

Superwool[®] Plus Boards H, 85, LTI, HTC - Europe

Product Data Sheet



Product Description

Superwool Plus H, 85, LTI, and HTC Boards are made from our patented Superwool low biopersistent fibres. These boards are manufactured using pure raw materials and the latest vacuum forming technology, to offer excellent thermal and physical performance features in high-temperature applications.

Superwool Plus H, 85, LTI, and HTC Boards have high refractoriness and excellent non-wetting characteristics with molten aluminium. Superwool fibres provide excellent stability and resistance to most types of chemical attacks.

Lower thermal conductivity, superior mechanical properties and high-temperature stability offer unmatched performance reliability of these Superwool Plus Boards. If wet by water, steam or oil, thermal and physical properties are restored upon drying.

Superwool Plus H, 85, LTI, and HTC Boards are ideally suited to a wide range of applications and are available in various dimensions. The continuous use temperature depends upon the application and we encourage contacting your regional Morgan Advanced Materials - Thermal Ceramics representative to support specific application requirements.

- Superwool Plus Board H is recommended when a high strength material is required
- Superwool Plus Board 85 is ideally suitable for applications up to 1000°C (1830°F)
- Superwool Plus Board LTI is recommended for applications where thin, rigid insulating panels are required such as domestic boilers
- Superwool HTC Board is specially designed for application up to 1000°C (1830°F) requiring cycling resistance and high mechanical performances as in domestic boilers

Features

- Easily die-cut using a hacksaw blade allowing precise shaping
- Good thermal shock resistance allows use in applications with large variations in temperature
- Low heat storage capacity
- Can be used in direct contact with flame
- Very low thermal conductivity
- Superwool low biopersistent fibres are exonerated and are not classified as carcinogenic by IARC or under any national regulations on a global basis.

Applications

- Molten aluminum contact
- Furnace, kiln, and oven hot face linings
- Flue and chimney linings
- Insulation as backup to firebrick, insulating firebrick, refractory monolithics and rammed shapes
- Appliance and heat processing insulation

Environmental & Health Safety

Superwool low biopersistent fibres manufactured by Morgan Advanced Materials are not classified as carcinogenic by IARC or under any national regulations on a global basis. They have no requirements for warning labels under GHS (Globally Harmonised System for the classification and labelling of chemicals).

In Europe, Superwool fibres meet the requirements specified under Note Q of European Regulation EC/1272/2008 (on Classification, Labelling and Packaging of substances and mixtures). All Morgan Advanced Materials Superwool low biopersistent fibre products are therefore exonerated from classification and labelling as hazardous in Europe.

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| | Superwool Plus Board H | Superwool Plus Board 85 | Superwool Plus Board LTI | Superwool HTC Board >20mm | Superwool HTC Board <18mm |
|---|------------------------|-------------------------|--------------------------|---------------------------|---------------------------|
| Colour | white/tan | white/tan | white/tan | tan | tan |
| Classification Temperature, °C (°F), ISO 10635 | 900 (1652) | 1000 (1832) | 1100 (2012) | 1150 (2102) | 1150 (2102) |
| Density, kg/m³ (pcf), ASTM C612-14 | 520 (32.4) | 320 (20) | 350 (21.8) | 380 (24) | 480 (30) |
| Compressive Strength, 10% deformation, MPa (psi), ASTM C165 | 1.1 (159.5) | 0.3 (43.5) | 0.3 (43.5) | 0.5 (73) | 0.6 (87) |
| Permanent Linear Shrinkage, %, ISO 10635 | | | | | |
| @ Classification Temperature | 1.2 | 0.9 | 1 | 1.6 | 1.6 |
| Modulus of Rupture, Unfired, MPa (psi), ASTM C165 | 3.5 (507.5) | 0.8 (116) | 1.5 (217.5) | - | - |
| Water Absorption | 2 | 2 | - | - | - |
| Loss of Ignition, LOI, 650°C | | | | | |
| after 2 hours heating @ 800°C (1472°F) | 10 | 5 | 5 | 5.5 | 5.5 |
| Chemical Analysis, % | | | | | |
| Alumina, Al ₂ O ₃ | 11 | 10 | 4 | 6 | 8 |
| Silica, SiO ₂ | 71 | 60 | 67 | 72 | 73 |
| Calcium oxide + Magnesium oxide, CaO + MgO | 15 | 28 | 27 | 20 | 17 |
| Other | 3 | 2 | 2 | 2 | 2 |
| Thermal Conductivity, W/m•K (BTU•in/hr•ft²•°F), ASTM C201 | | | | | |
| 200°C (392°F) | 0.06 (0.42) | 0.06 (0.42) | 0.06 (0.42) | 0.09 (0.62) | 0.09 (0.62) |
| 400°C (752°F) | 0.07 (0.49) | 0.08 (0.56) | 0.07 (0.49) | 0.10 (0.69) | 0.12 (0.83) |
| 600°C (1112°F) | 0.10 (0.69) | 0.12 (0.83) | 0.10 (0.69) | 0.13 (0.90) | 0.15 (1.04) |
| 800°C (1472°F) | 0.14 (0.97) | 0.16 (1.11) | 0.14 (0.97) | 0.18 (1.25) | 0.19 (1.32) |
| 1000°C (1832°F) | 0.19 (1.32) | 0.21 (1.46) | 0.18 (1.25) | 0.25 (1.73) | 0.24 (1.67) |
| 1100°C (2012°F) | - | - | 0.19 (1.32) | 0.29 (2.01) | 0.26 (1.80) |

Product Availability

These boards are manufactured in Europe. Packaging is listed for the Europe regional business. Please contact your regional Morgan Advanced Materials - Thermal Ceramics representative to support packaging availability for your regional business needs.

Boards can be packed in cartons or on pallets which are shrink wrapped with recyclable plastic.

| Dimensions | | | |
|---|-----------------------------|-----------------------------|---------------------------|
| Superwool Plus Board H, 85, LTI and HTC Boards are available as standard size 1200mm x 1000mm (48in x 40in) | | | |
| These boards can be supplied with aluminium foiling on request. | | | |
| Tolerances | | | |
| Superwool Plus H | 20mm thickness, max +/-1 | 25mm thickness, max +/-2 | |
| Superwool Plus 85 | | 25-50mm thickness, +/-2 | |
| Superwool Plus LTI | 6-9mm thickness, max +/-0.5 | 10-15mm thickness, max +/-1 | |
| Superwool HTC | 6mm thickness, max +/-0.5 | <18mm thickness, max +/-1 | >20mm thickness, max +/-2 |

Whilst the values and application information in this datasheet are typical, they are given for guidance only. The values and the information given are subject to normal manufacturing variation and may be subject to change without notice. Morgan Advanced Materials – Thermal Ceramics makes no guarantees and gives no warranties about the suitability of a product and you should seek advice to confirm the product's suitability for use with Morgan Advanced Materials - Thermal Ceramics.