Morflo® 165X Monolithic

Product Data Sheet

Product Description

Morflo 165X is a 1650°C (3000°F) grade, low cement monolithic with exceptionally high fluidity allowing for installation of the most intricate shapes with minimal water.

Instructions for using

Casting: Highest strength is obtained with monolithic refractory by using the least amount of clean mixing water that will allow thorough working of material into place by vibration. A mechanical mixer is required for proper placement (paddle type mortar mixers are best suited). After adding the recommended amount of water, wet mix for 5-6 minutes. Place material within 30 minutes after mixing.

Watertight forms must be used when placing material. All porous surfaces that will come in contact with the material must be waterproofed with a suitable coating or membrane. For maximum strength, cure 24 –48 hours in a damp condition before initial heat-up. Keep freshly placed monolithic warm during cold weather, ideally between 16°C and 27°C (60°F and 80°F) until it has taken a firm set and wet curing is complete. New monolithic installations must be heated slowly the first time.

For detailed installation instructions and commissioning schedules, please contact your Morgan Advanced Materials- Thermal Ceramics representative.

Properties	Morflo 165X
Region of Manufacture	Americas
Bond type	Hydraulic
Raw material base	Chamotte / Bauxite
Method of installation	Cast
Maximum grain size, mm	7
Maximum service temperature, °C (°F)	1649 (3000)
Net material requirement, kg/m^3 (pcf)	2563 (160)
Water addition, % by weight	
casting by vibrating	5.2-6.2
Packaging in bags, kg (lbs)	25 (55)

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Properties	Morflo 165X
Bulk Density, kg/m^3 (pcf), ASTM C134	
fired 5 hours @ 816°C (1500°F)	2483-2659 (155-166)
Cold Crushing Strength, MPa (psi), ASTM C133	
dried 24 hours @ 105°C (220°F)	65.5-96.6 (9500-14000)
fired 5 hours @ 816°C (1500°F)	65.5-96.6 (9500-14000)
fired 5 hours @ 1000°C (1832°F)	69.0-110.3 (10000-16000)
fired 5 hours @ 1600°C (2912°F)	96.6-144.8 (14000-21000)
Permanent Linear Change, %, ASTM C113	
dried 24 hours @ 105°C (220°F)	0 to -0.2
fired 5 hours @ 816°C (1500°F)	-0.1 to -0.3
fired 5 hours @ 1000°C (1832°F)	-0.1 to -0.4
fired 5 hours @ 1600°C (2912°F)	-0.5 to +1.5
Abrasion loss, cm^3, ASTM C704	
fired 5 hours @ 816°C (1500°F)	7-12
Chemical Analysis, %, Calcined Basis	
Alumina, Al2O3	65
Silica, SiO2	29
Ferric Oxide, Fe2O3	1.0
Titanium Oxide, TiO2	2.3
Calcium Oxide, CaO	2.0
Alkali as, K2O+Na2O	0.5
Thermal Conductivity, W/m•K (BTU•in/hr•ft^2•°F) , ASTM C417	
600°C (1112°F)	1.93 (13.4)

Storage and Shelf Life

- Monolithics should be stored in a dry, well-ventilated area and held off the ground on pallets ideally with the original packaging intact. Keep out of rain and damp conditions.
- Normal shelf life is 9 months from date of manufacture when properly stored.

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