

PLASTECH® 90P



Product Data

02/10: 038A

Description: Extra-High-Alumina, Phosphate-Bonded, Plastic Refractory

- Features:
- High density.
 - Outstanding strength and refractoriness.
 - Long shelf life of 6 months results in less waste.
 - Stable workability over time.
 - Excellent pliability enables less time to install.
 - Available in Soft, Standard, and Firm consistencies.
 - Incorporates ANH PLUS technology and can be fast-fired.

- Uses:
- Steel and foundry ladles.
 - Argon-oxygen decarburization vessel spouts.
 - Reheat furnace hearths.
 - Iron coreless and channel induction furnace spouts.
 - Aluminum and brass furnace door jambs.
 - Aluminum furnace sidewall bellyband repairs.
 - Forge furnace hearths.
 - Fluid catalytic cracker cyclones and transfer lines.
 - Cement kiln nose rings.
 - Any application that requires ultra-high-performance plastic.

Chemical Analysis: Approximate (Calcined Basis)

Silica (SiO ₂)	5.0%
Alumina (Al ₂ O ₃)	90.0%
Iron Oxide (Fe ₂ O ₃)	0.1%
Titania (TiO ₂)	0.1%
Lime (CaO)	0.2%
Magnesia (MgO)	0.1%
Alkalies (Na ₂ O+K ₂ O)	0.3%
Phosphorus Pentoxide (P ₂ O ₅)	4.3%

Physical Data (Typical)

Maximum Service Temperature	3200°F (1760°C)
Material Required	197 lb/ft ³ (3.16 g/cm ³)
Bulk Density	lb/ft ³ (g/cm ³)
After 650°F (343°C)	182 (2.92)
After 2550°F (1400°C)	173 (2.77)
Modulus of Rupture	lb/in. ² (MPa)
After 650°F (343°C)	2,800 (19.3)
After 2550°F (1400°C)	1,800 (12.4)
Hot Modulus of Rupture	lb/in. ² (MPa)
At 2550°F (1400°C)	400 (2.8)
Cold Crushing Strength	lb/in. ² (MPa)
After 650°F (343°C)	9,000 (62.0)
After 2550°F (1400°C)	7,900 (54.5)

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Permanent Linear Change	
After 650°F (343°C)	-0.5%
From 650°F (343°C) to 2550°F (1400°C)	+1.5%
Abrasion Loss	
After 1500°F (816°C)	3.5 cc
Thermal Conductivity	Btu · in/hr · ft ² · °F (W/m · °C)
At 400°F (205°C)	15.8 (2.28)
At 800°F (425°C)	15.5 (2.23)
At 1200°F (650°C)	15.2 (2.19)
At 1600°F (870°C)	14.9 (2.15)
At 2000°F (1095°C)	15.4 (2.22)

Note: The data given above are based on averages of the results of a small number of test specimens made in the laboratory. Variation from the above data may occur in individual tests and in large-scale plant production. The test data cannot be taken as minimum or maximum values for specification purposes. ASTM test procedures used when applicable.

Mixing and Using Information

Material is supplied ready to use.

Heatup/Dryout Schedule

See ANH Dryout Schedule 6—PLUS Rated Plastics and Rams.

Installation Guidelines

See ANH Installation Guidelines P-1—Plastics.

Shelf Life (Under Proper Storage Conditions) 180 days