



Lightweight Composite Panels





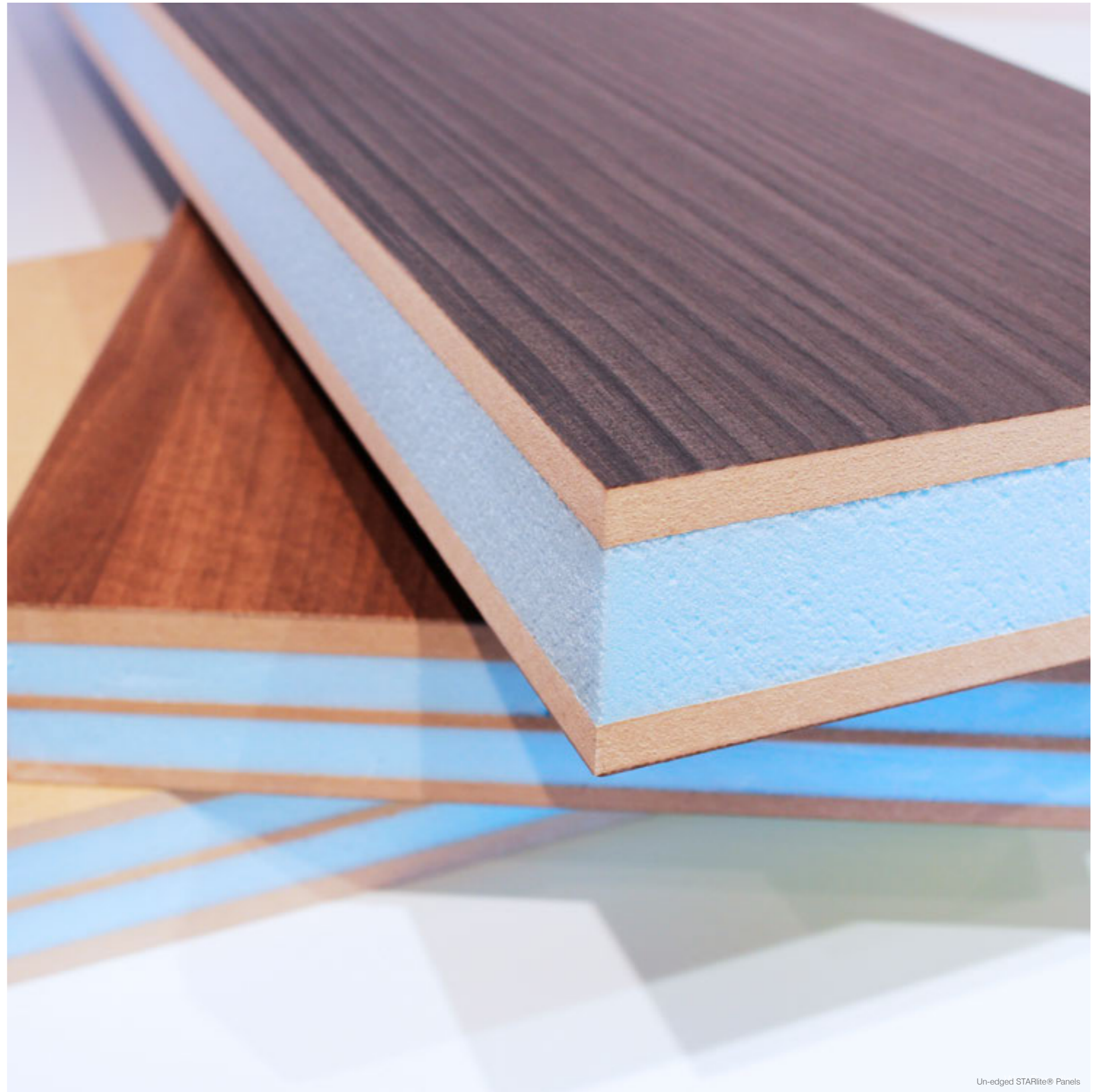
The lightweight
composite panel solution
for interior fit-out.

Please get in touch to arrange a
meeting with one of our team.

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Postformed STARlite® Panel



Demand for contemporary, chunky style furniture and interior fit-out components has become a growing trend seen across almost all of the UK's market sectors.

Traditionally the most common method to achieve the thicker profile was to bond a number of core boards together. Despite the introduction of lightweight panels the finished products can still be heavy, difficult to use with traditional fixings, and sometimes impractical as a finished piece.

Starbank's solution to this problem is the design and development of STARlite®. A lightweight composite board, manufactured using a closed cell foam core, sandwiched between two outer layers of your choice of materials, and finished with a number of decorative surface options. These panels provide all the functionality and aesthetics of traditional materials without the added weight restrictions.

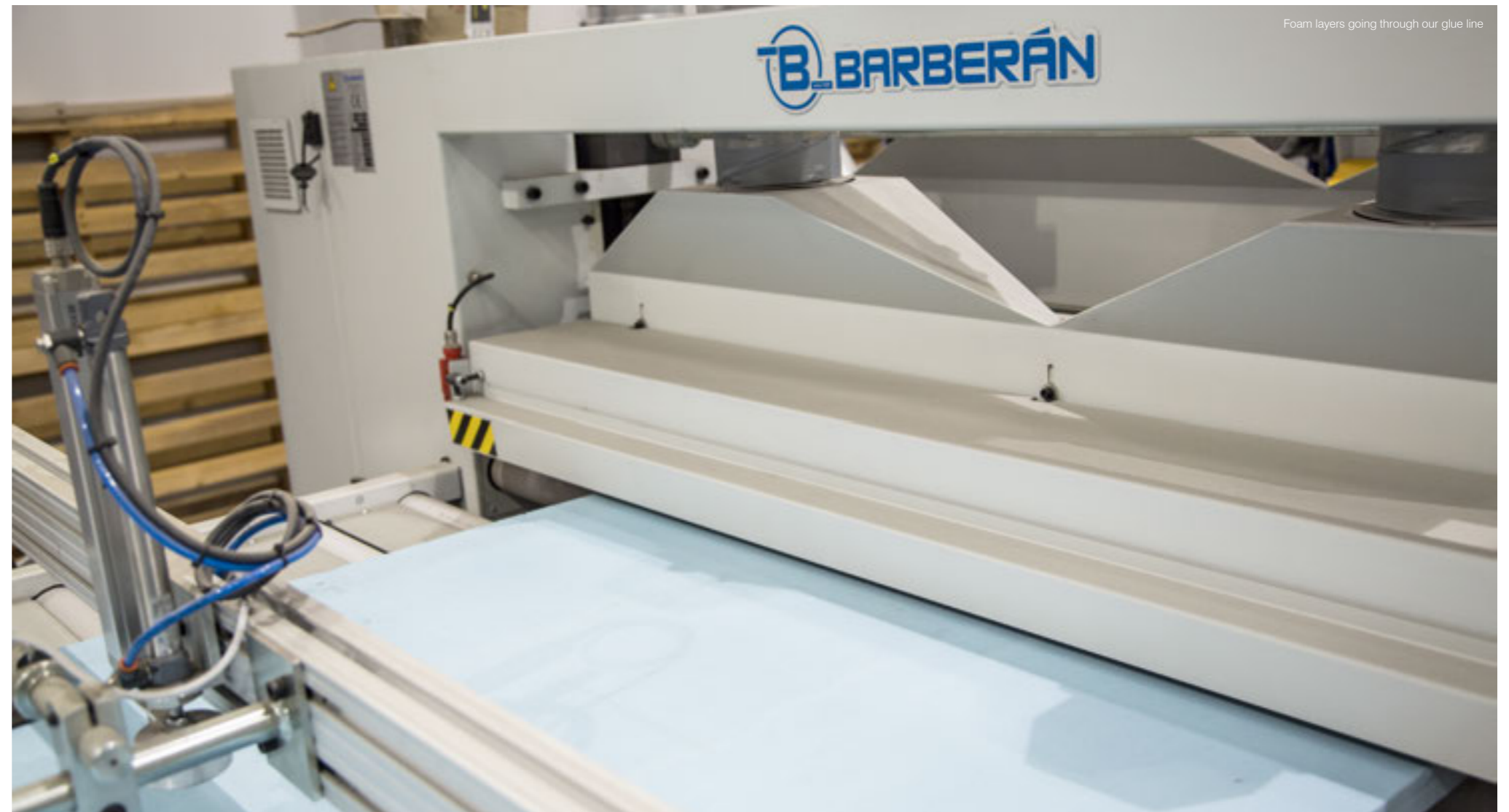
Benefits

The weight savings made by using STARlite® for your interior fit-out projects eases installation and manoeuvrability of the pieces, as the weight per m² is on average 56% less than that of traditional construction methods at the equivalent thickness.

STARlite's bespoke composition means that traditional woodworking fixings can be used to joint panels together. Other lightweight boards of a similar construction have to use specialist chemical fixings increasing the overall cost of the furniture.

Up to 65% lighter*

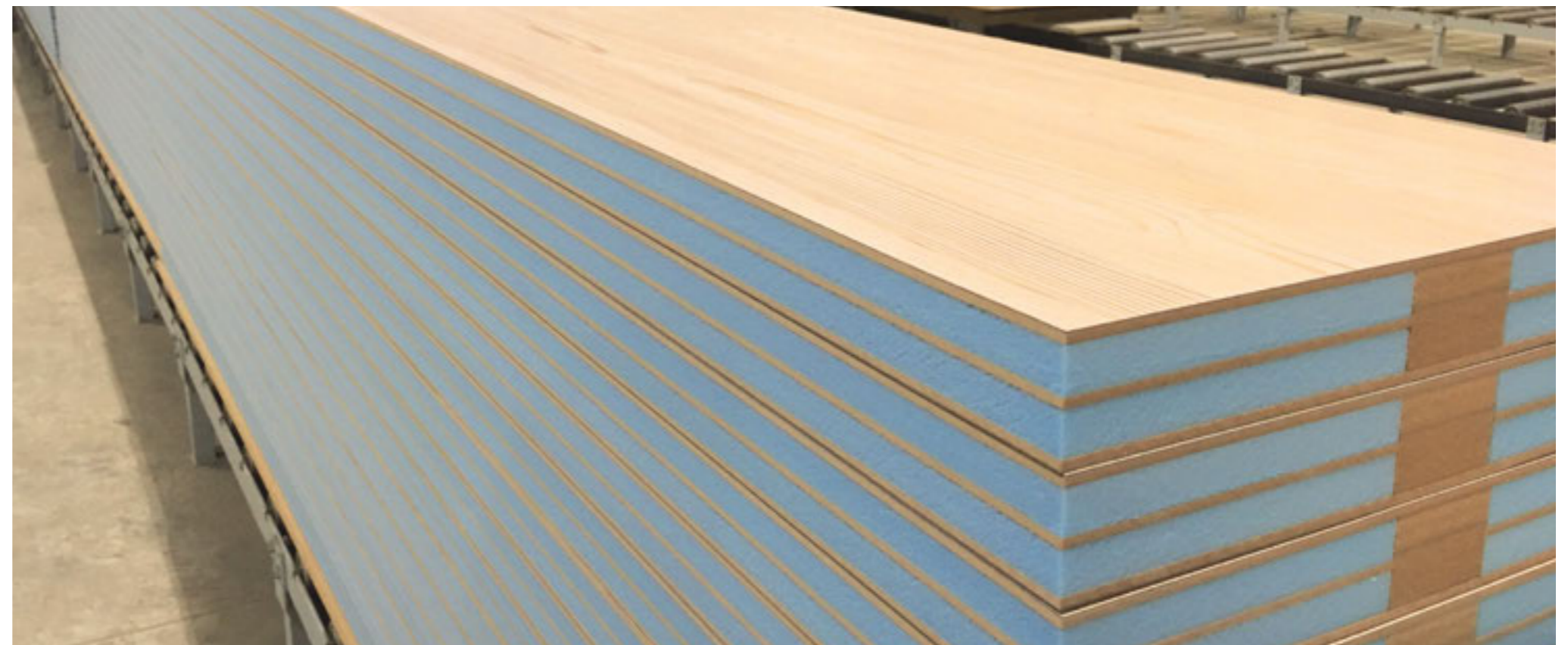
*Compared to a solid chipboard panel of the same thickness



Foam layers going through our glue line



Raw sample with inserts & internal blocking





STARlite® Ceiling Slats



Applications

STARlite® lightweight decorative panels can be utilised for both commercial and contract furniture design, some of which includes:

- Office/ hotel furniture & shelving
- School desks & benches
- Retail point of sale displays
- Internal lightweight doors
- Wall panelling & partitioning
- Table Tops
- Ceiling Slats
- Exhibitions

All our panels are available pre-drilled or cnc processed to ensure installation on-site runs as smoothly as possible.

Features

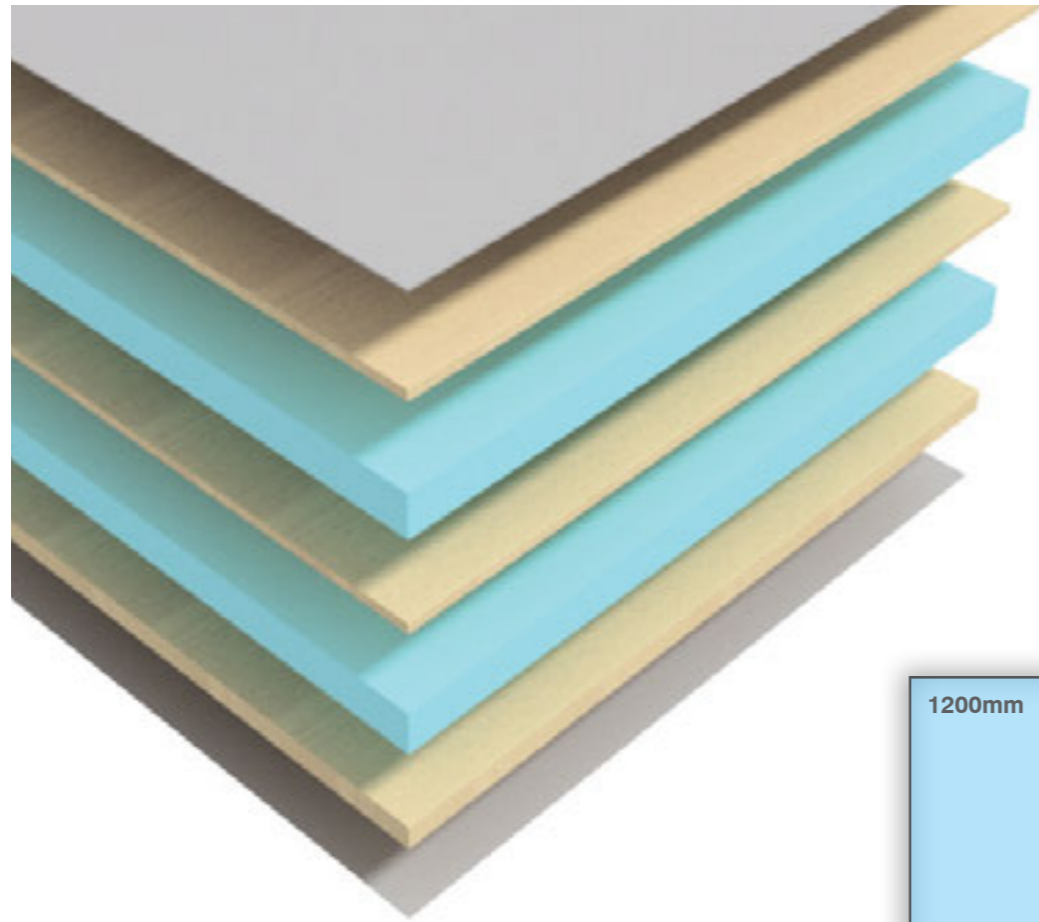
STARlite® panels can be finished in a wide range of face decors from all of the world's leading HPL, CPL and thermoplastic manufacturers, as well as pre-veneered boards.

The most common thicknesses of STARlite panels are 40mm, 50mm and 60mm; however we can produce bespoke thicknesses for individual project requirements. Please speak to one of our sales team to discuss your project.

The components can then be edged, shaped and cnc processed to your exact specification, including inserts ready for assembly.

STARlite has undergone specialist testing at FIRA UK. The test was to measure how a finished STARlite panel performed against FIRA's - Load and Deflection Test. It also included the BS 6222 Part 3 Adhesion Test for the edge banding detail using our PUR Edge adhesive system. The STARlite lightweight panel achieved the highest rating given by FIRA, with results similar to standard MDF and chipboard. Once again proving the quality of products produced by Starbank Panel Products Ltd.



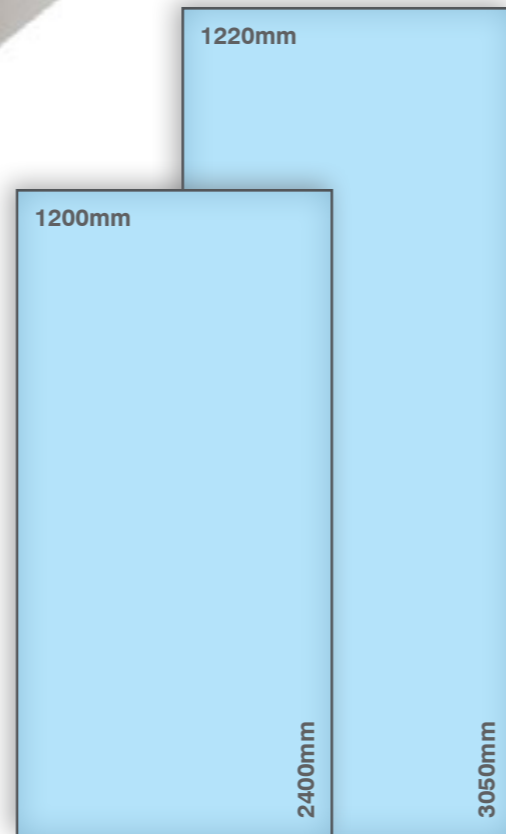


Sheet Sizes

STARlite® foam panels are available in two standard board sizes:

3050 x 1220mm or **2400 x 1200mm***

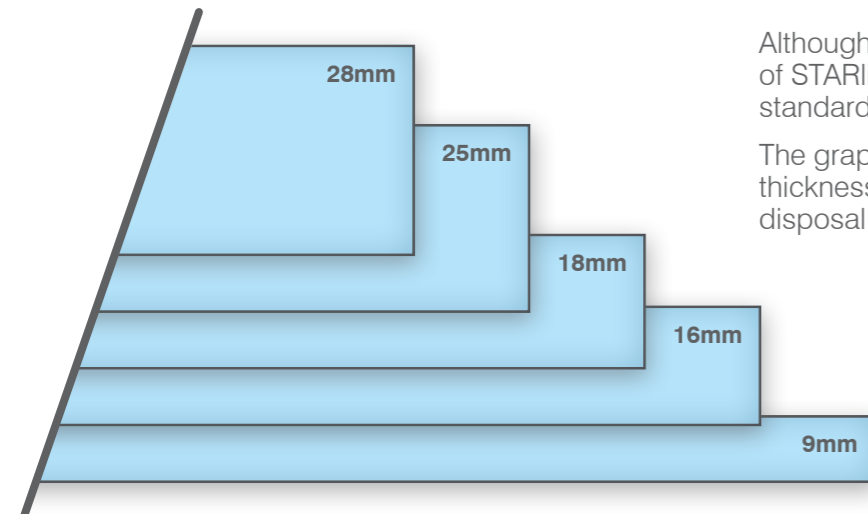
Starbank offer STARlite panels as full size sheets or supplied to you at your specific cut sizes; including the facility to provide the panels edged or cnc processed.



Sheet Thicknesses

Although we can create a bespoke thickness of STARlite panel for your project, we do stock standard foam thicknesses.

The graphic below illustrates the standard thickness of foam cores that we have at our disposal.



Example Compositions

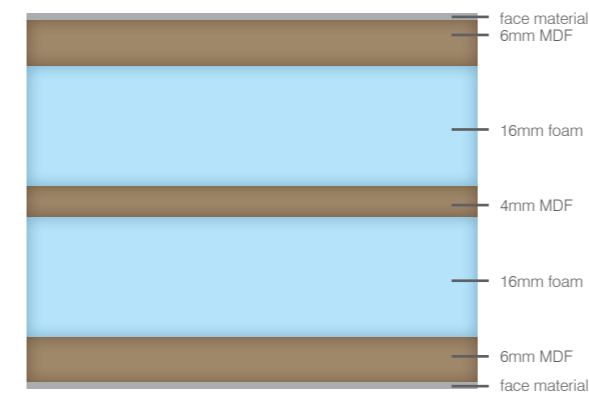
The constructions depicted below are just a small sample of what is achievable with STARlite®.

HPL & CPL Panels

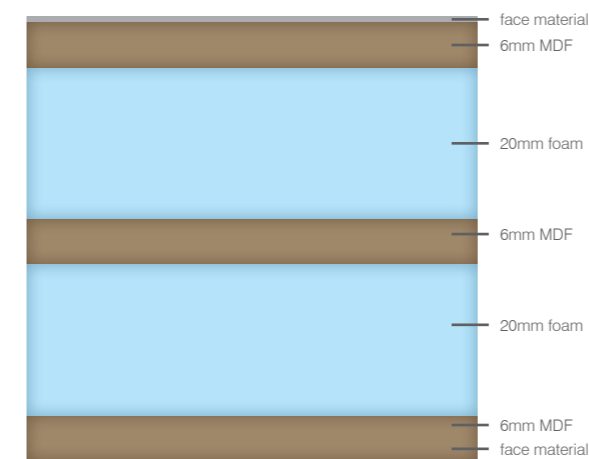
40mm (nominal)
65% lighter* - 8.90 kg/m²
 2440 x 1220 - 26.50 kg
 3050 x 1220 - 33.15 kg



50mm (nominal)
56% lighter* - 14.75 kg/m²
 2440 x 1220 - 43.90 kg
 3050 x 1220 - 54.85 kg

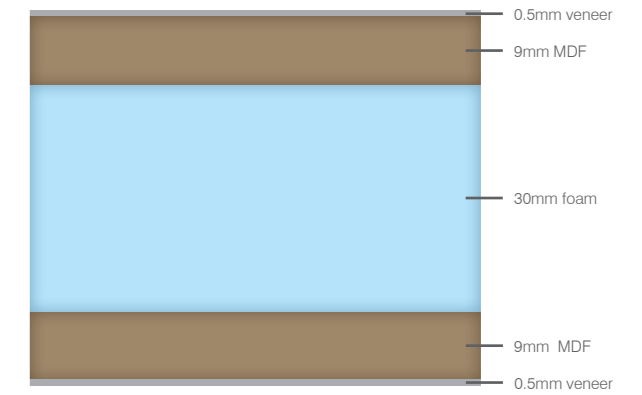


60mm (nominal)
58% lighter* - 16.45 kg/m²
 2440 x 1220 - 48.95 kg
 3050 x 1220 - 61.20 kg

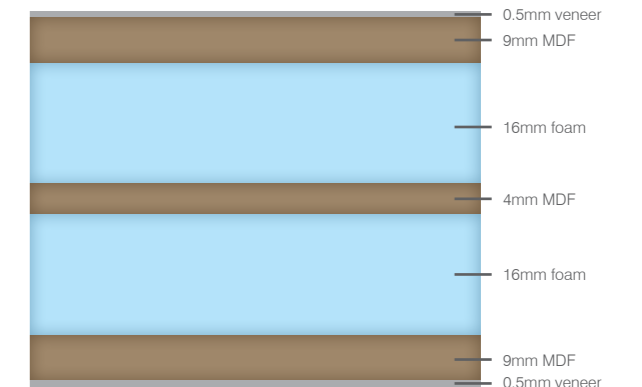


Pre-veneered Panels

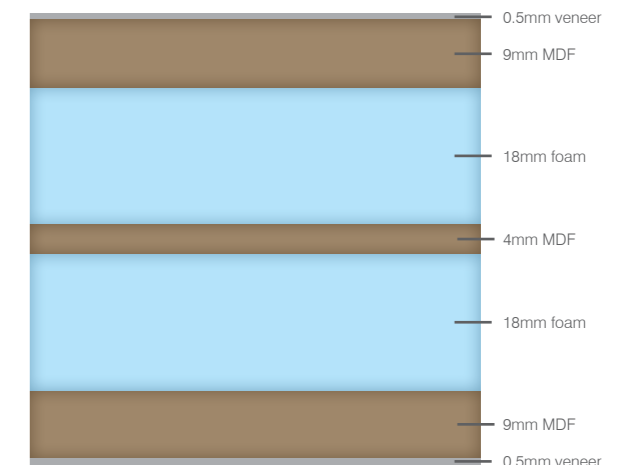
48mm (nominal)
56% lighter* - 13.95 kg/m²
 2440 x 1220 - 41.50 kg
 3050 x 1220 - 52.00 kg



50mm (nominal)
58% lighter* - 12.57 kg/m²
 2440 x 1220 - 37.50 kg
 3050 x 1220 - 46.80 kg



58mm (nominal)
56% lighter* - 17.00 kg/m²
 2440 x 1220 - 50.75 kg
 3050 x 1220 - 63.25 kg



* Percentages relate to the above STARlite compositions when compared to solid MDF at an equivalent thickness. All weights listed are approximations per kg/m².

Face Material Options

HPL & CPL

High pressure and continuous laminates are a tough high impact material, for use in dry medium traffic areas. We work with all major laminate manufacturers and can offer the full spectrum of finishes and textures available.



Example HPL Swatches

Raw Veneer (for finishing by others)

All pre-veneered products are sourced from FSC® and PEFC® certified suppliers. The raw veneer is suitable for environmentally friendly lacquering finishing. (Specific details will depend on the species, please ask our team when quoting for more details).

Thermoplastics

As an example: STARlite® panels can be finished using Kydex® impact abrasion and chemical resistant sheets for added durability.

Notes:

Please speak to our sales representatives for more technical and environmental information on any of the additional surface options available.

*ABS and 3D Acrylic edge banding can be specified as Greenguard certified for indoor air quality.

** Subject to manufacturer data.



Edge Material Options

3D Acrylic*

The edging has been tested in accordance with UL 2821 test method to show compliance to emission limits in UL 28181.

This range of edging offers the most striking designs available with: light, depth and 3D translucency effects. Metallics, woods, stone and even glass like finishes are possible from the most premium of edges to perfectly compliment or contrast with the face materials.

ABS*

ABS edging is one of the most environmentally friendly finishing solutions on the market, as it is both acid free and can be thermally recovered for energy under incineration. The edging has been tested in accordance with UL 2821 test method to show compliance to emission limits in UL 28181.

With the most comprehensive services available within the supply chain - almost any board and laminate can be perfectly matched with ABS - Plain Colours, Super Matt, Gloss, Woodgrains, Metallics and Stones - all with or without interesting textures.

Solid Hardwood (exposed or concealed lipping)

All wood products used are sourced from fully FSC® and PEFC® certified suppliers. Specific details will depend on the species, please ask our team when quoting for more details.

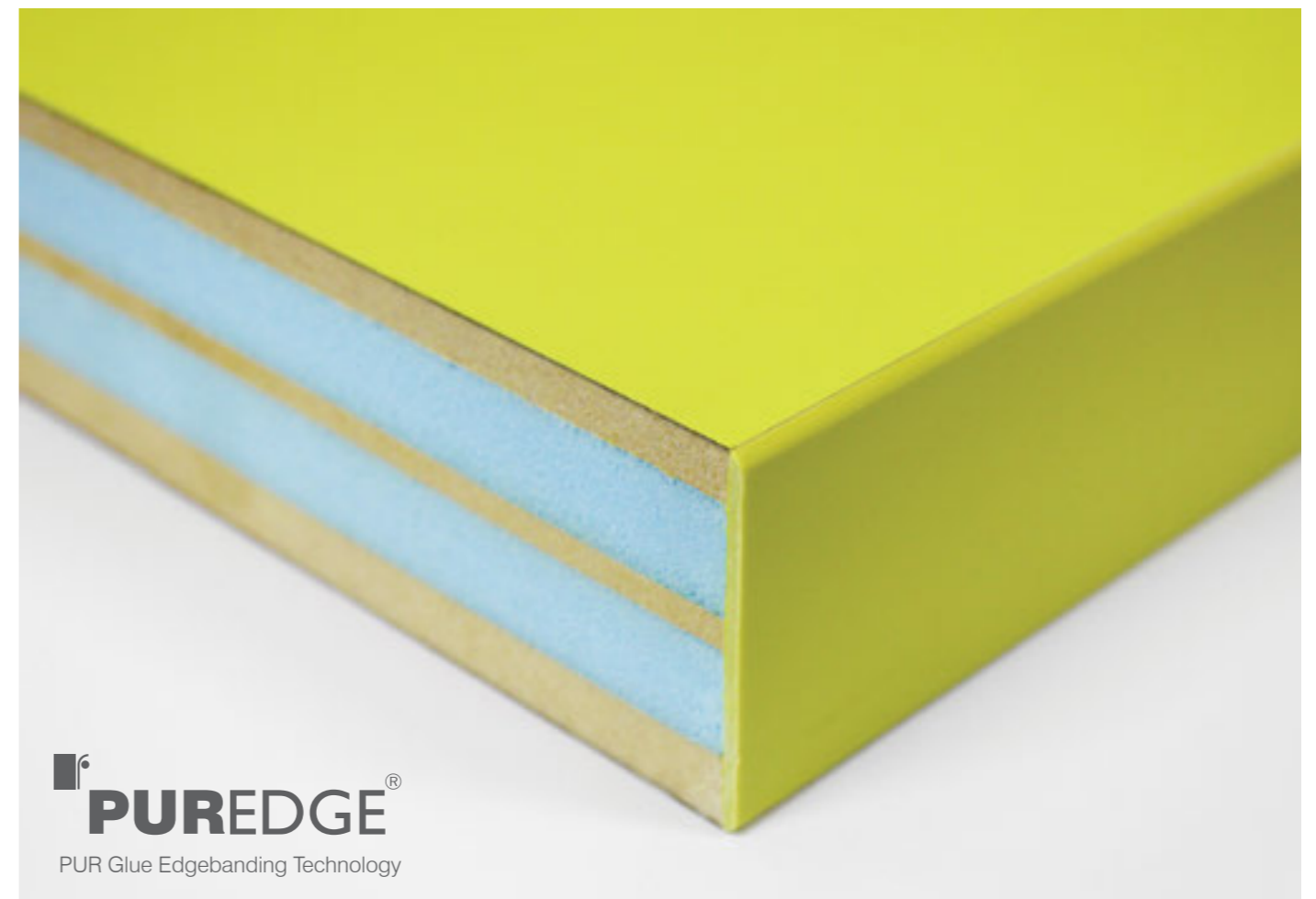
Real Wood Veneer

To compliment veneered faced boards we can also offer matching real wood veneer edging. Latest technologies with adhesives, asymmetrical finger jointing and backing materials allow for straight or shaped veneered components to be fabricated with ease.

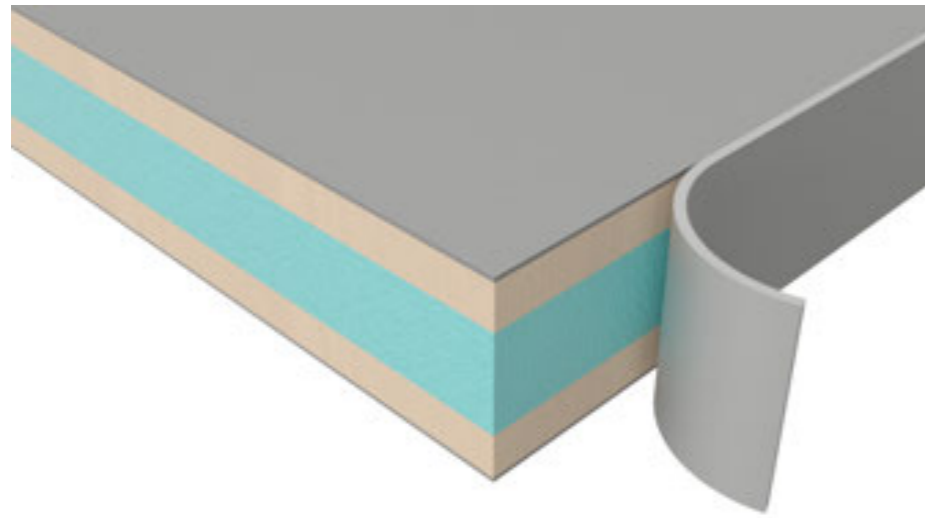
Please note that all real wood veneered products produce natural variations within the beauty of the timber species being specified. Client expectations must therefore be carefully managed to avoid any disappointment.

Postformed**

We can offer postformed edges when using HPL, CPL or thermoplastics as the face material. These can be either a single radiused edge, or a full bullnose profile.



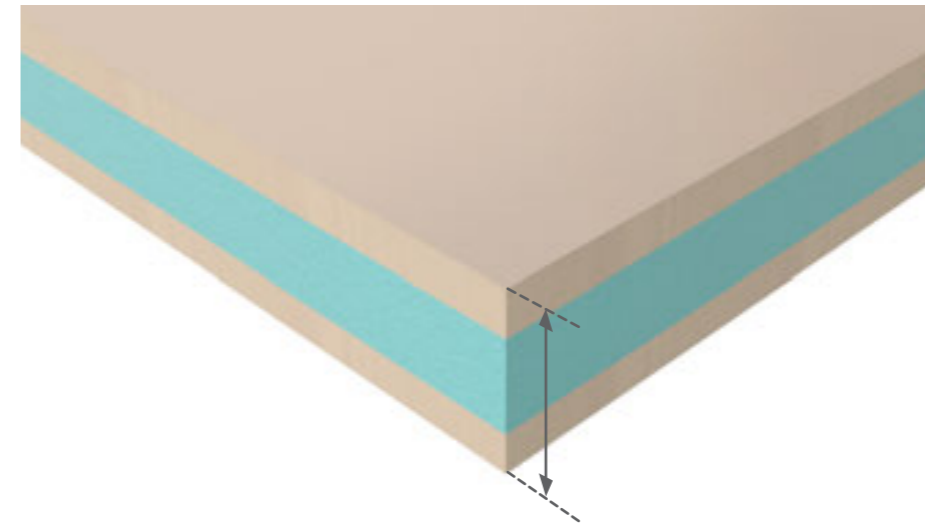
Further Processing Services



Square Edged Panels

We are able to edge all straight edge STARlite panels with: ABS, 3D acrylic or veneer edgebanding to suit up to a 60mm thick STARlite® panel. Subject to the specific edgbanding you choose.

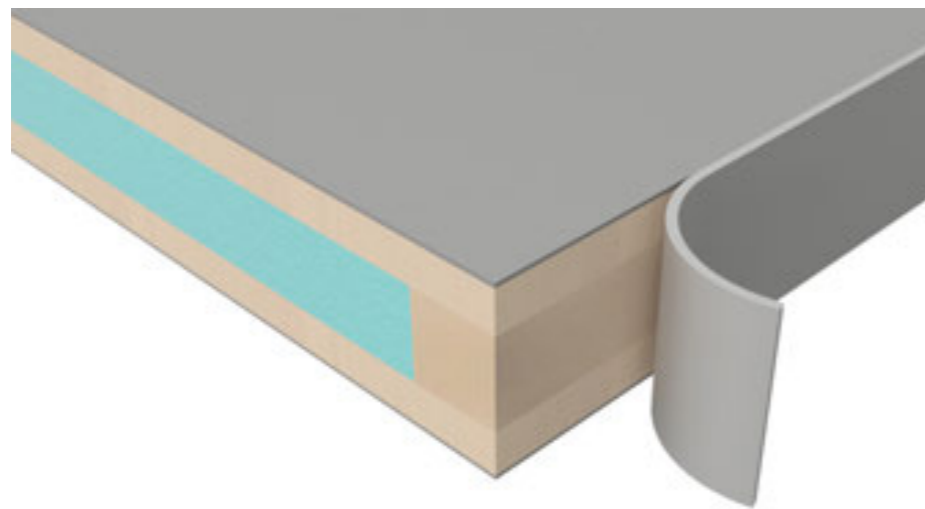
We utilise our PURedge® technology to ensure the most durable adhesion available on the market for this composition of panel.



Calibrated Panels

All raw materials, such as MDF, are subject to manufacturing tolerances and as such we would recommend our calibration service for any critical finished thickness requirements. Nominal thickness tolerances on STARlite are plus or minus 0.5 - 0.75mm.

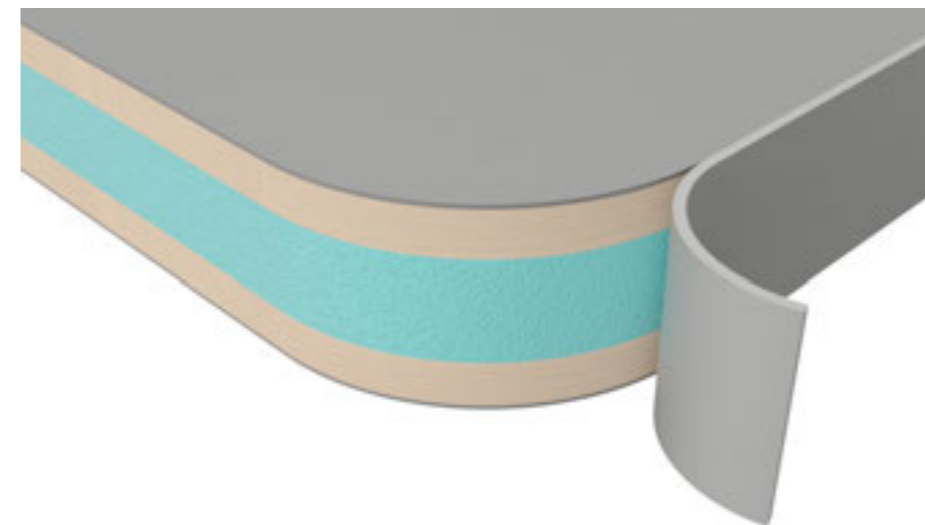
We can then supply your STARlite® panels as either raw boards or go on to bond, edge and CNC them to your project needs.



Blocked Panels

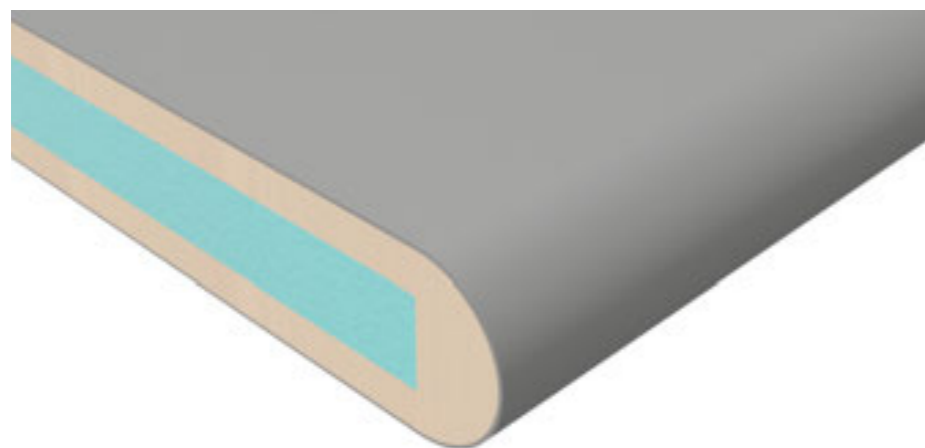
We work directly with you to create blocked panels to aid installation or fixing positions on your projects.

Once the design and specifications are achieved, the rails are then secured using high performance timber adhesive ready for further processing.



Shaped & Edged Panels

Our sophisticated BAZ machining centres are able to consecutively CNC a rectangular STARlite panel into a variety of shapes, with either external or internal radius's and then edge the newly shaped panel in your choice of edgebanding.

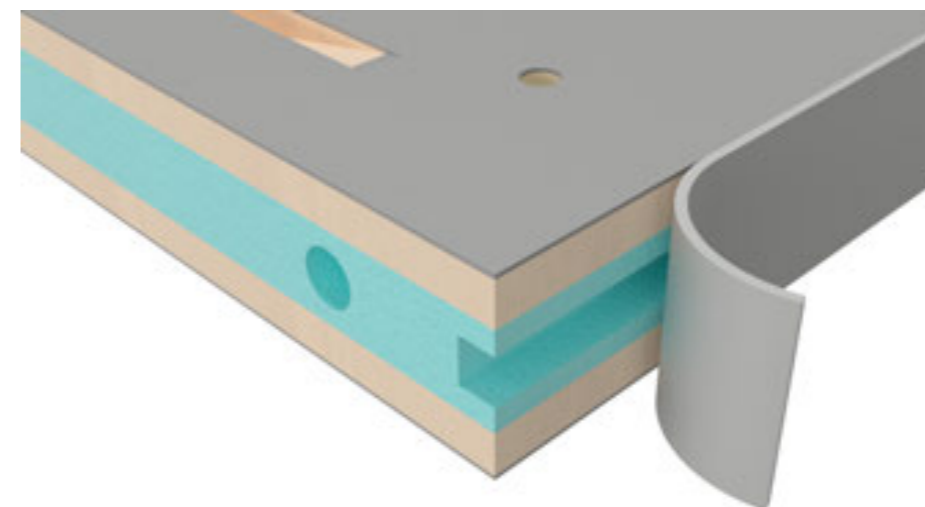


Postformed Panels

For any of the HPL or CPL ranges that are available in postforming grades, we are able to supply postformed STARlite panels.

Both single or double postformed edges can be incorporated, depending on your requirements.

We recommend speaking with one of our sales team for further advice on postformed STARlite panels for your project.



CNC, Drilled Panels

We have an array of custom cnc machining centres within our factory to offer you all the varieties of cnc processing available.

From simple face drilling for inserts, to routing the core for cable management for example.

Make sure you speak to our sales team during the estimation process to see how we can add extra value to your STARlite panel product.

Green

We continuously ensure that all of our supplied materials meet the environmental standards set by all the relevant bodies. We manufacture under the following standards: ISO:9001, ISO:14001, OHSAS:18001 and joint FSC® & PEFC Chain of Custody. We are proud to be the first manufacturer of our kind in the UK to do so under BM Trada.

MDF Core

All MDF core materials are FSC® and CARB2 compliant as standard. Other cores are available including flame retardant, moisture resistant and Medite® Zero Formaldehyde. Please speak to our sales team for more information.

Unique Closed Cell Core

The foam used in our STARlite® panels is HCFC (hydro chlorofluorocarbon) free and complies with EC Regulation No: 2037/2000 on substances which deplete the Ozone layer. As carbon dioxide is used as the blowing agent, the Ozone Depleting Potential (ODP) is zero and the Global Warming Potential is less than 5. The foam is non biodegradable and does not pose a hazard to the environment. Where circumstances allow the foam can be recycled or incinerated to recover the energy content.



Technical Data

Each component of our STARlite® composite lightweight panels have been individually tested under the manufacturers requirements to meet industry standards. Raw STARlite has been tested at FIRA to BS 6222 with no failures and has also undergone successful deflection testing, (copies of the data contained in the report are available upon request).

High Pressure Laminates - Generic Overview

	Decor / Finish	Plain Colours, Woods & Standard Patterns as per manufacturers ranges	High Gloss and specialised surface technologies such as pearlescents	Digital Print HPL
	Thickness	0.8 mm approx		
	Grade	Standard, PF & FR Grades		Standard
	Classification	HGP - HGS - HGF	VGP - VGS - VGF	HGS - HGF - VGS - VGF
Typical Characteristics	Standard	Units		
Physical & Dimensional Properties				
Typical Density	EN ISO 1183-1	g/cm ³	≥ 1.35	≥ 1.35
Thickness tolerance	EN 438-2-5	mm	±0.1	±0.1
Length & width tolerances	EN 438-2-6	mm	-0/+10	-0/+10
Straightness tolerance	EN 438-2-7	mm/m	≤ 1.5	≤ 1.5
Squareness tolerance	EN 438-2-8	mm/m	≤ 1.5	≤ 1.5
Flatness tolerance	EN 438-2-9	mm/m	60	60
Dimensional stability at high temperature - Longitude - Transverse	EN 438-2-17	%	≤ 0.55 ≤ 1.05	≤ 0.75 ≤ 1.25
Mechanical Properties				
Resistance to boiling water	EN 438-2-12	Class (a)	Gloss: 3/ Others: 4	Gloss: 3/ Others: 4
Impact resistance (small diameter ball)	EN 438-2-20	N	≥ 20	≥ 15
Impact resistance (large diameter ball) (Drop height for ≤ 10mm diameter imprint)	EN 438-2-21	mm	≥ 800	≥ 600
Resistance to cracking	EN 438-2-23	Class (a)	4	4
Minimum bending radius (convex/ concave)		cm	HGP:10/ HGS - HGF:20	VGP:10/ VGS - VGF: 20
Surface Properties				
Surface defects - Spots - Linear	EN 438-2-4	mm ² /m ² mm ² /m ²	≤ 1 ≤ 10	≤ 1 ≤ 10
Abrasion resistance (initial point)	EN 438-2-10	No. of revolutions	Gloss: ≥ 450/ Others: ≥ 150	Gloss: ≥ 100/ Others: ≥ 50
Resistance to steam	EN 438-2-14	Class (a)	Gloss: 3/ Others: 4	Gloss: 3/ Others: 4
Dry heat resistance 180°C	EN 438-2-16	Class (a)	Gloss: 3/ Others: 4	Gloss: 3/ Others: 4
Resistance to humidity	EN 12721	Class (a)	Gloss: 3/ Others: 4	Gloss: 3/ Others: 4
Scratch resistance	EN 438-2-25	Grade (b)	Gloss: 2/ Others: 3	Gloss: 2/ Others: 3
Stain resistance - Groups 1 & 2 - Group 3	EN 438-2-26	Class (a)	5 4	5 4
Colour fastness under artificial light	EN 438-2-27	Grey scale	4 to 5	4 to 5
Resistance to cigarette burns	EN 438-2-30	Class (a)	3	3
Postforming Properties (Postforming HPL only)				
Minimum postforming radius	EN 438-2-31 or 32	mm	Th. 0.8mm ≥ 8mm	Th. 0.8mm ≥ 8mm
Blister resistance	EN 438-2-33 or 34	Second	≥ 15	≥ 15
Fire Performance				
Fire rating	NFP 92-501	M classification	Fire retardant: M1 Others: M3	Fire retardant: M1 Others: M3
Calorific value	EN ISO 1716	MJ/Kg	18 - 20	18 - 20
Health & environmental characteristics				
Food safe	EN 13130-1		Yes	Yes
Formaldehyde emission	EN 717-2	Class	E1	E1
Volatile organic compounds (VOC) emission	ISO 16000-9	Class	A	A
Antibacterial properties	JIS Z 2801	Reduction in %	>99.9	>99.9

MDF: Medium Density Fibreboard - Typical Results

Typical Properties	Test Method	Unit	Specification
Thickness	EN 324-1	mm	±0.2 (> 18mm: ± 0.3)
Length & width	EN 324-1	mm/m	±2 (max ± 5)
Edge straightness tolerance	EN 324-2	mm/m	1.5
Squareness tolerance	EN 324-2	mm/m	2
Formaldehyde Class E1	EN 120	mg/100g	≤ 8
Tolerance on mean density with a board	EN 323	%	± 7%
Moisture content	EN 323	%	4 to 11

Bespoke STARlite® Foam Core

Typical Properties	Standard	Unit	Foam
Thermal Conductivity			
Declared (1) 30-60 mm	BS EN 13164	W/m-k	0.029
Declared (2) </=50mm >50mm	BS EN 13164 BS EN 13164	W/m-k W/m-k	0.028 0.027
10°C/ 60 days	BS EN 12667	W/m-k	
All thicknesses	/BS EN 12939		0.027
Mechanical Properties			
Compressive strength - vertical at 10% or break (90)days	BS EN 826	kPa	300
Design compressive strength 2% max deflection (50 yrs)	BS EN 1606	kPa	110
Compressive modulus	BS EN 826	MPa	12
Tensile strength	BS EN 1607	MPa	0.5
Tensile modulus	BS EN 1607	MPa	12
Shear strength	BS EN 12090	kPa	250
Shear modulus	BS EN 12090	MPa	8
Water absorption by immersion (28 days)	BS EN 12087	vol %	1.5 max
Water vapour diffusion resistance factor	BS EN 12086	μ	100
Dimensional Stability			
48 hrs at 70°C & 90% RH	BE EN 1605	%	2 max
168 hrs at 40 kPa & 70°C	BS EN 1605	%	5 max
Dimension thickness, width & length		mm	On request
Dimensions: tolerances			
Thickness	BS EN 823	mm	-0.5 to +0.5
Width < 700mm > / = 700mm	BS EN 822 BS EN 822	mm mm	0 to +3 0 to +5
Length	BS EN 822	mm	0 to +10
Edge Profile	-	-	Butt
Surface finish	-	-	Planed
Density	BS EN 1602	kg/m ³	35
Coefficient of linear expansion	BS 4370: Method 13	mm/m-K	0.07
Temperature limits	-	°C	-50/+75
Reaction to fire	BS EN 13501	EUROCLASS	E

Edging Options

Edging Type
ABS
3D Acrylic
Decorative Hardwood
HPL Postformed
Real Wood Veneer

Tolerances

Raw Materials & Composition
Nominal plus or minus 0.5mm to 0.75mm subject to raw materials and panel composition - for example 3 layer vs 7 layer construction. For critical finished component thicknesses we can offer and would recommend a fully calibrated board.

Notes:
1: Although STARlite® can be specified with FR Grade materials it does not carry any third party fire certification at this time.
2: This guide is intended to give a generic overview of component parts - we can assist further with any specific requests
* Please speak to our sales representatives for more technical and environmental information on any of the additional surface options available.



Raw STARlite® panels in one of our bonding presses

- **Nick Gillman**
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M: 07506 940 208
- **Keith Tuhey**
E: keith.tuhey@starbank-uk.com
M: 07508 270 116
- **Where we're based.**



External Sales & Support

We hope our brochure has inspired you to get in touch. To arrange a consultation with one of our regional account managers, contact us by your preferred method.

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We have dedicated customer service representatives who will deal with all your queries from production information right through to your delivery schedule.

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