

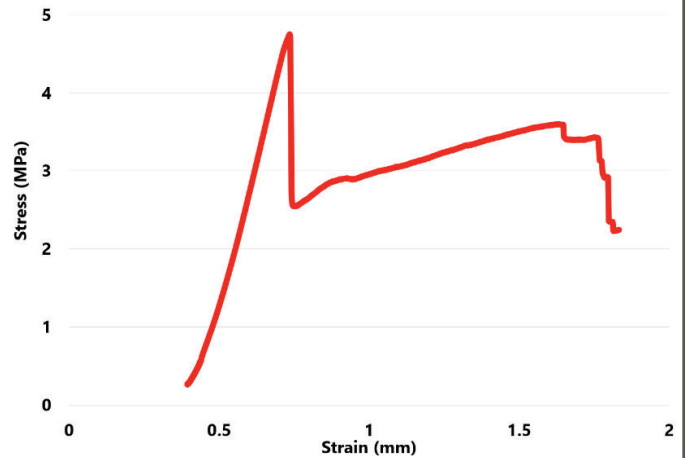


# PYROTEK K28-01

## COMPOSITE REFRACTORY

Pyrotek's K28-01 composite body delivers both strength and toughness by combining a silica-based refractory matrix with a strategically oriented high-temperature fiberglass reinforcement. Low thermal expansion combined with thermal toughness provides an impressive combination of properties that help to combat operational induced stresses that can lead to crack generation and propagation. In the unlikely event that components fracture, the strategically oriented reinforcement fabric helps prevent fracture propagation. Furthermore, the material's engineered thermal conductivity accommodates many current casting practices. To help the K28-01 composite body resist the corrosive behavior of molten metal alloys it has been equipped with protective non-wetting technology.

The stress-strain curve (upper right) displays the beneficial properties of the oriented reinforcement fabric. After peak strength yield, the fracture energy is collected and redistributed by the reinforcement fabric enabling extensive strain to be accommodated by the K28-01 composite body.



### BENEFITS

- Low thermal expansion
- Desired strength and toughness
- Low thermal conductivity
- Thermal shock resistant
- Non-wetting
- No refractory ceramic fibers (non-RCF)

### APPLICATIONS

Hycast<sup>®</sup> Gas Cushion (GC) Vertical Direct Chill (VDC) Billet Casting Transition Plates

### ADDITIONAL INFORMATION

This technical datasheet doesn't constitute a specification.

### PHYSICAL PROPERTIES

Material Property	K28-01
Density-g/cm <sup>3</sup> (lb/ft <sup>3</sup> )	1.00 (62.43)
Modulus of Rupture-MPa (psi) @ 25°C	4.5 (653)
Cold Crushing Strength-MPa (psi)	20 (2901)
Coefficient of Thermal Expansion-10 <sup>-6</sup> /°C (10 <sup>-6</sup> /°F)	1.8 (1.0)
Thermal Conductivity-W/m-K (BTU-in/ft <sup>2</sup> -hr-°F) at 300°C at 500°C at 700°C	0.29 (2.01) 0.31 (2.15) 0.32 (2.22)
Thermal Shrinkage (Linear)-24 hours at 750°C (1382°F)	0%

