

# VERSAFLOW<sup>®</sup> 60 PLUS



## Product Data

Ref: 198/31/10/12

Description: 60% Alumina low cement castable.

- Features:
- Excellent abrasion resistance.
  - High hot strengths at 1370°C.
  - High refractoriness.
  - Can be vibration cast, conventionally cast, or pumped with slight adjustment to water content.

- Uses:
- Iron and steel foundries - replacing brick, plastics and other castables in foundry ladles and forge furnace car decks.
  - Ceramic Kilns - Car decks exposed to high temperatures and thermal cycling.
  - Aluminum Furnaces - Upper sidewalls and roofs.
  - Steel Industry - Ladle covers, tundish covers, tundish safety lining and precast shapes for tundishes.
  - Rotary Kilns - Nose rings, lifters, firing hoods, coolers and preheater maintenance.
  - Incineration - Charging zones, burners, rotary kilns.

### Chemical Analysis: Approximate (Calcined Basis)

Silica - SiO <sub>2</sub>	30.3%
Alumina - Al <sub>2</sub> O <sub>3</sub>	64.7%
Titania - TiO <sub>2</sub>	2.3%
Iron Oxide - Fe <sub>2</sub> O <sub>3</sub>	1.0%
Lime - CaO	1.5%
Magnesia - MgO	0.1%
Alkalies - Na <sub>2</sub> O + K <sub>2</sub> O	0.2%

### Physical Properties

Physical Properties	Vibration Cast
Maximum Recommended Temperature	1705°C
Quantity Required	2355 Kgs/m <sup>3</sup>
Water required for mixing per 100 Kgs	4.5 - 5.5 Litres Approximately
Bulk Density	Kgs/m <sup>3</sup>
After Heating at 105°C	2400 - 2600
Modulus of Rupture - ASTM C133 and C865	MPa
After Heating at 105°C	9.0 - 15.0
After Heating at 815°C	15.0 - 20.0
After Heating at 1095°C	15.0 - 20.0
Hot Modulus of Rupture	MPa
At 1370°C	4.1
Cold Crushing Strength - ASTM C133 and C865	MPa
After Heating at 105°C	65.0 - 105.0
After Heating at 815°C	50.0 - 70.0
After Heating at 1095°C	50.0 - 70.0
Permanent Linear Change - ASTM C113 and C865	
After Heating at 105°C	Nil
After Heating at 815°C	0.2% Shr
After Heating at 1650°C	1.1% Shr
Thermal Conductivity	W/mK
At 200°C	1.59
At 400°C	1.60
At 600°C	1.63
At 800°C	1.68
At 1000°C	1.76
Shelf Life (Under Proper Storage Conditions)	180 days

Note: The test data shown are based on average results of control tests and are subject to normal variation on individual tests. These results cannot be taken as maximum or minimum requirements for specification purposes.

MSDS, Installation Guidelines and Dry Out Schedules are also available.

