Versa®Floor HD
Floor & Decking board

euroform
www.euroform.co.uk

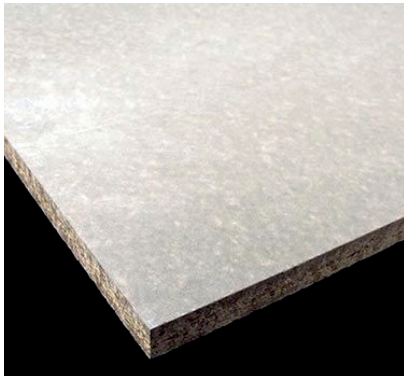
Technical Data Sheet

Versa® Floor HD is a structural, $A2_{fl}$-s1 Reaction to Fire rated, cement bonded particle board with tongue and groove edges.

Versa® Floor HD is highly moisture tolerant with high mass beneficial to noise reduction.

Versa® Floor HD is a flooring and decking board of 'limited combustibility' providing designers with the benefit of reduced risk of combustion compared to traditional wood based flooring boards.

Versa® Floor HD may also be used effectively as a non-structural overlay board for refurbishment and acoustic floor upgrades.



FEATURES and BENEFITS

- Conformity assessed for structural use in floors and decking (CE & UKCA) to BS EN 13986
- Limited combustibility: A2fl-s1 according to BS EN 13501-1
- High density helps noise control within a ceiling/floor system
- Will not rot or degrade in the presence of moisture
- Supplied with Tongue & Groove edges to four sides
- Standard dimensions 1200 x 600 x 18mm or 22mm (laid size) for easy installation
- Can be supplied as a pre-cut kit of parts to suit off-site manufacturing requirements for minimal waste and cutting
- Provides a more solid feel due to higher density when compared with lighter wooden boards such as P5 particle board (P5 chipboard)
- Higher thermal conductivity and heat capacity compared with traditional wood flooring boards

TECHNICAL DATA

Parameter	Value	Standard
Reaction to Fire: EN 13501-1	$A2_{fl}$-s1	-
Density	1560 kg/m^3	+/- 10%
Modulus of elasticity	4000 N/mm^2	-
Bending strength	9 N/mm^2	-
Surface alkalinity	11 - 13 pH	-
Moisture Content (ex-production %)	9%	+/- 3 %
Swelling in thickness (average), G%	0.7 %	-
Thermal Conductivity (tabulated design value)	0.55 λW/(m^0K)	-
Water vapour transmission - wet - dry	30 μ 50 μ	-
Formaldehyde release	E1 class	-
Thickness*	18mm 22mm	+/- 1.2mm +/- 1.5mm
Length and width	1200mm x 600mm (laid size)	+/- 1.5mm
Number of boards per pallet	18mm - 40 22mm - 32	-

* During installation care must be taken regarding potential differences in height between adjacent panels which occur due to product thickness tolerances (max 3.0mm).

When working with surface finishes such as vinyl it is recommended to loose lay boards prior to fixing to determine if levelling will be required between adjacent boards prior to laying the final finish.

Structural flooring and decking loading data

derived from BS EN 12781:2013 test data

Essential characteristic under 50 x 50mm square point load	18mm		22mm	
	400mm	600mm	400mm	600mm
Strength - $F_{max,k}$ (kN)	4.38	2.44	5.77	2.64
Serviceability - $F_{ser,k}$ (kN)	3.07	1.71	4.04	1.84
Stiffness - R_{mean} (N/mm)	1548	742	1595	873

Uniformly distributed loading limit (kN/m^2)	18mm		22mm	
	400mm	600mm	400mm	600mm
Single Span - Stress	5.9	2.5	8.8	3.8
Single Span - Deflection (span/500)	5.2	-	-	-
Continuous - Stress	7.4	3.2	11.1	4.8
Continuous - Deflection (span/500)	1.6	2.9	-	2.8

Recommended modification factors

for 18mm & 22mm Versafloor HD in floor and roof applications

Service Class	k_{mod} (medium-term)	k_{mod} (short-term)	k_{def}	Y_m	Y_Q	k_{red}
1.00	0.65	0.85	2.55	1.25*	1.35**	0.89
2.00	0.45	0.60	3.00	1.25*	1.35**	0.89

* Only to be used for the determination of the point load resistance of Versa® Floor HD board product

** Utilising kFL of 0.9 given in Annex B of BS EN 1990 for reliability Class RC1

Where:

k_{mod} - Modication factor, dependent on the duration of load and service class

k_{def} - Deformation factor, dependent on the service class

Y_m - Partial factor to account for the variability in material properties

Y_Q - Partial factor to account for the variability in the variable action from national annex to BS EN 1990

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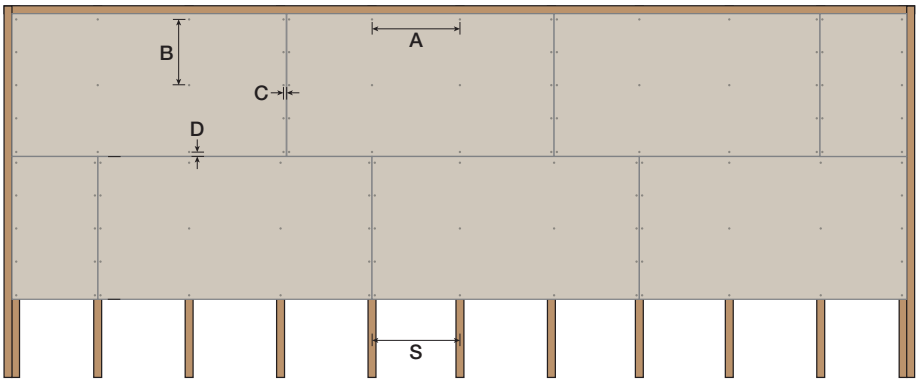
k_{red} - Reduction factor for local types of failure

All testing was carried out with the board applied on to 45mm wide timber joists. However, it is reasonable to assume that the point load resistance of the board would be equivalent for other joist materials as long as the bearing width is greater or equal to 45mm and the centre to centre span between joists is not greater than the measurements shown above (400mm or 600mm).

INSTALLATION INSTRUCTIONS



FIXING CENTRES
(example shown 400mm span)

S = Support Centres

A = 400 or 600mm dependant on centres of support

B = nominal 300mm

C = 25mm

D = 50mm

- ALL Tongue & Grooved edges should be bonded with a suitable adhesive. Please contact Euroform.
- The underside of the boards are clearly marked and must all be face down to joist/substrate.
- Fixing to timber joists - Euroform recommend 4.5 x 62mm screws.
- Fixing to steel joists/ decking sheets up to 1.5mm gauge - Euroform recommend 5.5 x 50mm screws.

Contact Euroform for details of these self drilling, self countersinking screws

Notes:

A 10mm perimeter gap should be allowed around the edge of the installation.

Boards should not be installed with a moisture content over 12%, measurements should be taken prior to laying of Versa® Floor HD to ensure that this is the case.

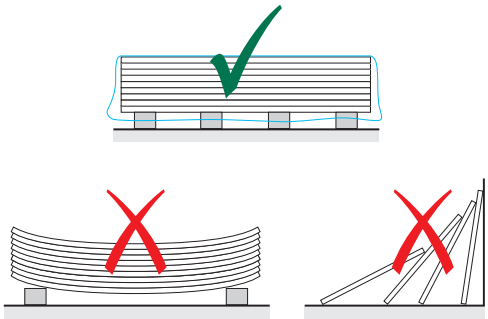
Please read these installation instructions in conjunction with BS 8201 Code of practice for installation of flooring of wood and wood based panels.

The compatibility of primers, screeds, water proofing systems etc. should be checked prior to installation.

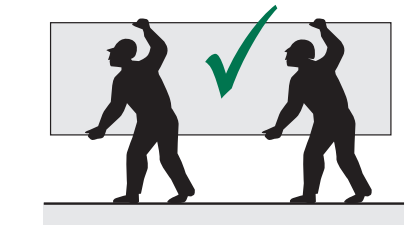
For roofing applications boards must be kept dry prior to water proofing application.

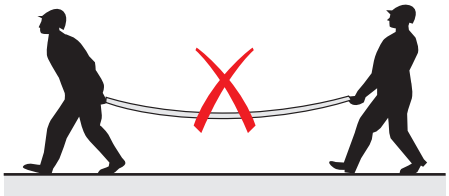
DELIVERY & STORAGE

- Boards should be received in a dry state with pallets protected from weather with plastic sheeting or similar.
- Boards should be stored on flat, dry pallets elevated on skids/battens sufficiently from ground level to prevent board wetting.
- If boards are stored on site for a long period of time they should be kept under cover/ indoors if possible.



- When manually moving boards they should be carried in a vertical orientation.
- A manual handling risk assessment should be undertaken prior to handling the product.





IMPORTANT NOTES

Versa® Floor HD has an ex-works moisture content of 9% +/- 3% and is in equilibrium when the temperature is 20°C with a relative air humidity of 50-60%.

Versa® Floor HD adapts to the ambient humidity level, therefore to adjust to its working conditions it should be allowed to acclimatise for 24-48 hours prior to fixing.

The compatibility of primers, screeds, water proofing systems etc. should be checked prior to installation.

For roofing applications boards must be kept dry prior to water proofing application.

HANDLING SAFETY

Diameter (mm)	CAS	EC	% w/w
Portland Cement*	65997-15-1	266-043-4	40 - 50
Wood Particle	9004-34-6	232-674-9	15 - 20
Inorganic Material	-	-	20 - 30
Binding Agent	-	-	<1
Water (moisture content)	7732-18-5	231-791-2	5 - 10

*Portland Cement is present in its hydrated form as a finished article.

Prolonged contact by exposed skin may show mild irritation at site of contact - long sleeved work clothing and abrasion resistant gloves are recommended for manual handling.

Dry working (drilling, sanding, cutting) can release dusts which may irritate eyes and airways unless controlled.

Positive ventilation is recommended. Tooling should have high efficiency particulate filtering (HEPA) extraction fitted where possible.

CUTTING

Equipment:

- Portable circular saw
- Fixed saw for dimensioning (vertical or horizontal)

Type of blade:

- Alternative or trapezoidal teeth

Diameter (mm)	250	300	350	400
Number of teeth	36	48	54	60
Revolutions (rpm)	3000/ 4500	3000	3000	3000/ 1500

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