ACTCHEM®

Allied Mineral Products Technology

Superior Abrasion Resistant Materials

The ACTCHEM® product line offers refractory materials that have exceptional strength and abrasion resistance. We design our materials with only the most important characteristics in mind:

- Superior abrasion resistance
- Insensitivity to minor water variations
- Consistent properties
- Stability in the presense of water
- Rapid firing
- Ease of installation
- Gunning installation
- Slumping resistance

ACTCHEM® products can be used in a wide variety of applications and industries requiring superior abrasion resistance.

ACTCHEM® 45, 75, and 85 have unique properties of slumping resistance and their ability to be installed easily by hand packing, ramming or gunning.

Abrasion Resistance

Ideal solution for thin, abrasion resistant linings, especially in extreme environments of the petroleum refining industry such as cyclones, air distributors, risers, and transfer lines.

Stable In Presence of Water

Once completely set, can be hydro-tested without affecting material properties. After firing, linings can be exposed to water without compromising integrity.

Gunning Installations

Compatible with gunning installation methods, offering flexibility in application.

Water Tolerance

Relatively insensitive to water addition; increasing water contents tend to make the material stickier.

Rapid Firing

Thin linings (< 2” (50mm)) thick rammed with ACTCHEM® products (45, 75, 85) can be fired from ambient to operating temperature at 100°F (55°C) per hour.

Slumping Resistance

Designed for overhead installations in areas where vibration is present. The materials must be mixed to the proper consistency and installed with the appropriate anchoring system for this application.

Consistent Properties

Consistent properties throughout the thickness of the material. As material wears, the properties remain constant.

Ease of Installation

Designed easy installation into all refractory anchoring systems by hand packing. The material can also be installed using pneumatic rammers. Materials have a long working time, which greatly reduces material waste.

For best results, mix with a high intensity mixer, e.g., planetary mixer, for at least five minutes. Other mixers may require adjustments in mixing time and water content.

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ALLIED MINERAL PRODUCTS

ACTCHEM® Products Technical Data

Products	ACTCHEM® 45	ACTCHEM® 45 VC	ACTCHEM® 45 TF	ACTCHEM® 75	ACTCHEM® 75 VC	ACTCHEM® 85	ACTCHEM® 85 FG	ACTCHEM® 85 TF	ACTCHEM® 85 VC
Method of Application	Hand Pack, Gunned	Vibration Cast	Self-Leveling	Hand Pack, Gunned	Vibration Cast	Hand Pack, Gunned	Hand Pack, Troweling, Brush Coating	Self-Leveling	Vibration Cast
Max Service Temperature, °F (°C)	2700 (1482)	2700 (1482)	2700 (1482)	2300 (1260)	2800 (1538)	2300 (1260)	2300 (1260)	2800 (1538)	2800 (1538)
Abrasion loss, CC	≤ 6 cc	≤ 7 cc	≤ 7 cc	≤ 4 cc	≤ 4 cc	≤ 3 cc	≤ 4 cc	≤ 4 cc	≤ 4 cc
Density, lb/ft^3 (g/cm^3) 1500°F (815°C)	142 (2.27)	144 (2.31)	142 (2.32)	170 (2.72)	165 (2.64)	183 (2.90)	175 (2.80)	180 (2.88)	186 (2.98)
Cold Crushing Strength, psi (MPa) 1500°F (815°C)	>15,000 (>103)	>14,000 (>96)	>12,000 (>83)	>20,000 (>138)	>15,000 (>103)	>15,000 (>103)	>15,000 (>103)	>15,000 (>103)	>13,000 (>89)
Permanent Linear Change, (%) 1500°F (815°C)	-0.2 to -0.4	-0.2 to -0.4	-0.2 to -0.4	-0.2 to -0.4	-0.2 to -0.4	-0.2 to -0.4	-0.2 to -0.4	-0.3 to -0.4	-0.2 to -0.4
Alumina - Al_2O_3 (%)	46	43	49	75	80	83	84	87	86
Silica - SiO_2 (%)	46	49	47	17	13	8	9	8	8
Calcium Oxide - CaO (%)	3	3	3	3	2	2	2	2	2