



# Plibrico Company, LLC

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# Technical Data Sheet Redline Rapidcast AL Fine

Product # 53207

Available Internationally As:

Redline Rapidcast AL Fine

### Product Description:

Fine grained, high purity mullite based castable features a unique chemical bonding system. Fast setting times for quick turnaround and bake out. Excellent strengths, non-wetting properties, and thermal shock resistance. Great choice for molten aluminum contact applications: thin cross sections, patching existing furnace linings, transfer troughs, ladles, degas boxes, and precast shapes. Adheres extremely well to existing refractory surfaces.

**Standard Packaging:** 55 # / 25 kg Bag

**Shelf Life:** 9 months

**Service Limit:** 3100 °F 1700 °C

**Contact Limit:** 1700 °F 927 °C

**Bulk Density - In Service:** 161 pcf 2579 kg/m<sup>3</sup>

**Bulk Density - To Place:** 161 pcf 2579 kg/m<sup>3</sup>

**Minimum Time To Firing:** 4 hr

**Abrasion Loss after 1500°F / 815°C**  
 per ASTM C704

N/A cc

| Chemistry (calcined) %         |      |                               |     |                  |  |
|--------------------------------|------|-------------------------------|-----|------------------|--|
| Al <sub>2</sub> O <sub>3</sub> | 63.5 | Alk                           | 0.1 | MgO              |  |
| SiO <sub>2</sub>               | 27.1 | TiO <sub>2</sub>              | 1.6 | ZrO <sub>2</sub> |  |
| CaO                            |      | P <sub>2</sub> O <sub>5</sub> | 4.8 | Other            |  |
| Fe <sub>2</sub> O <sub>3</sub> | 0.8  | SiC                           |     |                  |  |

| Water Range Per Standard Package |     | %   | Quarts | Liters |
|----------------------------------|-----|-----|--------|--------|
| Vib Casting                      | min | 6.1 | 1.6    | 1.5    |
|                                  | max |     |        |        |
| Casting                          | min | 6.1 | 1.6    | 1.5    |
|                                  | max |     |        |        |
| Pumping                          | min |     |        |        |
|                                  | max |     |        |        |

| Coefficient of Thermal Expansion (reversible): |                             |
|--|-----------------------------|
| x 10 <sup>-6</sup> in/in/°F                    | x 10 <sup>-6</sup> mm/mm/°C |

| Thermal Conductivity | btu*in/hr*ft <sup>2</sup> *°F | W/m°C |
|----------------------|-------------------------------|-------|
| 500°F / 260°C        |                               |       |
| 1000°F / 540°C       |                               |       |
| 1500°F / 815°C       | 12.1                          | 1.74  |
| 2000°F / 1090°C      | 12.9                          | 1.86  |

| Temperature |      | Linear Change%<br>per ASTM C113 | CCS<br>per ASTM C133 |      | Cold MOR<br>per ASTM C133 |     | Hot MOR<br>per ASTM C583 |     |
|-------------|------|---------------------------------|----------------------|------|---------------------------|-----|--------------------------|-----|
| °F          | °C   |                                 | psi                  | MPa  | psi                       | MPa | psi                      | MPa |
| 750         | 400  | -0.1                            | 6500                 | 45.0 |                           |     |                          |     |
| 1500        | 820  | -0.2                            | 7400                 | 51.0 | 1110                      | 7.7 |                          |     |
| 2000        | 1090 | -0.2                            |                      |      | 1340                      | 9.2 |                          |     |

Other Data:

Release Date: 1 Oct 1999

Heat Up Guide: Redline Schedule 2

ASTM Class:

Refractory material should be stored in a cool, dry environment.

**Note:** All data are averaged results of ASTM tests (where applicable) on laboratory specimens. Reasonable variations in data can be expected. Data is not to be used for specification purposes. Product data is periodically updated to reflect product, raw material, process and/or testing changes. Please consult your Plibrico representative to make sure you have the most current data.