

Benx Ltd. Lonsdale Chambers Lonsdale Street Stoke-On-Trent Staffordshire ST4 4BT

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WIND LOAD RESISTANCE ADVISORY SHEET ISO: 5217

SYSTEM: Reference: Original Analysis Date: Analysis Revision Date(s): Densglass 12.7mm SHEATHING BOARD LOADING ANALYSIS 20/06/2022 N/A

Analysis Background

The purpose of this report is to provide a review of the allowable wind-load applied to Densglass board noted in the results. Report results are based on documents:

- BBA Agrement 21/5958,
- BBA Agrement T964150B,
- Evolution Test report No R000454

Material Properties

| Nominal density | 725kg/m ³ | |
|--------------------------------------|---|--|
| Bending Strength | 700psi (4.8 Mpa) Perpendicular to edges | |
| (Modulus of Rupture) f ₀ | | |
| | 560psi (3.9 Mpa) for parallel to edges | |
| Flexural Strength (N) | | |
| Longitudinal | 843N | |
| Transverse | 631N | |
| Modulus of Elasticity E ₀ | Not recorded | |





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Note: Minimum pull through see test report ALL JOINTS 15mm, min 13 - 15r SMOOTH FACE BOARD FOR FIXING INTO METAL FRAMING FOR FIXING INTO TIMBER FRAMING WHX SCREW 4.2mm x 32mm WHX SCREW 4.2mm x 42mm FRAN ensolass boards to butt together 13-15 13-15 DETAIL 'A' 13-15mm 3-15m 285 Ð Ð 13-15mm 300 13-15n Đ DETAIL 'A' DETAIL 'B' DETAIL 'C' @ CORNERS VERTICAL HORIZONTAL 300 EDGES EDGES 13-15 13-15 DETAIL 'B' 27No. DETAIL 'A' 300 200 fixings per sheet 2400 300 285 800 DETAIL 'B' 25No. 300 300 200 fixings per 200 sheet 300 300 8 DETAIL 'C' DETAIL 'C' 285 285 13-15 585 600 600 585 113-15 13-15 585 13-15 585 13-15 13-15 13-15 5 2400 1200 DENSGLASS TYPICAL FIXING DETAILS

Figure 1

MINIMUM EDGE DISTANCE 13-15mm





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TEST RESULTS:

| TABLE 1a: BOARD WIND LOAD CAPACITIES | | | | | |
|---|-----------|-------------------------|-----------------------|--|--|
| 200mm fixing centres and 600mm span between vertical wall studs | | | | | |
| Board type | Thickness | Allowable wind load [SL | wable wind load [SLS] | | |
| | | Single span | Double span | | |
| Densglass | 12.7mm | 2.16Kn/m2 | 0.86kN/m2 | | |

| TABLE 1b: BOARD WIND LOAD CAPACITIES | | | | | |
|---|-----------|---------------------------|-------------|--|--|
| 300mm fixing centres and 600mm span between vertical wall studs | | | | | |
| Board type | Thickness | Allowable wind load [SLS] | | | |
| | | Single span | Double span | | |
| Denglass | 12.7mm | 1.44kN/m2 | 0.57kN/m2 | | |

Green – Allowable wind load governed by pull-through capacity of screws from board





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| Board maximum Design Moment based on bending strength (Flexural Strength) SF 1.5 | | | | |
|--|-----------------------|---------------------|--|--|
| Board Thickness | 12.7mm (Longitudinal) | 12.7mm (Transverse) | | |
| Max Design Moment (kNm) | 0.562 | 0.420 | | |

