

## Product Description

A low cement, 1600°C (2900°F) castable with high strengths at all temperatures. It has a low porosity comparable to dense bricks; it has an excellent abrasion, thermal shock, 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 Super
Region of Manufacture	Europe
Bond Type	Hydraulic
Method of application	Cast
Maximum Service Temperature, °C (°F)	1600 (2900)
Estimated weight of dry material/ m <sup>3</sup> of construction, kg (lb)	2300 (144)
Water addition, % by weight	5.5 - 6.5
Maximum grain size, mm	6
Packaging in bags, kg (lb)	25 (55)

Whilst the values and application information in this datasheet are typical, they are given for guidance only. The values and the information given are subject to normal manufacturing variation and may be subject to change without notice. Morgan Advanced Materials – Thermal Ceramics makes no guarantees and gives no warranties about the suitability of a product and you should seek advice to confirm the product's suitability for use with Morgan Advanced Materials - Thermal Ceramics.

# Hicast<sup>®</sup> Super

## Product Data Sheet



Density, kg/m <sup>3</sup> (pcf), ASTM C134	
oven dried, 110°C (230°F)	2300 (143.5)
Cold crushing strength, MPa (psi), ASTM C133	
oven dried, 110°C (230°F)	94 (13630)
after 5 hours firing, 1000°C (1832°F)	96 (13920)
after 5 hours firing, 1600°C (2912°F)	96 (13920)
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, 1600°C (2912°F)	-0.8
Thermal conductivity, W/m•K (BTU•in./hr•ft <sup>2</sup> •°F), ASTM C201/417	
600°C (1112°F)	1.53 (10.62)
Chemical composition, %	
Alumina, Al <sub>2</sub> O <sub>3</sub>	49
Silica, SiO <sub>2</sub>	47
Calcium Oxide, CaO	2
Ferric Oxide, Fe <sub>2</sub> O <sub>3</sub>	0.8

### 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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