**Material - ROCK MINERAL WOOL | Form – PRE-FORMED PIPE SECTIONS**

**Product Reference: KNAUF INSULATION TS POWER-TEK PS 680**

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| **Properties** | **ASTM Reference** | **Requirements \*** |
| **Material** | **ASTM C547** | **Rock Mineral Wool Preformed Pipe Section****Type IIA** |
| **Maximum Density** | ASTM C302 | Maximum 140 Kg/m3 **\*\*** |
| **Maximum Use Temperature** | ASTM C447 / C411 | Up to 650 °C (1200 °F) |
| **Exothermic Temperature Rise** | ASTM C447 / C411 | Maximum 111 °C (200 °F) |
| **Apparent Thermal Conductivity** | ASTM C335 | Mean temperature °C (°F) | Thermal conductivityW/m·K (Btu∙in/h∙ft²∙°F) |
| 100 (38) | 0.036 (0.25) |
| 200 (93) | 0.045 (0.31) |
| 300 (149) | 0.053 (0.37) |
| 400 (204) | 0.065 (0.45) |
| 500 (260) | 0.078 (0.54) |
| 600 (316) | 0.094 (0.65) |
| 700 (371) | 0.111 (0.77) |
| **Sag Resistance (% thickness)** | ASTM C411 | Maximum 5% |
| **Non-Fibrous (Shot) Content (% by weight)** | ASTM C1335 | Maximum 25% |
| **Water Vapor Sorption (% by weight)** | ASTM C1104 | Maximum 5% |
| **Corrosiveness** | ASTM C795 | Passed |
| **Surface burning characteristics**  | ASTM E84 | Maximum FSI *(Flame Spread Index)* = 25Maximum SDI *(Smoke Developed Index)* = 50 |
| **Linear Shrinkage (length, max, % change after change)** | ASTM C356 | Maximum 2% |
| **Dimensions and Tolerances (on label)** | ASTM C302 | Maximum Length Tolerance: ± 3 mm Maximum Deviation from Concentricity: ± 5 mm  |
| **Health and Safety Aspects** | Fiber Melting point: ≥ 1000 °C (DIN 4102-17)Approximate nominal diameter of fibers: < 5 µmLength weight geometric mean diameter less 2 standard errors: < 6 µm |
| **Packaging and Storage** | To ensure optimum product performance, when packaging is removed or opened, products should be stored inside or covered to protect them from ingress of rain water or snow. Storage arrangements should ensure stability of stacked products and use on a first in first out basis (FIFO) is recommended. Delivered packed in polyethylene film and or on wooden pallets.No specific material or group of materials is likely to react with the product to produce a hazardous situation. |
| **Sizes** | Length: 1200 mmStandard thickness range: 20 mm ÷ 120 mm |

 \* Requirements according to the standard ASTM C547

\*\* Recommended maximum value (no apparent density requirement in ASTM C547)