Hicast® HT

Product Data Sheet

Product Description

A low cement, 1650°C (3000°F) castable with high strengths at all temperatures, low porosity and excellent abrasion, impact and alkali resistance. It is recommended for heat treatment furnaces hearth lining as walking beam, pusher furnaces, rotary kiln and forge furnace. Typical applications include also door jambs, lintels, piers, cartops, skid pipe protection and rotary kiln nose rings, retainer rings and dams.

Properties	Hicast HT
Region of Manufacture	Europe
Bond Type	Hydraulic
Method of application	Cast
Maximum Service Temperature, °C (°F)	1650 (3000)
Estimated weight of dry material/ m^3 of construction, kg (lb)	2530 (158)
Water addition, % by weight	5.5 - 6.5
Maximum grain size, mm	6
Packaging in bags, kg (lb)	25 (55)

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Density, kg/m^3 (pcf), ASTM C134	
oven dried, 110°C (230°F)	2530 (157.9)
Cold crushing strength, MPa (psi), ASTM C133	
oven dried, 110°C (230°C)	75 (10875)
after 5 hours firing, 815°C (1500°F)	85 (12325)
after 5 hours firing, 1000°C (1832°F)	106 (15370)
after 5 hours firing, 1650°C (3000°F)	110 (15950)
Permanent linear change, %, ASTM C113	
after 5 hours firing, 815°C (1500°F)	-0.2
after 5 hours firing, 1000°C (1832°F)	-0.3
after 5 hours firing, 1650°C (3000°F)	+/-1.8
Thermal conductivity, W/m•K (BTU•in./hr•ft²•°F), ASTM C201/417	
600°C (1112°F)	183 (12.7)
Chemical composition, %	
Alumina, Al_2O_3	67
Silica, SiO_2	27
Calcium Oxide, CaO	1.7
Ferric Oxide, Fe_2O_3	1.0

Instruction for Use

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 vibrating. A mechanical mixer is required for proper placement (paddle type mortar mixers are best suited). After adding the recommended amount of water, mix for 4-6 minutes. Place material within 20 minutes after mixing.

This must be installed under closely controlled conditions using mechanical mixers and vibration. The resultant concrete has a dense, low permeability structure and care must be exercised during initial heating.

Storage and Shelf Life

- Should be stored in dry conditions, unopened packaging on pallets. Do not store on ground. Keep out of rain and damp conditions.
- Shelf life is of six months with original packaging, double shrink film and dehydrating agent provided if the monolithic is stored under these recommended conditions.

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