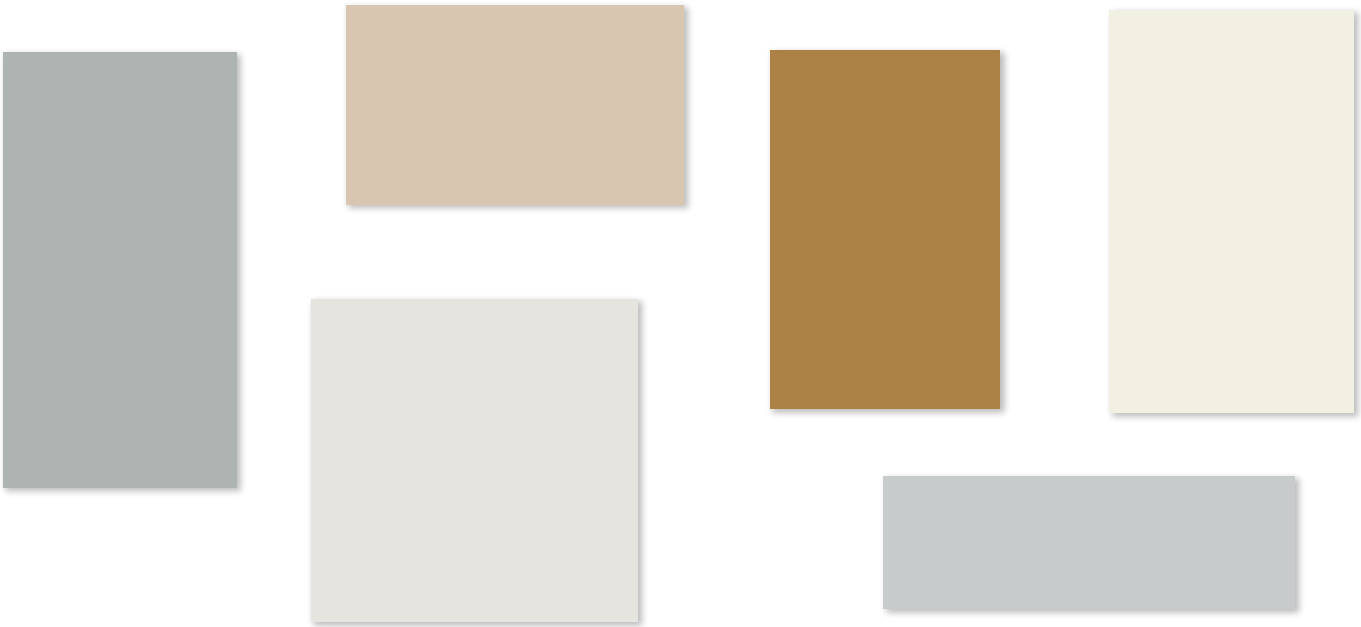
# Elements

## Facade Rainscreen Cladding



Vivalda

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## About Elements

Elements is a high pressure laminate cladding board ideal for any exterior application. Elements offers a low maintenance high performance cladding for commercial and industrial buildings, and residential housing projects. The range has also been widely used on new build and refurbishment applications. The panels are composed of melamine and resins, and produced in lamination presses in high pressure chambers at high temperatures, creating durable and weather-resistant panels which will stand the test of time. Elements rainscreen cladding is suitable to use on the entire building façade and can be both face fixed and secret fixed. External laminate panels in general continue to prove their durability and longevity as a cost effective high pressure façade solution and have stood the test of time on buildings in the UK and continental Europe.

Elements has a durable smooth decorative surface finish on both sides and is produced in 8 classic muted matt colours. The smooth finish makes the panels hygienic and easy to clean. Elements cladding is resistant to atmospheric pollutants, chemicals, mould, fungus and insect/organic attack and can stand up to anything that a British winter can throw at it. The panels have high resistance to impact and breakage, and are vandal and graffiti resistant. Elements panels offer a class 'O' fire rating & full climate protection. Please contact your local branch for further details and pricing.

## Applications

Sports Stadiums
Façade cladding
Hospitals
Soffit, fascia and barge boards
Playground furnishing
Balcony cladding and partitions
Commercial Buildings
Residential Projects
Interior Panelling
Schools and Universities
Leisure Centres
Local Authority Housing

## Elements Colour Chart

Please refer to the colour chart insert for the full Elements colour range. The colour range is influenced by natural tones that we see around us every day. Each panel is manufactured with a double-sided satin finish as standard so please contact your local Vivalda branch to request an original sample. The reverse side can be in the same colour as the front, or can be in white. This is a useful advantage when being specified as balcony panels.

## Board Measurements

All Elements boards can be trimmed if required and can be requested as a square cut. Please be aware that if the material is taken as flat sheet direct to site, the boards will require squaring off and edge trimming. If ordered as cut to size panels, Vivalda will do this for you.

Vivalda can cut, shape, drill and router Elements to your required specification. If you require a different sheet size due to your panel layout or design, please refer to your local branch (see the back cover).

Elements cladding boards can also be fabricated using Vivalda's CNC routers to create any shape or design; this includes face grooving and the application of other designs to the face of the panels including numbers, letters or other patterns.

### Available in one panel size

2800 x 1300 mm = 3.64 $m^2$

### Board Thickness and Tolerance

6 mm ± 0.4 mm
Other thicknesses available upon request

### Board Size Tolerance

±10 mm

### Core Colour

Brown

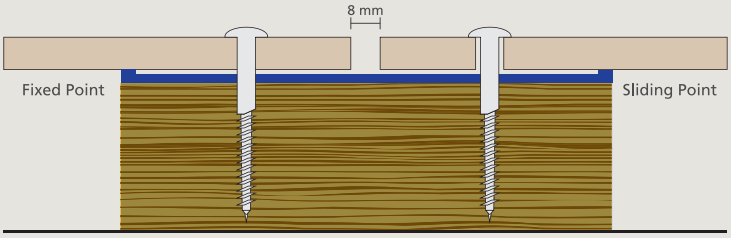
# Installation Requirements

## Substructure:

For application, vertical tanalised timber battens should be 30mm deep x 50mm wide, or 100mm wide at a joint where two panels will be supported. Neoprene gasket should be fixed to the face of all timber supports prior to installation of the panels. This will weatherproof the joint and produce a shadow gap detail.

## Expansion & Contraction

To maintain the stability of the panel, fixings must be placed within the recommended minimum/ maximum distance from the edge of the panel (see adjacent diagram). Joints between panels must be a minimum of 8mm to allow for expansion and contraction.




**Example vertical joint**

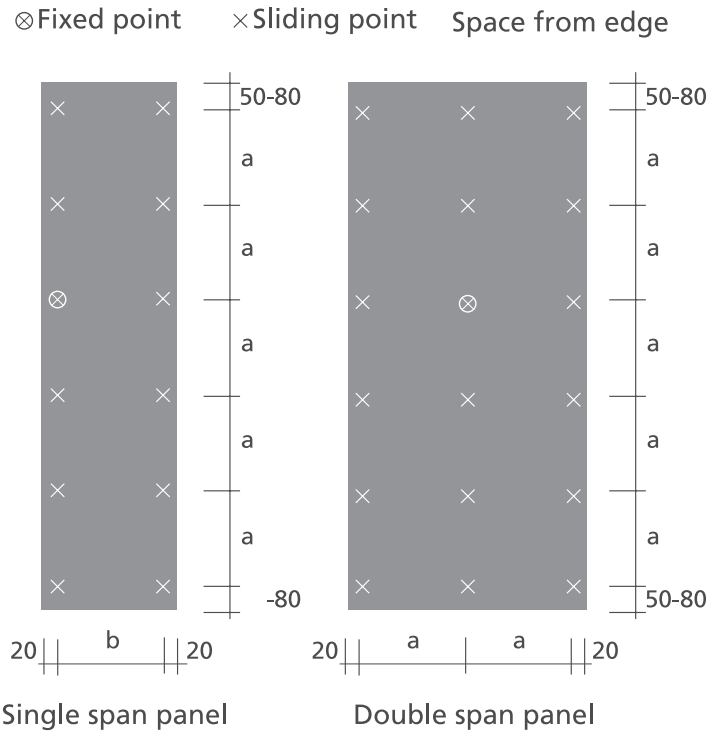
## Fixed Points

Each panel should have one fixed point, located at the centre of the panel or as close to the centre as possible (see diagrams of single and double span panels). The fixed point must have a 6mm hole diameter. The purpose of this is to evenly distribute pressure exerted by expansion or contraction of the panel.

All other holes should be sliding points, whereby the diameter of the hole is larger than that of the screw. This allows the hole to contract without exerting pressure on the screw. The sliding point must have an 8 mm hole diameter.

The screw head must be large enough to cover the diameter of the hole. Screws must not be over-tightened or countersunk. Holes should be drilled with a centering piece so that the hole in the panel and in the batten line up. Put the middle fixing in first and work outwards.

## Fixing Positions




Single span panel  Double span panel

| For installation with mechanical fixings | | |
|---|---|---|
| Panel Thickness | Maximum Fixing Spacing "b" ( 2 fixings in one direction ) | Maximum Fixing Spacing "a" ( 3 or more Fixings in one direction ) |
| 6 mm | 470 mm | 600 mm |
| 8 mm | 620 mm | 770 mm |
| 10 mm | 770 mm | 920 mm |

## Fixing

Screws or rivets for fixing to timber should be stainless steel and preferably colour coated. Please contact your local branch for further details, and for information on the variety of other fixing systems available:

- Mechanical fix using screws into timber
- Mechanical fix using rivets into aluminium or steel
- Secret fix using adhesive to timber or aluminium
- Secret fix using aluminium sub grid and specialised fixings

## Machining

Elements can be easily machined, like hardwood, laminated chipboard or bonded chipboard. Use carbide-tipped woodworking tools, and do a test cut on a square piece of material first. Stable circular saws or hand-held circular saws are recommended for installation cutting.

For best cutting results, we recommend using carbide-tipped saw blades with as many trapezoidal teeth as possible. In order to achieve quality cutting, feed the panels through as smoothly as possible, and do a test cut on a spare piece of material first.

## Fabrication Recommendations

### Cutting Rate

50-60 m/sec depending on tool diameter and rpm
Depth of cut per tooth: 0.02- 0.04 mm
Feed: 6-10 m/min depending on thickness

Sharp saws and optimum setting of the saw blade projection are necessary in order to achieve clean cut edges.

### Chamfering & Grooving

For fitting work and on-site chamfering, hand routers with a chamfering or a mitring tool have been proven to give the best results. Electrical hand planes can also be used.

### Drilling

Use HSS twist drills for manual drilling. Drill tip should be ≤ 90°. When using carbide-tipped drills use pillar drilling machines, carbide metal tends to break off when drilling by hand.  Do not allow the drill to break through the backside of the panel, or if necessary, drill against an appropriate base applying enough pressure to ensure a clean exit hole.

## Storage

Elements cladding is to be stored under cover in a dry, clean and frost-free area. Extreme climate changes to the boards are to be avoided. To avoid any unbalanced moisture or temperature exposure to the boards, leave panels stacked on top of each other. If panels are no longer stacked, remove any protective covering within 24 hours.

Elements cladding must be stacked horizontally on a fully supported level surface. Where possible, keep the panels in the original, closed packaging. When storing the panels, cover plates must be placed over the stack with the top cover being weighed down. If panels are being stored for a long period of time, remove the straps from the pallet. This storage method also applies to cut or fabricated panels as incorrect storage may lead to warping of the panels.

## Transport and Handling

Treat the boards with care when handling. When stacking the panels any dirt or dust between the sheets should be avoided in order to ensure the panels don't become scuffed or scratched.

If coding or marking on the boards is required, use adhesive stickers when doing so and remove all stickers immediately after installation.

When loading and offloading the boards, please ensure the boards are lifted; do not push or pull the boards as this may result in damage to the boards. The panels should be secured tightly for transportation to prohibit shifting and scratching and loaded onto a clean vehicle that does not contain other products which may cause scratching (e.g. stone aggregate or cured cement).

The transportation film on each panel must always be removed from both sides. The transport film must be kept away from heat or direct sunlight.

## Cleaning & Maintenance

Elements' cladding needs no maintenance due to its sealed surfaces. If standard cleaning is required use a clean cloth, warm, clean water and any household soap.

For extreme circumstances such as graffiti or stubborn marks, a solvent cleaner can be used on the boards. We suggest you start with a test patch on one mark to ensure the solvent you are using doesn't affect the panel surface.
For standard maintenance wash once a year with a garden hose or jet wash.

## Certification

Elements is certified for use as a building material under the European-wide classification: EN13501-1 and EN ISO 4892. Please refer to page 5 of the brochure for the physical data sheet detailing the mechanical properties of this external grade cladding material.

# Physical Data

### Light-fastness and weather resistance

| Properties | Test Method | Assesment | Standard value | Actual value |
|---|---|---|---|---|
| Artificial weatherboard | EN ISO 4892-2 1500 hours | EN 20105-A02 Grey scale | ≥3 | ≥3 |

### Mechanical properties

| Properties | Test Method | Assesment | Standard value | Actual value |
|---|---|---|---|---|
| Apparent density | EN ISO 1183-1 | g/cm³ | | 1.45 |
| Flexural strength | EN ISO 178 | MPa | >80 | ≥90 |
| Elasticity modulus | EN ISO 178 | MPa | >9000 | ≥9500 |
| Tensile strength | EN ISO 527-2 | MPa | >60 | ≥80 |
| Coefficient of thermal expansion | DIN 52328 | 1/K | | 18 x 10**** |
| Dimensional change in climate change<br>With increased temperature | EN 438<br>For 6 mm thickness | Lengthways %<br>Widthways % | < 0.3<br><0.6 | ≤0.15<br>≤0.25 |
| Thermal conductivity | | W/mK | | 0.3 |
| Water vapour diffusion resistance | | μ | | Approx. 17200 |

### Building material class

| | | | |
|---|---|---|---|
| Building material class- Europe | EN 13501-1 | | Euroclass B-s2, d0 for 4-10mm |
| Building material class- Austria | ÖNORM B3800/part 1 | | B11, Q1, TR1, ≥ 2 mm |
| Building material class- Switzerland | | | Fire classification 5 (200°C) .3 |
| Building material class- Germany | DIN 4102 | | B1 for 4-10 mm |
| Building material class- France | NFP 92501 | | M1 for 2-20 mm |

### Licences

| | | | |
|---|---|---|---|
| Façade license Germany | | Institut für Bautechnik-Berlin | 6, 8, 10 mm, License no. Z-33.2-16 |
| ETB guidelines for building components which safeguard against falls, June 1985 balcony railings. | | TU Hannover | Passed (according to building regulation and railing construction 6, 8, 10 or 13 mm panel thickness) |
| Avis Technique France | | CSTB | 6, 8, 10 and 13 mm, Wooden and Metallic Subconstruction, License No. 2/07-1264, 2/07-1265 |

For further information, please refer to localised building regulations, which apply in each case. Vivalda accept no liability.

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# Elements
## Colour Chart


Note 1
E01 White is only available with one of the above standard colours as the reverse. It is not available as a double sided white option, although all other colours come double sided as standard.

Note 2
The printing process may lead to deviations from the actual panel colour. If needed, please request an original sample.

# Vivalda


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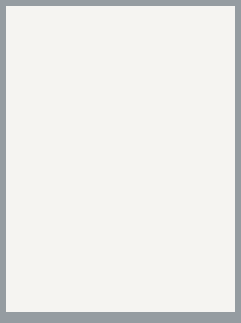

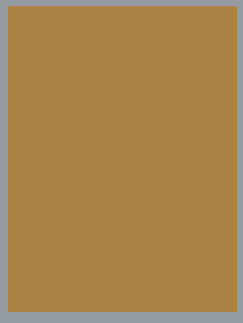
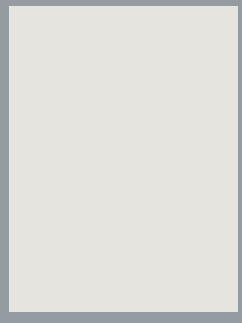

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Tear away