

## Data Sheet

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### Kerapatch

Kerapatch is a phosphate bonded chrome-alumina plastic material. The material is used for maintenance purpose to extend the life span of the refractory material and is mainly used to repair cracks and provide protection against abrasive and chemical wear.

#### Composition:

- The aggregate is fused chrome alumina: a high purity synthetic alpha alumina polycrystalline aggregate with good temperature and chemical stability. The matrix is tabular alumina which has good bonding properties and thermal shock resistance.
- The phosphate binder develops high strength at 100°C. A complex series of dehydration reactions follow, culminating in a very strong anhydrous bond at 400°C. The ceramic bond develops from 1000°C, and rapidly above 1200°C.
- Before the phosphate becomes pyroplastic, the chrome-alumina bond is well developed. Consequently, it has very high strength over the whole temperature range from 100°C to 1700°C.

#### Chemical Analysis (%):

Al <sub>2</sub> O <sub>3</sub>	82.0
Cr <sub>2</sub> O <sub>3</sub>	7.2
Fe <sub>2</sub> O <sub>3</sub>	1.7
SiO <sub>2</sub>	4.0
TiO <sub>2</sub>	0.02
CaO	1.5
MgO	0.2
Na <sub>2</sub> O	0.3
K <sub>2</sub> O	1.0
P <sub>2</sub> O <sub>5</sub>	3.4

#### Uses:

1. Induction furnace repairs.
2. Metal splash shields.
3. Launder tips.
4. Sliding gate maintenance.
5. Long-life ladles and teapot ladle repairs.
6. Runners and launders.
7. Water-cooled plate protection.

#### Application:

##### Applying Kerapatch on a cold / room temperature surface:

- Remove the slag from ladles and spouts before applying the Kerapatch.
- Can be applied in layers 5 mm – 10 mm thick
- To fill fine cracks, the consistency of the Kerapatch can be modified by adding **very** small amounts of water in order to have a consistency that will fill the crack.
- A layer can be applied over the filled crack but not thicker than 10 mm.
- Kerapatch must be dried at temperatures between 100 – 400 before use. Some foundries use a fire to dry the Kerapatch. It is important that the Kerapatch is dried out before use as it is a temperature setting material.

##### Applying Kerapatch on a hot surface:

Material is heat setting.

Open the bucket and scoop out with a trowel. Squeeze it into position and trowel it down to about 10mm thick.

It hardens rapidly and can be built up in successive layers. Single thick layers tend to bloat badly.

#### Packaging and Storage:

It is supplied in 20 kg plastic buckets, ready to install.

Store in a cool / room temperature place

#### Shelf - Life

Material which has gone stiff can be remixed to the required consistency.

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