**Spectra Curved / Spectra Square Edge Technical Data Sheet**

Technical information described within this document is relevant for the composition of the following products:

 Spectra Curved-Edge / Spectra Square-Edge Work Surfaces

 Spectra Curved-Edge / Spectra Square-Edge Breakfast Bars and island units

 Spectra Curved-Edge / Spectra Square-Edge Upstands

 Spectra Curved-Edge / Spectra Square-Edge Splashbacks

These products are not classified as a hazardous substance and therefore they do not require special marking or a description by a safety data sheet.

Technical information is provided for:

1. Description and composition

2. Storage and Transportation

3. Handling and Machining of HPL Elements

4. Environmental and Health Aspects in Use

5. Maintenance

6. HPL Elements in Fire Situations

7. Energy Recovery

8. Waste Disposal

9. Technical Data

10. Care and Cleaning Recommendations

**Note:** this document should be read in conjunction with any care leaflet / booklets provided with the work surface.

**1 Description, composition and uses**



For the purpose of this product data sheet, Spectra Curved / Spectra Square Edge products are defined as composite boards consisting of E1 quality wood-based substrates (chipboards or MDF) faced on one or both sides with HPL, bonded normally with PVAc adhesives. The components must comply with the following standards:

 High pressure laminates (HPL): EN 438

 Wood based substrates: Chipboard: EN 312

 MDF EN 622-5

 Adhesives: EN 204

**1.1 Decorative surfacing material – HPL**

The laminates referred to are melamine surfaced high pressure decorative laminates (HPL), supplied

in sheet form in a variety of sizes, thickness and surface finishes. Laminates basically consist of paper and thermosetting synthetic resin, with paper comprising more than 60% of the product.

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**1.2 Substrate**

Wood based substrates are produced by pressing wood in various forms (fibres, chips or veneers) with thermosetting bonding agents. They comprise a quality with a minimum formaldehyde emission potential (measured according to EN 120), meeting the requirements of national regulations and are therefore officially accepted for indoor use.

**1.3 Adhesive**

Normally the HPL is bonded to the substrate using water based PVAc adhesives forming an inert glue line.

**1.4 Backing Paper**

Backing paper is used to give a barrier protection as well as an aesthetic look.

**Intended Uses / Areas of Application**

Due to their functionality Spectra Curved / Spectra Square Edge Work Surfaces are generally used in kitchens and offices, but also for shop fitting solutions.

**2 Storage and Transportation**

Horizontal, flat storage in enclosed dry areas (approximately 20 °C and between 55 - 65 % relative humidity) to exclude warping or dimensional changes due to climatic conditions.

NOTE: Vertical storage is NOT recommended

To avoid damage during storage, appropriate racking systems should be used.

For transportation, Spectra Curved / Spectra Square Edge Work Surfaces are classified as a non-hazardous product; therefore no labelling is required.

**3 Handling and Machining of HPL Elements**

The usual safety requirements of fabrication and machining should be observed when handling Spectra curved / Spectra Square Edge Worktops, including the correct choice of tooling. Because of the possibility of sharp edges protective gloves should always be worn when handling HPL Elements.

The contact with dust from Spectra Curved / Spectra Square Edge Worktops does not present any special problems, however a small percentage of personnel may be sensitive or even allergic to machining dust in general. Exposure to inhalation of wood dust must be controlled in accordance with limits specified in the national regulations. Work areas should be well ventilated.

**4 Environmental and Health Aspects in Use**

The decorative surfaces of HPL laminated elements are cured and therefore chemically inert. HPL formaldehyde emission level is far below the limit for wood-based materials. Due to their very low permeability, HPL bonded to wood-based substrates act as a barrier against possible formaldehyde emissions coming from the substrates. There is no migration affecting food and, consequently, the HPL surface is approved for contact with foodstuffs.

The decorative surfaces are resistant to common household solvents and chemicals. They have therefore been used for many years in applications where cleanliness and hygiene are important.

The non-porous surface is easy to disinfect with hot water, steam and common types of disinfectants used in hospitals and other commercial facilities.

Spectra Curved / Spectra Square Edge HPL Worktops are an “article” and not a chemical substance and therefore REACH does not apply.

**5 Maintenance**

As HPL surfaces do not suffer from corrosion and oxidation, they do not need any further surface protection (lacquers or paints).

**6 Fire Situations**

As wooden materials are used as substrates Spectra Curved / Spectra Square Edge Laminated Worktops have fire characteristics similar to other wood-based products. For their use as building materials, they must be classified according to national fire performance regulations.

Due to incomplete burning, as with many organic materials, hazardous substances are to be found in the smoke.

In dealing with fires in which Spectra Curved / Spectra Square Edge Laminated Worktops are involved the same firefighting techniques should be employed as with other wood-based building materials.

**7 Energy Recoveries**

On account of their high calorific value (15 - 18 MJ/kg) HPL Elements are ideal for thermal recycling. When burnt completely, they produce water, carbon dioxide and oxides of nitrogen, similar to the burning process of any other organic wood-based materials.

Well controlled burning processes are achieved in modern, officially approved industrial incinerators. Ashes of this process can be brought to controlled waste disposal sites.

**8 Waste Disposal**

HPL Elements can be brought to controlled waste disposal sites according to current national and/or regional regulations.

**9 Environmental certification**

Made from certified wood and controlled sources, suitable for FSC and PEFC certified products.

Wood from controlled sources according to EUTR.

**Board type P2 according to EN 312**

**9.1 Physical/chemical characteristics**

9.1.1

**Mechanical properties Board mean values Unit Board thickness**

**[mm] >6 - 13 >13 - 20 >20 - 25 >25 - 32 >32 - 40**

Density EN 323 [kg/m³] specific to plant

Internal bond EN 319 [N/mm²] 0.40 0.35 0.30 0.25 0.20

Bending strength EN 310 [N/mm²] 11.0 11.0 10.5 9.5 8.5

Bending modulus of elasticity EN 310 [N/mm²] 1800 1600 1500 1350 1200

Surface soundness EN 311 [N/mm²] 0.95

Board moisture\* EN 322 [%] 4 - 13

Formaldehyde emission class(es)\*\* E1

9.1.2

**General tolerances Unit Board thickness**

**[mm] >6 - 13 >13 - 20 >20 - 25 >25 - 32 >32 - 40**

Length and width tolerance EN 324 [mm] ±5.0

Squareness EN 324 [mm/m] <=2.0

Edge straightness tolerance EN 324 [mm/m] <=1.5

Thickness tolerance EN 324 [mm] ±0.3

Tolerance on the mean density EN 323 [%] ±10

9.1.3

**Building physical properties Unit Board thickness**

**[mm] >6 - 13 >13 - 20 >20 - 25 >25 - 32 >32 - 40**

**Fire behaviour category**

In line with EN13986 ( 9mm) D-s2, d0

and density 600 kg/m³

**Water vapour diffusion resistance value**

μ moist μ dry

Mean bulk density 600 kg/m³ 15 50

Mean bulk density 900 kg/m³ 20 50

**Thermal conductivity EN 13986**

Mean bulk density 600 kg/m³ [W/(m\*K)] 0.12

Mean bulk density 900 kg/m³ 0.18

**Air sound insulation EN 13986**

EN 13986 R = 13 x lg(mA) + 14 (mA = board weight

per unit area kg/m²)

**Sound absorption EN 13986**

Frequency range

250 Hz bis 500 Hz 0.1

1000 Hz bis 2000 Hz 0.25

**Biological durability EN 13986**

EN 335-3 Hazard class 1

(without earth contact, dry 20°C / 65%

relative humidity)

**PCP content EN 13986**

EN 13986 [ppm] <5

\* On delivery

\*\* The product complies with the following emission class(es):

E1: According to EN 13986+A1:2015-04 formaldehyde class E1, wood-based panels must not exceed a perforator value according to EN

ISO 12460-5 of 8 mg HCHO/100g oven dry board.

9.1.4

Laminate in the nominal thicknesses 0.60 and 0.80 mm is MED (Marine Equipment Directive) certified. The MED quality, which is confirmed by Lloyd's certificates, enables the use of laminates in shipbuilding.

9.1.5

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| **Property** | **Test standard** | | **Unit or feature** | | **Value** |
| Thickness | EN 438-2 | | mm | | ± 0.10 nominal thickness < 0.80 mm  ± 0.15 nominal thickness > 1.00 mm |
| Length1 and width b | EN 438-2 | | mm | | +10/-0 |
| Flatness a | EN 438-2 | | mm/m (max.) | | 60 |
| Resistance to surface wear | EN 438-2 | | revolutions (min.)  initial point | | 150 |
| Resistance to impact by small diameter ball | EN 438-2 | | N (min) | | depending on nominal thickness:  1.00 - 1.20mm nominal thickness 25  0.60 - 0.80mm nominal thickness 20  0.40mm nominal thickness 15 |
| Resistance to scratching | EN 438-2 | | Rating (min)  smooth finishes  textured finishes | | 2  3 |
| Resistance to water vapour | EN 438-2 | | Rating (min.)  gloss finish  other finishes | | 3  4 |
| Resistance to dry heat (160 °C) | EN 438-2 | | Rating (min.)  gloss finish  other finishes | | 3  4 |
| Dimensional stability at elevated temperatures | EN 438-2 | | % max.  La  Tb | | 0.55  1.05 |
| Resistance to wet heat (100 °C) | EN 438-2 | | Rating (min.)  gloss finish  other finishes | | 3  4 |
| Resistance to staining | EN 438-2 | | Rating (min.)  Groups 1 and 2  Group 3 | | 5  4 |
| Lightfastness [Xenon arc lamp] | EN 438-2 | | Grey scale rating | | 4 to 5 |
| Formability EN 438-2 | | mm  La    Tb | | < 10 x laminate nominal  Thickness  < 20 x laminate nominal | |

thickness

1 = Length tolerance only applies to laminate supplied in sheets, not for rolls

A = Provided that the laminate is stored in the manner and conditions recommended by manufacturer.

b =Tolerances for cut-to-size panels shall be agreed between manufacturer and purchaser.

La = in the longitudinal direction of the fibrous sheet material (normally the direction of the longest dimension of the laminate).

Tb = in the cross-longitudinal direction of the fibrous sheet material (at right angles to direction L).

La = axis of bending parallel to the fibre direction (usually parallel to the direction of sanding).

Tb = axis of bending at right angles to the fibre direction.

**9.2 Stability and reactivity data**

9.2.1 Stability Stable: they are not considered to be reactive or corrosive.

9.2.2 Hazardous reactions None

9.2.3 Material incompatibility Strong acids or alkaline solutions will stain the surface

**9.3 Fire and explosion data**

9.3.1 Ignition temperature Approx. 330 °C

9.3.2 Flash point None

9.3.3. Auto-ignition None

9.3.4 Thermal decomposition Possible above 160 °C. Like wood, toxic gases may be emitted, e.g. carbon monoxide, carbon dioxide, ammonia, depending upon the burning conditions (temperature, amount of oxygen, etc.).

9.3.5 Flammability Not considered to be flammable. They will burn only in a fire situation, in presence of open flames.

9.3.6 Extinguishing media Considered as Class A combustible material. Carbon dioxide, water spray, dry chemical foam can be used to extinguish flames. Water dampens and prevents rekindling. Wear self-breathing apparatus and fire protective clothing.

9.3.7 Explosion hazards Machining, sawing, sanding and routing produce dust. Safety precautions and adequate ventilation must be observed to avoid airborne dust concentration.

9.3.8 Explosion limits Dust levels should be kept below 60 mg/m3

9.3.9 Protection against In the case of fire HPL Elements shall be treated as wood based explosion and fire materials.

**9.4. Electrostatic behaviour** Minimises the generation of charge by contact-separation or rubbing with another material. It does not need to be earthed. HPL surface resistivity is between 109 – 1012 ohms and a chargeability of V < 2 kV according to CEI IEC 61340-4-1 so that HPL are considered as antistatic material.

**9.5 Storage and transport** Classified as non-hazardous for transportation purposes and there are no specific requirements.

**9.6 Machining** Use gloves to protect from sharp edges and safety glasses to prevent eyes injury. No special working equipment is necessary, except protections to minimise dust exposure.

**9.7 Disposal considerations** Waste material should be handled according to local regulations. Burning is permitted in approved industrial incinerators.

**9.8 Health information** Not considered to be dangerous for humans and animals. There is no evidence of toxicological effects and eco-toxicity. HPL surfaces are physiologically safe and approved for use in contact with foodstuffs according to EN 1186.

9.8.1 Working areas General dust regulations are applicable.

9.8.2 Formaldehyde emission < 3,5 mg/h m2 (tested according to EN 717-2) < 0.05 ppm (tested according to EN 717-1 (WKI chamber method).

**10 Care and cleaning recommendations**

Due to their resistant and hygienic, dense surface, Spectra Curved / Spectra Square Edge work surfaces do not require any special form of care. The surfaces are generally easy to clean. As a general rule, dirt and spilled substances such as tea, coffee, wine etc. should be cleaned immediately as the cleaning effort increases if they are left to dry. When necessary, cleaning should be done with non-aggressive agents. Cleaning agents must in particular not contain any abrasive components, as they may adversely affect the gloss level or scratch the surface. Due to everything from light and fresh to severe and stubborn stains being possible in daily uses, which are caused by the most varied substances, correct cleaning is an important matter. The following instructions should be observed in daily use:

 Placing burning cigarettes on the laminate surface leads to surface damage. **Always use an ashtray**.

 Laminate surfaces should not be used as a cutting surface as this can also leave cutting marks on highly resistant laminate surfaces. **Always use a chopping board**.

 Placing hot cooking utensils such as saucepans and frying pans directly from the hob or oven onto the laminate surface should be avoided, as, depending on the heat exposure, a change in the gloss appearance or damage to the surface can arise. **Always use heat resistant mats.**

 Spilled liquids should always be cleaned up immediately, especially in the areas around cut-outs and joints as prolonged exposure to some substances may cause a change in the gloss appearance of the laminate surface.

These recommendations apply especially to matt and gloss laminate surfaces. These have a distinctive look and feel,

but have a greater tendency to show wear and tear.

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All information is based on the current state of technical knowledge, but it does not constitute any form of guarantee.

It is the personal responsibility of the users of the products, described in this information leaflet to comply with the appropriate laws and regulations.