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ENGLISH

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FORMULA 9-BL

Thermbond Refractories use the patented Stellar Binder System™ for easy and accurate mixing, controlled setting, fast dry-out and heat up, thermal shock resistance and other unique properties. Thermbond chemically bonds to existing fired refractories. CHARACTERISTICS: - Alumina - Silica - Dense - Fast Setting - Fast Curing -

| PACKAGING | | |
|----------------------|---------------|--------------|
| Unit Equivalent | Bags: 1 | Jugs: 1 |
| Bag Weight* | 60 lbs | 27.2 kg |
| Jug Weight* | 8 lbs | 3.6 kg |
| Drum Weight* | 400 lbs | 181.4 kg |
| Unit Weight* | 68 lbs | 30.7 kg |
| Yield / Unit* | 0.45 ft3 | 0.013 m3 |
| Units / Ton* | 29.59 short | 32.61 metric |
| Board Feet / Unit* | 5.4 bd ft | |
| Wet to Dry Ratio* | 12.7% - 13.9% | |
| Liquid Activator | FORMULA | |
| Bags Per Pallet | 48 | |
| Drums Per Dry Pallet | 1 | |

| APPLICATION | |
|---------------|---------|
| Data based on | Casting |

| BULK DENSITY** | | |
|--------------------|-------------|------------|
| As Placed | 150 lbs/ft3 | 2403 kg/m3 |
| After 1500F (816C) | 140 lbs/ft3 | 2243 kg/m3 |

| MAXIMUM RECOMMENDED SERVICE TEMP** | | |
|------------------------------------|--------|--------|
| Hot Face | 3000 F | 1649 C |

| COMPRESSIVE STRENGTH** | | | |
|------------------------|----------|------------|----------|
| 1500F (816C) | 2800 psi | 197 kg/cm2 | 19 N/mm2 |
| 2000F (1093C) | 4500 psi | 316 kg/cm2 | 31 N/mm2 |
| 2500F (1371C) | 5000 psi | 352 kg/cm2 | 34 N/mm2 |

| PERMANENT LINEAR CHANGE** | |
|---------------------------|--------|
| 1500F (816C) | -0.35% |
| 2000F (1093C) | -0.40% |
| 2500F (1371C) | 0.30% |

| TYPICAL CHEMICAL ANALYSIS (After 1500F (816C))** | |
|--|---------|
| Al2O3 | 56.04% |
| SiO2 | 34.01% |
| Fe2O3 | 0.80% |
| P2O5 | 5.27% |
| Other | 3.88% |
| Total | 100.00% |

| THERMAL CONDUCTIVITY** | | |
|------------------------|----------------------|------------|
| 600F (316C) | 8.5 Btu-in/hr-ft2-F | 1.23 W/m K |
| 1200F (649C) | 9.1 Btu-in/hr-ft2-F | 1.31 W/m K |
| 1800F (982C) | 9.5 Btu-in/hr-ft2-F | 1.37 W/m K |
| 2400F (1316C) | 10.1 Btu-in/hr-ft2-F | 1.45 W/m K |

| COLD MODULUS OF RUPTURE** | | | |
|---------------------------|----------|-----------|---------|
| 1500F (816C) | 750 psi | 53 kg/cm2 | 5 N/mm2 |
| 2000F (1093C) | 950 psi | 67 kg/cm2 | 7 N/mm2 |
| 2500F (1371C) | 1050 psi | 74 kg/cm2 | 7 N/mm2 |

| HOT MODULUS OF RUPTURE** | | | |
|--------------------------|----------|------------|----------|
| 1500F (816C) | 1700 psi | 120 kg/cm2 | 12 N/mm2 |

*Measures are approximate and may vary. For mixing partial units, contact Stellar Materials for specific wet-to-dry ratios. See Installation Guide for more detailed information.

**Test data shown are based on averages subject to normal variation on individual tests, and therefore should not be assumed to be maximum or minimum specifications.

Due to the unique nature of the Stellar binder system, test procedures vary slightly from ASTM. Documentation of these variations is available upon request.