

BIRCH PLYWOOD



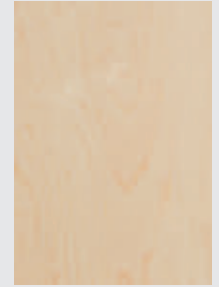
PRODUCT GUIDE



James Latham stocks a wide range of high-quality Birch Plywood and to help you get the most from this versatile product – we have improved and updated our product guide to provide more technical information.

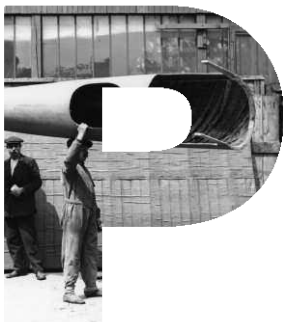
Birch trees are the ultimate renewable resource with virtually every part of the tree being utilised. The twigs are used for besoms and sauna whisks, timber for furniture and flooring; bark was used for roofing and canoes, and even the sap for wine! Waste timber and residue at plywood mills is used for other materials and boiler fuel for energy production.

Since the late 19th Century, Birch has been used for high-quality plywood that is widely used for furniture, construction, toys, vehicle building, packaging and was specified for furniture and interior joinery at the Google headquarters in St Pancras, London.



From an environmental perspective, Birch is an abundant species found in the forests of the northern hemisphere being widespread across Canada, Russia and most of Northern Europe, in particular Finland, Latvia and countries bordering The Baltic. Birch species are relatively fast growing and support a myriad of varied wildlife, and where managed as a sustainable forest resource, do not impinge on the natural biodiversity.

So for quality, sustainably sourced plywood, James Latham European Birch is definitely 'The Natural Choice'. Birch Plywood is available with either FSC® or PEFC certification and James Latham has a comprehensive Chain of Custody system in place to ensure transparency in sourcing its timber products. Our Birch plywood is also purchased in line with the requirements of the European Union Timber Regulation (EUTR).



James Latham has been importing and distributing Birch Plywood to the UK for more than 100 years and in that time, we have gained an enviable reputation for supplying the highest quality and widest range available. Our staff are amongst the most knowledgeable in the industry and it is this experience and history that ensures we can offer the most relevant, comprehensive and competitive Birch plywood products available.



Birch Plywood Grades - 'Commercial Availability'

HIGHER GRADES

Birch Plywood is graded according to the quality of the face veneers and not the quality of the core, ref: BS EN 635-2 - Classification by Surface Appearance- Part 2. Hardwood.

Grade B/BB (Face Grades)

Generally, the best grade available for clear finishing. Good clean appearance, only minor, natural features, i.e. small pin knots permitted on the 'B' Face.

'B' grade is normally only available with 'BB' Grade reverse. (See grading information below for BB).

Grades S/BB & S+/BB (Face Grades)

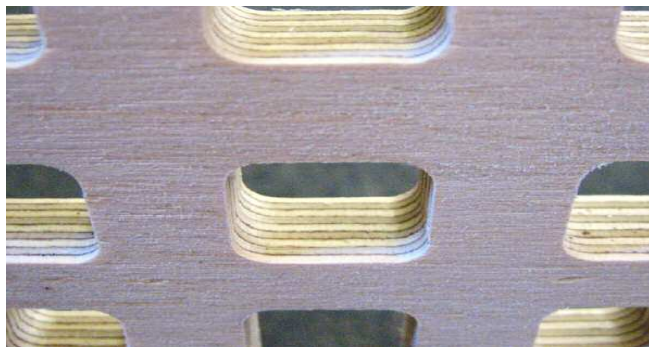
S Face is similar to Grade B, but allows more natural characteristics and the odd well-made patch – Generally good enough quality face for clear finishing or painting. S+/BB has a better face with no patches. The reverse is a standard BB Grade.

Grade BB/BB (Face Grades)

The main commercial or utility grade - both faces are Grade BB – which allows patches and other knots/imperfections. Suitable for all general work including CNC Machining or where face grade not overly important – However, good quality BB grade boards may be acceptable for clear finishing and furniture! Available in Long or Cross grain construction.



A 'Batman' shaped plug or patch – often found on BB Grade Plywood. These patches are well made and give a sound/solid face.



James Latham Birch Plywood is widely used for CNC Machining as the core is solid all the way through.



LOWER GRADES – (Cores are still solid)

Grade BB/CP and BB/WG

Grade BB face with WG or CP reverse. Standard commercial grades which are essentially only sound (Good) one side – Reverse side can have numerous large knots, open splits/defects and discolouration.

Grade CP

Russian Grade – In between BB and WG used where face appearance not important, i.e. packing crates, furniture carcasses.

Grade C

Similar appearance and use as Grade WG – may be un-sanded with open defects and discolouration.

Grade WG

Large knots / patches / open defects, staining and discolouration permitted - used for packing crates and carcass work or where unseen, such as upholstered furniture.

UPM GRADA®2000 BIRCH PLYWOOD
FSC OR PEFC CERTIFIED INNOVATIVE,
THERMO-FORMABLE FINNISH BIRCH PLYWOOD

UPM Grada is a wood material, which can be formed with heat and pressure. The new Grada technology developed by UPM shortens the form pressing process and increases its efficiency. The UPM Grada thermo-formable wood panel is formed into a component easily in two steps – first the panel is heated and then formed and cooled in a mould. Efficiency Made Easy.

Thanks to the latest Grada technology development, UPM Grada 2000, enables a more efficient forming process of wood material than before.

The thermo-formable wood panel can be formed in 95°C, which enables faster heating of the material. Make your form pressing process more efficient and save energy at the same time.

- The forming is easy and efficient in two steps – first the panel is heated and then formed and cooled in a mould.
- The material is manufactured using FSC or PEFC certified wood and following the best practices for sustainable and responsible forestry.
- The adhesive used in the panel, does not contain any formaldehyde or other harmful compounds.

Product Properties

Panel

The UPM Grada 2000 panel is made of cross-laminated rotary cut birch veneers. Birch is known for its high strength and stability.

Quality

Veneer sheets are bonded with moisture resistant bonding (EN 314-2). The face veneer quality complies with EN 635, BB (III) classification.

Panel Options

- EasyTop panel's hot melt gluelines on top of panel surfaces enable coating without additional adhesive.
- UnderCover panel is a low cost panel with non-classified veneer surfaces.

Environment, Health & Safety

The adhesive foil of UPM Grada 2000 does not contain any formaldehyde. UPM Grada 2000 fulfills the EN 13986 E1 and the CARB No Added Formaldehyde emission classes. At the end of its lifecycle the material can be safely recycled or burned.

Surfacing

Multiple surface materials e.g. laminate, veneer or textiles can be bonded onto the EasyTop panel without additional adhesive.

Thicknesses and weights

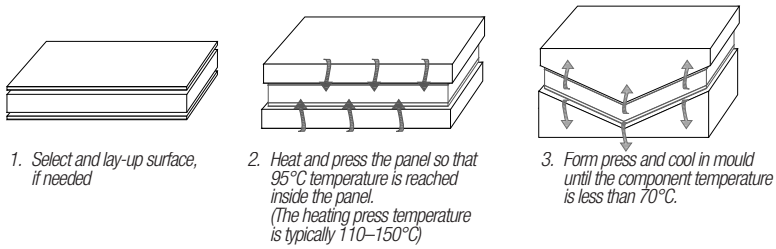
Nominal thickness (mm)	Thickness (mm)		Weight (kg/m2) abt
	Min	Max	
4.5	3.4	4.2	2.6
7	6.3	7.3	4.5
10	9.2	10.2	6.5
13	12.1	13.1	8.5

Forming Principles

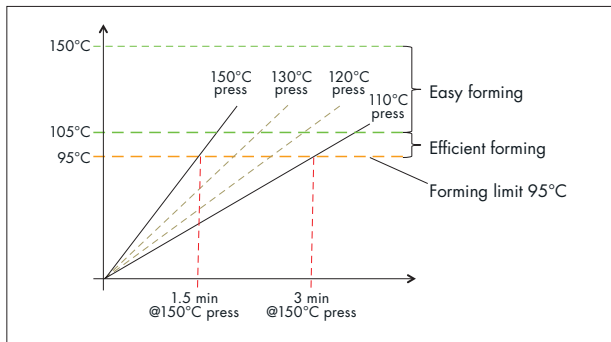
Once the UPM Grada panel is heated to 95°C, the adhesive between the veneers melts so that the panel can be formed into different shapes. The melted adhesive allows the veneers to slide which enables forming. The hot panel is formed in a mould and cooled to 70°C simultaneously.

UPM Grada material is optimal for two dimensional shapes. If required, the form presser selects and applies a suitable surface material for the end product e.g. laminate or veneer. The surface material can be laid-up on the panel before heating and forming.





Indicative heating times for 10mm thick panel



Dimensions

Standard panel sizes: 1250 x 2500 mm, 1500 x 3000 mm
 Cut to sizes based on mutual agreement.

Size tolerances:

- < 1000 mm ± 1 mm
- 1000–2000 mm ± 2 mm
- > 2000 mm ± 3 mm

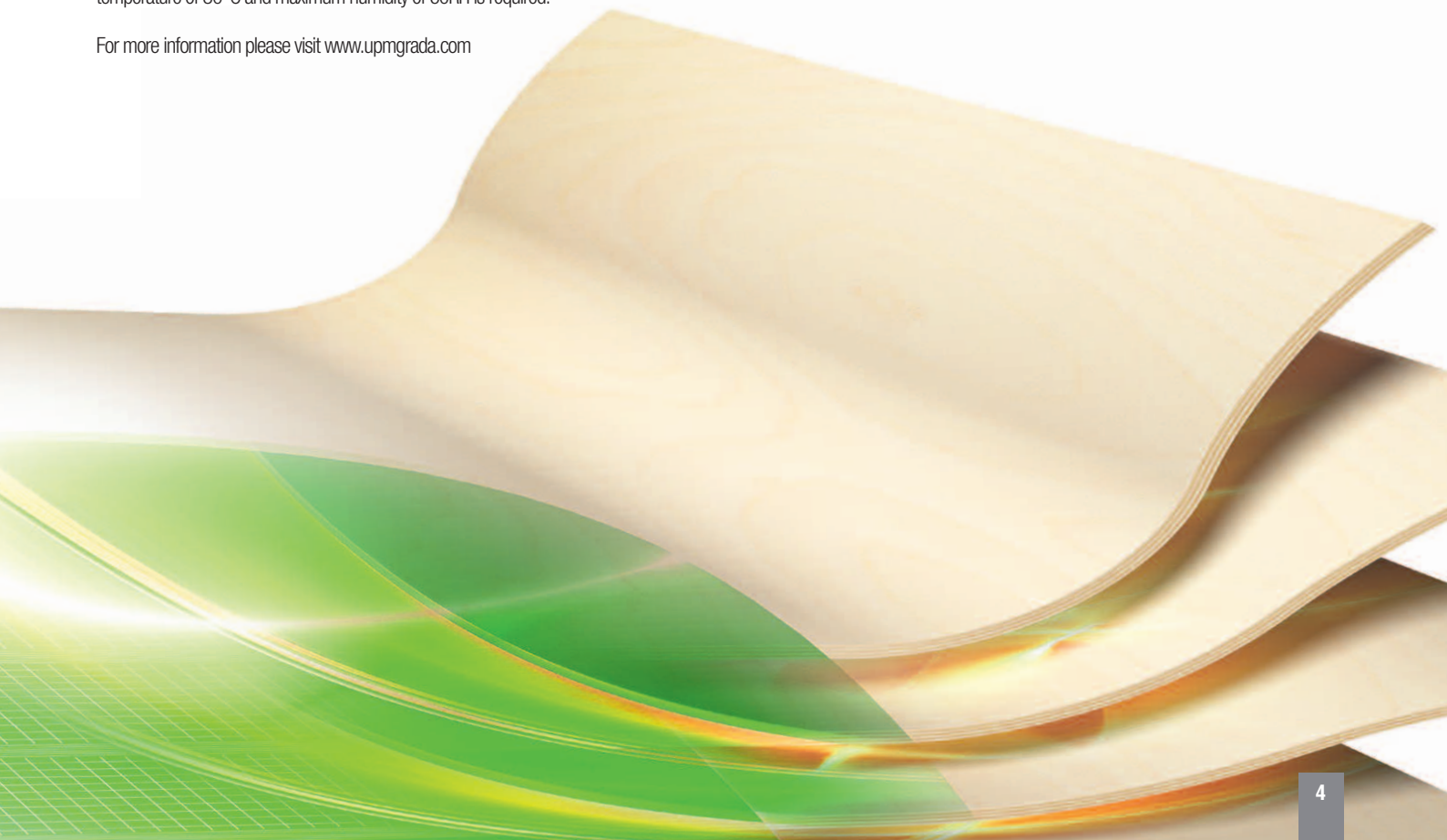
Storage

Wood is a living material and subject to moisture movements depending on surrounding conditions. The moisture movement may affect flatness and dimensional stability of the panels. To prevent moisture penetrating the panels during transportation and storage, panels are packed and stored in sealed plastic. The panels should remain stored unopened in packaging until used in production. Indoor storage at a maximum temperature of 30°C and maximum humidity of 60RH is required.

For more information please visit www.upmgrad.com



Innovative chair designed by Rory Hogan using UPM Grada 2000 supplied by ATP. The special thermo-formable properties of this new birch plywood material lends itself to the manufacture of furniture. Rory expertly crafted this chair with flair and imagination during his final year on the Furniture Design & Manufacture course at GMIT Letterfrack in Galway, Ireland.



How to specify Birch Plywood. Relevant Standards and Grades.

BS EN 635-2: 1995 Plywood – Classification by Surface Appearance. Part 2. Hardwood

Note: - within BS EN 635-2: 1995 Plywood, five grades are classified, E, I, II, III and IV - for ALL hardwood species.

However, European Birch plywood is generally graded according to a country's own National Grading Rules - so only approximate comparisons can be made with BS EN 635-2: 1995 Plywood, as the grades from the countries below tend to be more stringent.

Therefore, for practical purposes it is often easier to specify by Grade Letter, i.e. Grade B/BB or by the grade and country of origin, i.e. Finnish Birch Plywood, Grade S/BB or Latvian Birch Plywood, Grade BB - depending on end use requirement. The Grades refer to the faces, as the core of Latham Birch Plywood is always sound and solid (only very minor core gaps may be present).

The bond type must also be specified, i.e. BS EN 314-2: 1993 Plywood. Bonding quality. Class 1, 2 or 3, depending on service class and applications.

BS EN 635-2: 1995 Plywood Grades for all hardwoods	Guide to end use for birch grades	Finnish birch	Latvian birch, Polish birch	Russian Birch grading rules
Grade E		Approx Equivalents - But generally higher quality than BS EN 635-2: 1995 Plywood.		
Grade I	Clear-finishing, decorative uses, furniture, wall panels, toys, models, shopfitting, interior design	Grade A - This quality is near perfect ! But not commercially available any longer.		Not available as per BS EN 635-2: 1995 Plywood grading rules
Grade II		Grade B - Normally only available as B/BB .		Grade B Available as B/BB
Grade III	General use furniture, painting laminating and veneering	Grade S – Normally available as S/BB		S/BB S+/BB – improved 'S' Grade
Grade IV		Grade BB – Main commercial grade with two sound faces. BB/WG - only has one sound face. Good quality Utility Plywood, the all round workhorse for the trade.		BB or BB/CP (one sound side) are main commercial Russian Grades
	Packing cases, pallet bases, carcassing	Grade WG		CP/CP or CP/C
			Grade C – Un-sanded	C/C

Please note - 'E' grade is not commercially available at present and B/B is very difficult to obtain.

Bond type and where to use Birch Plywood

The majority of Birch plywood supplied by James Latham is bonded with thermosetting, exterior quality phenolic resin adhesives – formerly known as WBP (Weather and Boil Proof). Several standards now relate to the manufacture and specification of plywood, the main one being:- BS EN 314-2: 1993 Class 1, 2 or 3, with class 3 for exterior quality bonding. Most of the birch plywood supplied by James Latham meets this standard and is also rated as E1, (very low formaldehyde release) and some birch plywood also meets the new ‘CARB’ Regulations.

Exterior quality adhesives generally appear as dark, purplish-brown gluelines on the plywood edges and are essential for applications that fall within use classes 2 to 3 of BS EN 335: 2013. The contrasting dark gluelines against the lighter birch veneers is often incorporated into contemporary design, consequently Birch Plywood is widely used for furniture, shelving and interiors. The uniform construction of birch plywood means that the faces and edges can easily be machined, then simply lacquered or waxed as required (for interior purposes) as the photographs here demonstrate.



Birch plywood used to clad the walls of this contemporary garden room creates a clean, minimalist look that works well in both large and small buildings. (Photo courtesy of Eco-Space Ltd. Photographer: Andy Spain).



The standard veneer thickness for most European Birch plywood is 1.4mm. Plywood normally has a balanced construction of alternating cross and long grain veneers, i.e. 9-ply for 12mm, 13-ply for 18mm, as can be seen here.

Typical applications for Birch Plywood



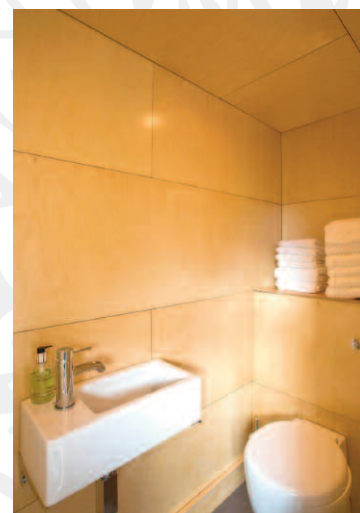
Birch Plywood screens and canopy at St Evelina’s Children’s Hospital, creates a secluded, informal space for patients.



Innovative uses of Birch Plywood - by Geoff Fisher.



Grada Birch Chair – by Rory Hogan



Bespoke Birch Plywood interior

Birch Plywood – Applications

Although Birch plywood is bonded with tough, durable exterior quality adhesives, standard uncoated birch plywood must always be protected with a suitable exterior paint or wood stain system if used in Service classes 2 or 3 of BS EN 636: 2012, i.e. in humid or exterior applications.

Prefinished birch plywood such as WISA-®Multiwall or Buffalo®Board can readily be used for exterior purposes, provided they are correctly detailed / installed, as the faces and edges are sealed against moisture ingress during the manufacturing process.

Birch Plywood can also be bonded with 'interior' quality adhesives and is generally used for LASER cutting of die forms, furniture, packaging and other non-structural end uses. Grades available include BB and C.

Structural Use

When Birch Plywood is specified for use in structural 'load-bearing' applications such as flooring, roofing and wall sheathing it must have an exterior glue line to BS EN 314-2: 1993 Class 3, plus must also conform to the CE Structural quality as defined in EN 13986: 2004 with reference to the Construction Products Directive (CPD).

We can supply strength data (bending / compression) and other technical information for European birch plywood in an electronic format, and for the design of Timber Structures the following EN Standard now applies:- BS EN 1995-1-1: 2004 + A1: 2008 Eurocode 5. Design of timber structures. General. Common rules and rules for buildings. This standard supersedes the 'old' BS 5268 Part 2: 2002, which has now been withdrawn and designers and engineers should use Eurocode 5 instead when designing timber structures.

Thin Birch Plywood

James Latham also supplies a wide range of very thin Finnish Birch Plywood which can be used for model making, toys, jigsaw puzzles, interior design fittings, boxes, saddles, cards, drums and string instruments and other applications that require a tough, flexible material. Available thicknesses include 0.4mm, 0.8mm, 1.5mm and up to 3mm.

UPM GRADA® – Thermo-Formable Birch Plywood

Grada® is an innovative concept which allows wood panels to be formed with heat and pressure. A special adhesive foil is used allowing the birch veneers to slide when heated, so curved components can be manufactured. There is minimal wastage, increased stability and greater productivity. Grada is available from James Latham branches in a range of thicknesses – from 4.5mm to 13mm. See separate pages for more information.



New – Grada® for curved and formed Birch Plywood components.



'Centenary Bar' at Sheffield University's School of Architecture, CNC machined Grade S/BB Birch Plywood with WISA-Hexagrip floor.



'Thin' Birch Plywood is available from stock.

James Latham. The Natural Choice for Quality Birch Plywood

James Latham stock a wide range of birch plywood - so we are able to offer you greater choice and value, plus our knowledgeable staff are always on hand to help with specifications or technical information.

Exterior Bonded BS EN 314-2: 1993 – Class 3		
Thicknesses	from 4mm to 30mm (up to 50mm on request)	
Sizes	1220mm x 2440mm / 3050mm plus 1525 x 3050mm / 3660mm, cross grain 2440mm x 1220mm long grain panels always available and larger non-standard panels can be made to order up to 12500mm long.	
Grades	B/BB, S/BB and S+/BB	The highest grades generally stocked
	BB/BB, BB/WG or BB/CP	The main commercial grades for general purpose applications
	WG, CP and C	The lower grades used for packing, crates and pallets where face quality is not important

Interior Bonded BS EN 314-2: 1993 – Class 1/2	
Thicknesses	from 3mm to 24mm
Sizes and falling sizes	1525 x 1525mm and falling sizes 1220 x 2440mm
Grades	BB/BB, C and WG

Thin Finnish Birch Plywood	
Thicknesses	from 0.4mm up to 2mm in stock
Sizes	1220 x 1220, 1525 x 1525mm, 1200 x 2400 mm, 2400 x 1200mm
Grades	BR/BR or IV/IV, III/III



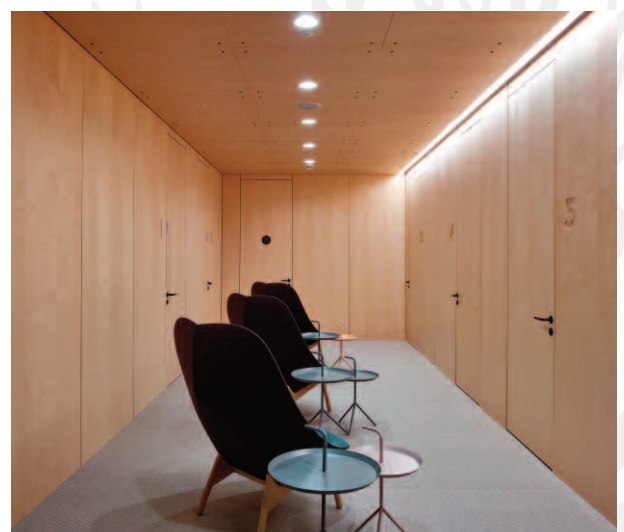
Thin Birch Plywood.

The above is to be used as a guide, please check availability with your local James Latham depot. Special sizes/thicknesses and specifications, plus CNC machined and cut to size panels are available to order, although minimum quantities may apply.

Details given represent a fair description of the products and are given without liability.

Most of our plywood is manufactured using Birch veneers throughout. All our plywood meets BS EN 314-2: 1993 Class 1, 2 or 3 and BS EN 13986: 2004.

More information relating to EN Standards, Plywood Specification and use can be found in the WPIF Panel Guide and from TRADA who have produced a range of Wood Information Sheets concerning Plywood and other wood-based panels. www.wpif.co.uk www.trada.co.uk



Google HQ, London.



James Latham Birch Plywood available from:- Distribution Sites

1 James Latham Dudley ●●

T: 01384 234444
F: 01384 233121
E-mail: panels.dudley@lathams.co.uk
timber.dudley@lathams.co.uk

2 James Latham Fareham ●●

T: 01329 854800
F: 01329 849585
E-mail: panels.fareham@lathams.co.uk
timber.fareham@lathams.co.uk

3 James Latham Gateshead ●●

T: 0191 469 4211
F: 0191 469 2615
E-mail: panels.gateshead@lathams.co.uk
timber.gateshead@lathams.co.uk

4 James Latham Leeds ●●

T: 0113 387 0830
F: 0113 387 0855
E-mail: leeds@lathams.co.uk

4 ATP (Advanced Technical Panels) ●●

T: 0113 387 0850
F: 0113 387 0855
E-mail: atp@lathams.co.uk

5 James Latham Scotland ●●

T: 01698 838777
F: 01698 831452
Email: scotland@lathams.co.uk

6 James Latham Leicester ●●

T: 0116 288 9161
F: 0116 281 3806
E-mail: panels.leicester@lathams.co.uk
timber.leicester@lathams.co.uk

7 James Latham Yate ●●

T: 01454 315421
F: 01454 323488
E-mail: panels.yate@lathams.co.uk
timber.yate@lathams.co.uk

8 James Latham Hemel Hempstead ●●

T: 01442 849000
F: 01442 239287
E-mail: panels.hemel@lathams.co.uk

9 James Latham Thurrock ●●

T: 01708 869800
F: 01708 860900
E-mail: panels.thurrock@lathams.co.uk

10 James Latham Purfleet ●●

T: 01708 864477
F: 01708 862727
E-mail: timber.purfleet@lathams.co.uk

11 James Latham - Product Specification Showroom London

Suite 301, Business Design Centre,
52 Upper Street, Islington, N1 0QH
T: 020 7288 6417
E-mail: BDC@lathams.co.uk

12 James Latham - Product Specification Showroom Manchester

31a Tib St, Manchester M4 1LX
T: 0161 537 1185
E-mail: pssm@lathams.co.uk

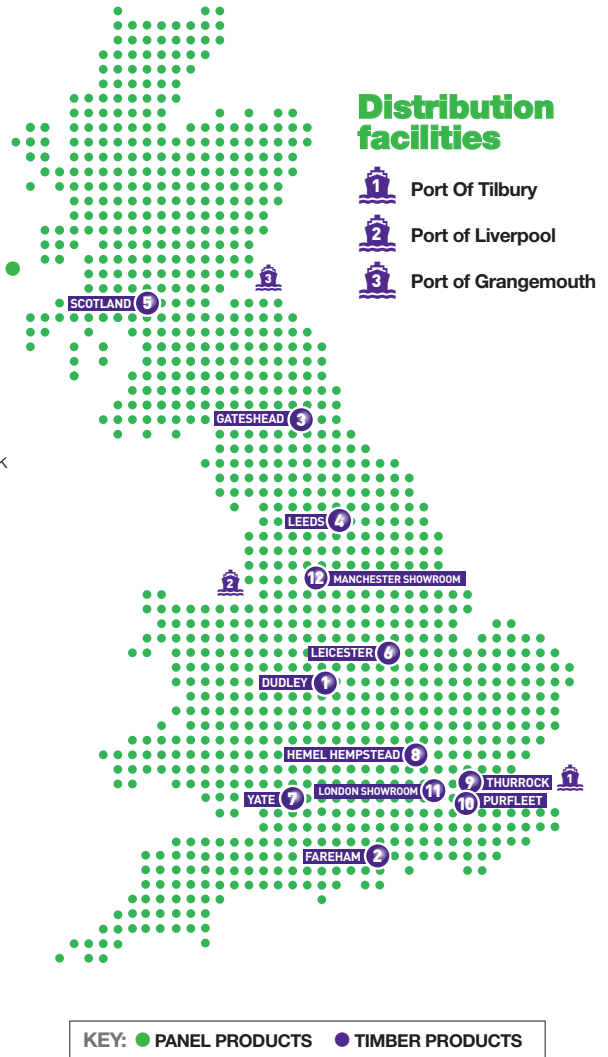


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