

# MC-25® PLUS



## Product Data

2/13: 5951

### Description: High-Strength, Coarse Aggregate Castable

- Features:
- Possesses two to three times the strength of regular dense castables.
  - Has excellent resistance to thermal shock.
  - Coarse-grain technology for outstanding toughness.
  - Withstands heavy loads and mechanical abuse.

### Chemical Analysis: Approximate (Calcined Basis)

Silica (SiO <sub>2</sub> )	40.2%
Alumina (Al <sub>2</sub> O <sub>3</sub> )	49.1%
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )	2.3%
Titania (TiO <sub>2</sub> )	1.3%
Lime (CaO)	6.7%
Magnesia (MgO)	0.3%
Alkalies (Na <sub>2</sub> O+K <sub>2</sub> O)	0.1%

Physical Data (Typical)	Hand Cast
Maximum Service Temperature	2550°F (1400°C)
Material Required	125 lb/ft <sup>3</sup> (2.00 g/cm <sup>3</sup> )
Bulk Density	lb/ft <sup>3</sup> (g/cm <sup>3</sup> )
After 220°F (105°C)	130 (2.08)
After 1500°F (815°C)	125 (2.00)
Modulus of Rupture	lb/in. <sup>2</sup> (MPa)
After 220°F (105°C)	1,000 (6.7)
After 1500°F (815°C)	400 (2.8)
After 2000°F (1095°C)	300 (2.1)
Cold Crushing Strength	lb/in. <sup>2</sup> (MPa)
After 220°F (105°C)	4,300 (29.7)
After 1500°F (815°C)	2,700 (18.6)
After 2000°F (1095°C)	2,300 (15.9)
Permanent Linear Change	
After 220°F (105°C)	-0.1%
After 1500°F (815°C)	-0.2%
After 2000°F (1095°C)	-0.2%
After 2500°F (1370°C)	+0.5%
Thermal Conductivity	Btu·in/hr·ft <sup>2</sup> ·°F (W/m·°C)
At 400°F (205°C)	6.1 (0.88)
At 800°F (425°C)	6.1 (0.88)
At 1200°F (650°C)	6.2 (0.89)
At 1600°F (870°C)	6.3 (0.91)
At 2000°F (1095°C)	6.4 (0.92)
At 2400°F (1315°C)	6.6 (0.95)

### Particle Size

Maximum Grain Sizing ¾-inch Mesh	Less than 8%
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Note: The test data shown are based on average results on production samples and are subject to normal variation on individual tests. The test data cannot be taken as minimum or maximum values for specification purposes. ASTM test procedures used when applicable.

## Product Data

Mixing and Using Instructions (Water calculated at 8.337 lb/gallon)	55 lb bag	1000 lb bag	1500 lb bag
<b>Water Required—Vibration Casting (Weight 11.0%)</b>			
Pounds	6.1	110.0	165.0
Gallons	0.7	13.2	19.8
Liters	2.7	49.8	74.8
<b>Water Required— Hand Casting (Weight 12.0%)</b>			
Pounds	6.6	120.0	180.0
Gallons	0.8	14.4	21.6
Liters	3.0	54.4	81.6
Working Time	20 minutes		
For detailed mixing and using instructions, contact your HWI representative or visit <a href="http://www.thinkHWI.com">www.thinkHWI.com</a> .			
<b>Heatup/Dryout Schedule</b>			
See HWI Dryout Schedule 2—PLUS Rated Castables and Gunning Castables.			
<b>Installation Guidelines</b>			
See HWI Installation Guidelines CC-1—Conventional Castables—Standard.			
Shelf Life (Under Proper Storage Conditions)	365 days		