PLASTER

ISOTOP 2000

Technical Data Sheet

Material

ISOTOP 2000 is a ready-to-use plastic insulating material without ceramic fiber, which has a high thermal insulating behavior and a high refractoriness. It can be used in direct contact to melted liquid (till 1750 °C)

For further information visit www.deltaphoenix.it

General informations

Main component:	Alumina
Melting temperature:	1925 °C
Highest usage temperature:	1750 °C
Chemical analysis after heating at 150 °C:	Al_2O_3+TiO_2 : 86-87 % SiO_2 : 12-13 % Na_2O+K_2O : 0,5-1,0 %
Density after setting:	1900 [kg/m^3]
Density after heating at 1000 °C:	1500 [kg/m^3]
Thermal conductivity:	400 °C : 0,58 [W/(m•K)] 1000 °C : 0,64 [W/(m•K)] 1350 °C : 0,90 [W/(m•K)]
Reversible expansion at 1000 °C:	0,96 %
Expansion (+) or shrinkage (-) after heating at:	150 °C : 0,00 [%] 1000 °C : -0,1 [%] 1500 °C : -1,5 [%]
Compressive strength after heating at:	150 °C : 10,79 [MPa] 1000 °C : 19,22 [MPa] 1500 °C : 23,54 [MPa]
Application:	by hand /trowel
Drying:	see drying path described above

Fields of application

- Protective layer of casting ladles for pig-iron and steel
- Protective layer for casting runners, cupola furnaces, receivers
- Repairing of heaters' cones

ISOTOP 2000 is an official brand of Delta Phoenix srl
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Main technical characteristics

ISOTOP 2000 is a thermal insulating ready-to-use plastic material with the following main technical characteristics:

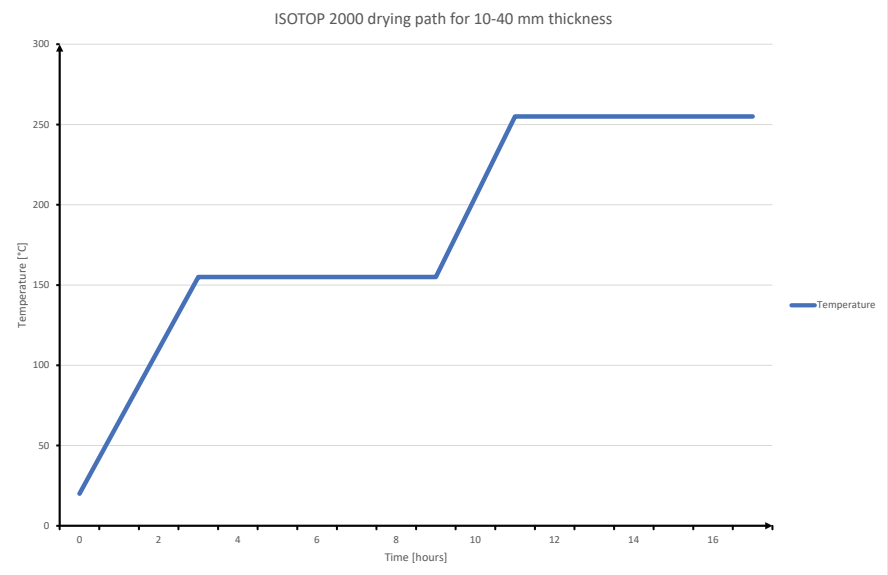
- high thermal insulation
- high refractoriness
- easy workability and plasticity
- high bonding property

Storage

ISOTOP 2000 package: 25 kg or 20 kg plastic bags inside plastic barrels.
To preserve best conditions, it's necessary to store material in fresh, haired, dry warehouse, lifted from floor and far from walls.
Storage temperature: 5 °C - 30 °C
If all the information above are confirmed, storage time is 12 months

Drying path

Follow the following drying path, keeping attention to temperature and time listed:



After cooling the material to environmental temperature, it's necessary to close holes and little cracks on the surface using one of the following methods:

- Painting or spraying **STUCK SIN**
- Painting or spraying **TIXOBOND 27** with a thickness of 2-3 mm (specifically developed for pig iron)
- Painting **STUCK SPA** with a thickness of 1.5-5 mm (specifically developed for steel)
- Drying path is completed only after rising 700/900 °C with an increment of 50/100° C per hour

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Application

Fields of application

- Protective layer of casting ladles for pig-iron and steel
- Protective layer for casting runners, cupola furnaces, receivers
- Repairing of heaters' cones

Essential tools

ISOTOP 2000 is a ready-to-use plastic material which can be applied by hand (wearing protective gloves) or by trowel with the warning to wet it to let the material detach itself from the tool

Preparation of the support

1. Clean surfaces (bricks, concrete, carpentry,...)where material is needed. No dust, slug, metals and any other unstable element is allowed.
2. Wet surfaces before application using **STUCH PH 10**. If this thing is not possible, wet surfaces using **ISOTOP 2000** pre-mixed with 20% of water.

Pic 1: **ISOTOP 2000** application by hand on pig-iron ladle

Pic 2: Application ended

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Implementation

ISOTOP 2000 is a ready-to-use plastic material; no mixing or water adding is necessary.

1. Apply **ISOTOP 2000** on wet surfaces as-it-is by hand and/or by trowel, keeping attention to homogenize it with itself and pressing it on the surface.

2. Once application is ended, smooth the surface using a trowel, keeping attention to use the same smoothing direction.

N.B. : material sticks to tools. keep close a barrel of water to clean tools to easy-detach material from them.

3. Once smoothing is ended, if the thickness is higher then 20 mm, it is necessary to create holes of 2-5 mm of diameter every 30-40 mm trough the whole thickness of material to easy drying it.

It is possible to start drying material immediately after the implementation

Pic 3: drying with free flame

Pic 4: drying with burner

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