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ENGLISH

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FORMULA 9-A

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 - Abrasion Resistant - 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 | |

| COMPRESSIVE STRENGTH** | | | |
|------------------------|-----------|------------|----------|
| 1500F (816C) | 4000 psi | 281 kg/cm2 | 28 N/mm2 |
| 2000F (1093C) | 8000 psi | 562 kg/cm2 | 55 N/mm2 |
| 2500F (1371C) | 12000 psi | 844 kg/cm2 | 83 N/mm2 |

| PERMANENT LINEAR CHANGE** | |
|---------------------------|--------|
| 1500F (816C) | -0.20% |
| 2000F (1093C) | -0.40% |
| 2500F (1371C) | -0.69% |

| TYPICAL CHEMICAL ANALYSIS (After 1500F (816C))** | |
|--|---------|
| Al2O3 | 56.93% |
| SiO2 | 32.71% |
| Fe2O3 | 0.77% |
| P2O5 | 5.23% |
| Other | 4.35% |
| Total | 100.00% |

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

| 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 |

| 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 |

| COLD MODULUS OF RUPTURE** | | | |
|---------------------------|----------|------------|----------|
| 1500F (816C) | 850 psi | 60 kg/cm2 | 6 N/mm2 |
| 2000F (1093C) | 1750 psi | 123 kg/cm2 | 12 N/mm2 |
| 2500F (1371C) | 2750 psi | 193 kg/cm2 | 19 N/mm2 |

| ABRASION RESISTANCE** (ASTM C-704) | |
|------------------------------------|-------------|
| After 1500F (816C) | <16 cc loss |

| HOT MODULUS OF RUPTURE** | | | |
|--------------------------|----------|------------|----------|
| 1500F (816C) | 2400 psi | 169 kg/cm2 | 17 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.