

## V-1100 (375) Vermiculite insulating boards

for hot-face and back-up insulation - up to 1100°C (2012°F)



|  |                                |                      |
|--|--------------------------------|----------------------|
| Maximum service temperature  |                                |                      |
|  | °C                             | 1100                 |
|  | °F                             | 2012                 |
| Bulk density, dry  |                                |                      |
|  | kg/m <sup>3</sup>              | 375                  |
|  | lbs/cu.ft.                     | 23.4                 |
| Compressive strength (EN 1094-5: 1995)<br>@ room temperature   | MPa                            | 1.3                  |
|  | lbs/sq.in.                     | 189                  |
| Modulus of rupture (EN 993-6: 1995)  |                                |                      |
|  | MPa                            | 0.5                  |
|  | lbs/sq.in.                     | 73                   |
| Total porosity (EN 1094-4: 1995)   |                                |                      |
|  | %                              | 86                   |
| Specific heat  |                                |                      |
|  | kJ/(kg×K)                      | 0.94                 |
|  | BTU/(lb×°F)                    | 0.224                |
| Coefficient of reversible thermal expansion (BS 1902: section 5.3: 1990)<br>@ 20°C-750°C (68°F-1382°F) | K <sup>-1</sup>                | 11×10 <sup>-6</sup>  |
|  | °F <sup>-1</sup>               | 6.1×10 <sup>-6</sup> |
| Resistance to thermal shock (EN 993-11: 1998)<br>heating to 950°C (1742°F)                             | cycles                         | >10                  |
| Linear reheat shrinkage (EN 1094-6: 1999)<br>@ 1000°C  | %                              | 1.0                  |
| @ 1100°C   | %                              | 0                    |
| Pyrometric cone equivalent (ASTM C24-89 ORTON cones)   |                                |                      |
|  | °C                             | 1300                 |
|  | °F                             | 2372                 |
| Thermal conductivity (ASTM C-182)  |                                |                      |
| mean temp. @ 200°C   | W/(m×K)                        | 0.12                 |
| mean temp. @ 400°C   | W/(m×K)                        | 0.14                 |
| mean temp. @ 600°C   | W/(m×K)                        | 0.16                 |
| mean temp. @ 800°C   | W/(m×K)                        | -                    |
| mean temp. @ 1000°C  | W/(m×K)                        | -                    |
| mean temp. @ 392°F   | BTU/(sq.ft.×h×°F/in.)          | 0.83                 |
| mean temp. @ 752°F   | BTU/(sq.ft.×h×°F/in.)          | 0.97                 |
| mean temp. @ 1112°F  | BTU/(sq.ft.×h×°F/in.)          | 1.11                 |
| mean temp. @ 1472°F  | BTU/(sq.ft.×h×°F/in.)          | -                    |
| mean temp. @ 1832°F  | BTU/(sq.ft.×h×°F/in.)          | -                    |
| Chemical analysis, typical   | %                              |                      |
| Silica   | SiO <sub>2</sub>               | 47                   |
| Titanium dioxide   | TiO <sub>2</sub>               | 0.5                  |
| Ferric oxide   | Fe <sub>2</sub> O <sub>3</sub> | 4                    |
| Alumina  | Al <sub>2</sub> O <sub>3</sub> | 7                    |
| Magnesium oxide  | MgO                            | 21                   |
| Calcium oxide  | CaO                            | 2                    |
| Sodium oxide   | Na <sub>2</sub> O              | 0.5                  |
| Potassium oxide  | K <sub>2</sub> O               | 11                   |
| Loss on ignition 1025°C (1877°F)   | LOI                            | 7                    |
| Colour   |                                | sand                 |

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Data are average results of tests conducted under standard procedures and are subject to variation. Data contained in this data sheet are supplied in good faith as a technical service and are subject to change without notice. Misprint and errors excepted.

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