



USA:(561) 330-9300

www.thermbond.com
 STELLAR MATERIALS INCORPORATED

EU:+31 (10) 2460264

ENGLISH

Revision 07/08/2002 (Check www.thermbond.com for updates)

FORMULA 5-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: - High Alumina - Very Dense - Abrasion Resistant - Non-Wetting - 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* | 0.39 ft3 | 0.011 m3 |
| Units / Ton* | 29.59 short | 32.61 metric |
| Board Feet / Unit* | 4.6 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 | 175 lbs/ft3 | 2803 kg/m3 |
| After 1500F (816C) | 165 lbs/ft3 | 2643 kg/m3 |

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

| ABRASION RESISTANCE** (ASTM C-704) | |
|------------------------------------|------------|
| After 1500F (816C) | <8 cc loss |

| MOLTEN METAL CONTACT | |
|----------------------|--|
| - Aluminum - Zinc - | |

| COMPRESSIVE STRENGTH** | | | |
|------------------------|-----------|------------|----------|
| 1500F (816C) | 8000 psi | 562 kg/cm2 | 55 N/mm2 |
| 2000F (1093C) | 10500 psi | 738 kg/cm2 | 72 N/mm2 |
| 2500F (1371C) | 10375 psi | 729 kg/cm2 | 72 N/mm2 |

| PERMANENT LINEAR CHANGE** | |
|---------------------------|--------|
| 1500F (816C) | -0.22% |
| 2000F (1093C) | -0.43% |
| 2500F (1371C) | -1.64% |

| TYPICAL CHEMICAL ANALYSIS (After 1500F (816C))** | |
|--|---------|
| Al2O3 | 85.95% |
| SiO2 | 1.99% |
| Fe2O3 | 0.97% |
| P2O5 | 5.17% |
| Other | 5.91% |
| Total | 100.00% |

| THERMAL CONDUCTIVITY** | | |
|------------------------|----------------------|------------|
| 600F (316C) | 14.8 Btu-in/hr-ft2-F | 2.14 W/m K |
| 1200F (649C) | 12.7 Btu-in/hr-ft2-F | 1.83 W/m K |
| 1800F (982C) | 12.1 Btu-in/hr-ft2-F | 1.75 W/m K |
| 2400F (1316C) | 12.5 Btu-in/hr-ft2-F | 1.80 W/m K |

| COLD MODULUS OF RUPTURE** | | | |
|---------------------------|----------|------------|----------|
| 1500F (816C) | 1100 psi | 77 kg/cm2 | 8 N/mm2 |
| 2000F (1093C) | 1450 psi | 102 kg/cm2 | 10 N/mm2 |
| 2500F (1371C) | 1475 psi | 104 kg/cm2 | 10 N/mm2 |

| HOT MODULUS OF RUPTURE** | | | |
|--------------------------|----------|------------|----------|
| 1500F (816C) | 2106 psi | 148 kg/cm2 | 15 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.