Technical Datasheet

ISOMAT AK-FIRE

Refractory mortar for laying and grouting firebricks

Description

ISOMAT AK-FIRE is a high-quality cement-based mortar for firebricks. Composed of high alumina cement with carefully graded quartz aggregates, it features outstanding resistance to high temperatures and extreme temperature variations, excellent workability, moisture resistance and high initial and final adhesion strength.
Certified according to EN 998-2 and classified as a designed general purpose masonry mortar, for external use, in elements subject to structural requirements. CE marked. Certificate No.: 0906-CPR-02412008.

Fields of application

Suitable for laying and grouting all kinds of firebricks in constructions where high temperatures are developed (fireplaces, wood ovens, stoves, barbecues, chimneys, etc.). Ideal for repairing damaged mortar joints of firebricks. Suitable for indoor and outdoor applications.

Technical data

Form:	cementitious powder
Color:	grey
Water demand:	4.75 l/25 kg bag
Bulk density of dry mortar:	1.55 ± 0.10 kg/l
Bulk density of fresh mortar:	1.80 ± 0.10 kg/l
Application temperature:	from +5^{0}C to +35^{0}C
Compressive strength: (EN 1015-11)	Category M 25
Flexural strength:	> 6.0 N/mm^2
Initial shear strength: (tab. value)	0.15 N/mm^2
Reaction to fire: (EN 13501-1)	Class A1
Density (dry hardened mortar): (EN 1015-10)	1,700 kg/m^3
Water absorption: (EN 1015-18)	≤ 0.3 kg/m^{2}min$^{0.5}$
Water vapor permeability: (EN 1745, tab. value)	μ 15/35
Thermal conductivity: ($\lambda_{10,\ dry}$) (EN 1745, tab. mean value; P = 50 %)	0.75 W/mK
Pot life:	at least 3 h
Service temperature:	up to +1,200ºC

Directions for use

1. Substrate preparation
Firebricks should be clean, free of dust, mud, loose particles, etc. Before application, firebricks must be thoroughly dampened.

2. Application
ISOMAT AK-FIRE is added to water under continuous stirring, until a mixture of the desired workability is formed. The product is applied by hand using a trowel for both fixing and grouting firebricks. For the formation of wide joints, the use of plastic or metal spacers is recommended. Any excess material should be removed before drying and the surface should be cleaned with a slightly wet sponge to prevent firebricks from staining.
In case of using ISOMAT AK-FIRE for grouting, joints should be filled with the product using a trowel and the final joint formation is accomplished using a suitable margin trowel or a specially designed plate. When applying outdoors or at high temperatures, repeated dampening with a sponge is recommended to avoid quick drying of the grout.

Consumption

The consumption of ISOMAT AK-FIRE depends on firebrick dimensions and joint width. Indicatively, for firebricks with dimensions of 20x10x3 cm and joint width 1 cm the consumption is about 5 kg/m^2.

Packaging

ISOMAT AK-FIRE is supplied in bags of 5 kg and 25 kg.

ISOMAT AK-FIRE

Shelf life – Storage

- 25 kg paper bags:
  12 months from production date.
- 5 kg plastic bags:
  18 months from production date.

The above information is valid if the product is stored in original, unopened packaging, in cool, dry conditions.

Remarks

- Fireplaces and ovens should not be used until the mortar has developed sufficient initial strength and, preferably, at least one week after the completion of the application.
- Please consult the safety instructions written on the packaging before use.

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Designed general purpose masonry mortar for external use in elements subject to structural requirements

Compressive strength: Category M 25

Initial shear strength: 0.15 N/mm^2 (tab. value)

Reaction to fire: Class A1

Water absorption: ≤0.3 kg/(m^{2}min$^{0.5}$)

Water vapor permeability: μ 15/35 (tab. value)

Thermal conductivity: ($\lambda_{10,dry}$) 0.75 W/(mK)
(tab. mean value; P = 50 %)

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