF LAMCO<sup>HPL</sup> TUTTOCOLORE

Specific recommendations required for the machining and installation of LAMCO<sup>HPL</sup>TUTTOCOLORE are given below :

**Transport and Storage.** For both standard and cut-to-size panels, LAMCO<sup>HPL</sup>TUTTOCOLORE must be laid on a flat horizontal surface (vertical storage can result in permanent deformation), in a closed and dry room with 40-65% relative humidity and a temperature between 10° and 30° C.

**Cutting.** The cutting of panels should only be carried out with fixed circular saws, accurately adjusting the blade height to avoid chipping the bottom edge of the panel. For optimal results, use a scoring blade together with the cutting blade. The panel should always be cut so that the longest edge follows the longitudinal direction of the fiber. Portable saws and belt saws are not recommended for this operation. The right angle cutting must be absolutely avoided.

**Drilling.** It is recommend that holes be drilled with a diameter approx. 2,0 mm larger than that of the screws. It is very important to ensure that the holes be drilled accurately in terms of both size and quality, so as to avoid the spread of cracks resulting from the holes themselves. There is always a risk that such cracks may arise from a slight dimensional variation of the panels, which can occur following normal changes in ambient temperature and humidity.

**Fretworking.** It is vital to cut rounded edges with great care (minimum 5 mm radius) so as to avoid chipping on both sides of the panel. Bad fretwork or bad internal cuts will inevitably lead to cracking of the material.

**Application.** According to temperature and humidity, LAMCO<sup>HPL</sup>TUTTOCOLORE can shrink or expand, both in longitudinal and transversal directions. We therefore recommend that the LAMCO<sup>HPL</sup>TUTTOCOLORE, together with the support and the baking laminate, should always be left to condition in a room at approx. 20° C temperature and 50 % relative humidity before applying it. In any case due to the sensitivity of this product to dry heat and humidity, we advise not to use it in applications with such characteristics. It is advisable to avoid using LAMCO<sup>HPL</sup>TUTTOCOLORE near lights or any other source of heat which could cause a build up of heat in certain parts of the panel. In cases where a panel has a decor on both sides, it is necessary to provide good air circulation on each side of the panel.

**Balancing.** LAMCO<sup>HPL</sup>TUTTOCOLORE has different physical characteristics from Lamco HPL. We therefore recommend using either the same material on both sides of the composite structure. If using other materials as balancers, including Lamco HPL, it will be necessary to carry out preliminary tests.

**Gluing.** LAMCO<sup>HPL</sup>TUTTOCOLORE can be glued to wood-based cores, such as MDF and chipboard, but it is not recommended for application to mineral based cores or plywood. With regard to glues, we recommend the use of pressure glues and, in particular, vinyl and urea-formaldehyde glues, preferably applied cold. We never recommend the use of neoprene glues when it is necessary to make holes, internal cuts or fretwork, to avoid the possibility of cracks on the panels.

It's very important to spread the glue uniformly and in sufficient quantity on the whole panel's surface.

**Cleaning.** LAMCO<sup>HPL</sup>TUTTOCOLORE can be clean from impurities as powder, grease, alimentary liquids, cosmetics, colours, paints and other similar impurities, by means of common domestic detergents or solvents as water or ethanol. Do not use abrasive or scratching substances. Do not use detergents containing strong acids or acid salts e.g. decalcifiers based on formic or aminosulphatic acid, drain cleansers, hydrochloric acid, silver cleaners, oven cleaners. At the end of cleaning, rinse and dry always with non abrasive cloths.

Moreover, it is necessary to avoid the contact between impurities and LAMCO<sup>HPL</sup>TUTTOCOLORE for a long time.