

CAST SHAPE

Technical Data Sheet

Material

CAST SHAPE is an insulating concrete without ceramic fiber.

The material has lowest thermal conductivity, high thermal shock resistance and an easy setting.

For further information please visit www.deltaphoenix.it

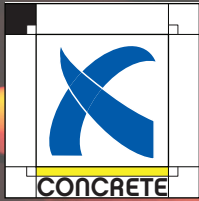
General information

Main component:	Silica - Alumina
Granulometry:	0-1 mm
Melting temperature:	>1450 °C
Highest usage temperature:	1100 °C
Chemical analysis after heating at 150 °C:	Al ₂ O ₃ +TiO ₂ : 24-27 % CaO : 5-6 % SiO ₂ : 59-61 % BaO : 6-8 %
Water quantity:	18-20 [liters/100 kg dry material]
Density after heating at 1000 °C:	1800 [kg/m ³]
Reversible expansion at 1000 °C:	0,3 %
Expansion (+) or shrinkage (-) after heating at:	150 °C : 0,00 [%] 700 °C : -0,4 [%] 1100 °C : -1,0 [%]
Compressive strength after setting:	24,52 [MPa]
Compressive strength after heating at:	700 °C : 20,59 [MPa]
Application:	Casting with little vibration
Drying:	see drying graph in application sheet



CAST SHAPE is an official brand of Delta Phoenix srl

Delta Phoenix srl Via XXV Aprile, 15, 25030 Maclodio (Brescia), ITALY. Phone +39 030 978241, Fax +39 030 9973964, www.deltaphoenix.it, Mail: info@deltaphoenix.it



CAST SHAPE

Main properties

Main properties of **CAST SHAPE** are:

- highest thermal insulation, with resulting energy saving
- Good workability after setting, which let material to be set with shaping machines to obtain special elements
- fast and easy setting
- material is aluminum-proof, to easy clean surface

Storage

CAST SHAPE package: 25 kg plastic bags.

To preserve bags in good conditions, it's necessary to store them in dry, fresh and aired warehouse, to keep them lifted from the floor and far from walls. If the mixing becomes wet it can harden in the bags and/or reduce its mechanical behavior. If it happens, material cannot be used.

If environmental temperature is low, do not store material at below-zero degree to avoid ice-forming during mixing. If it is not possible, place material bags in an area with at least 15 °C for 48 hours before adding water.

If environmental temperature is high, store material bags far from sun light and heat sources.

Because of binders used in the material, if storage is in dry, aired and fresh warehouse the duration of material is 12 months.



Pic 1: Riser for low pressure casting



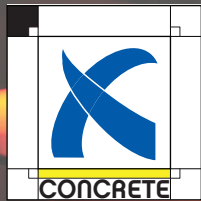
Pic 2: Runners

Because of the variation of raw materials used there it should be slight change in the above data. This cannot concern our Company. We can change any specifications to improve material qualities without any preventive communication always in respect of our unconditional evaluation.



CAST SHAPE is an official brand of Delta Phoenix srl

Delta Phoenix srl Via XXV Aprile, 15, 25030 Maclodio (Brescia), ITALY. Phone +39 030 978241, Fax +39 030 9973964, www.deltaphoenix.it, Mail: info@deltaphoenix.it



CAST SHAPE

Application

Fields of application

CAST SHAPE can be used to produce pre-shaped pieces for Aluminum production market .

Main application fields are:

1. Casting runner
2. Floatings
3. Nozzles
4. Ladles
5. Stokes
6. Holding furnaces

Setting up and tools

Please set up tools and mixing area before starting. Environmental temperature during mixing must be between 20°C and 25 °C. If necessary, apply to keep that range during the time of mixing and setting. That range of temperatures is important also for quarterdecks used for casting.

Also water temperature used for mixing has to be between 20°C and 25 °C. Use only pure and clean water.

Verify workers, tools and moulds are ready for setting up pieces, considering material setting time.

Mixers, trowels, vibrators, barrels have to be cleaned before starting.

Do not mix material under rain or direct sun light.

To mix material, use a horizontal concrete mixer

Implementation

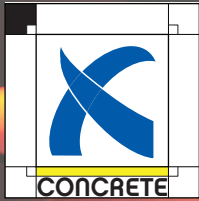
Follow the following list:

1. Put dry material in horizontal concrete mixer
2. Turn on concrete mixer, than add water
3. Mix for 5-7 minutes
4. cast material in the mould with little vibration
5. Keep material setting at least 24 hours before removing the mould
6. Remove the mould
7. Keep material as it is at environmental temperature for 36 hours, at least
8. Start drying following the drying curve in the next page



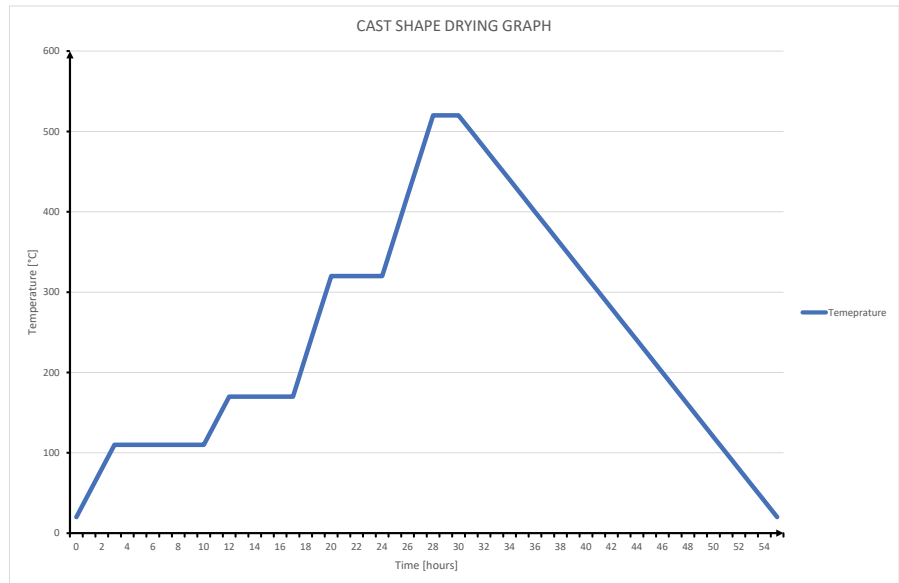
CAST SHAPE is an official brand of Delta Phoenix srl

Delta Phoenix srl Via XXV Aprile, 15, 25030 Maclodio (Brescia), ITALY. Phone +39 030 978241, Fax +39 030 9973964, www.deltaphoenix.it, Mail: info@deltaphoenix.it



CAST SHAPE

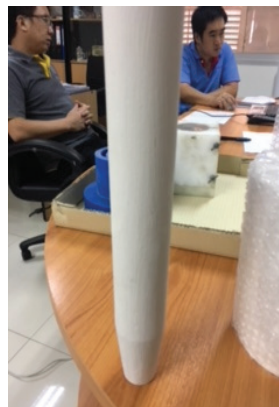
Drying path



1. Rise temperature 30°C/h for 3 hours till gain a temperature of 110 °C
2. Keep 110 °C for 7 hours
3. Rise again 30 °C/h for 2 hours till gain a temperature of 170 °C
4. Keep 170 °C for 5 hours
5. Rise temperature 50 °C/h for about 2,5 hours till gain a temperature of 300 °C
6. Keep 300 °C for 3,5 hours
7. Rise again 50°C/h till gain a temperature of 500 °C
8. keep 500 °C for 2 hours
9. Let drop temperature slowly till environmental one



Pic 3: Riser tube for low pressure casting



Pic 4: Stopper



Pic 5: Pouring gate