

REFRACTORY CEMENT

HALDENWANGER refractory cement is an inorganic adhesive which is resistant to temperatures of up to 1500°C. The surfaces to be joined together must be carefully cleaned of dirt, grease or oil. Remove all traces of the chemicals used for the cleaning (benzine, acetone, soap powder) before applying the HALDENWANGER refractory cement. The faces must be completely dry.

Depending on the desired consistency the cement should be mixed homogeneously using 2 to 4 volume parts powder and one volume part liquid. Apply a layer on each of the surfaces to be joined together. The cement sets by chemical reaction. Therefore only mix a quantity that can be processed within 1 hour.

Always store the refractory cement at temperatures above freezing point.

PRECAUTIONS:

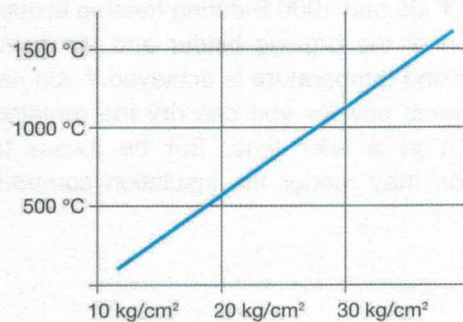
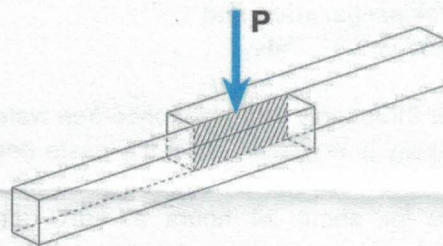
Please make sure to wear protective goggles to protect your eyes against splashes. If the material comes in contact with eyes, immediately rinse eyes and consult a doctor.

Safety data sheet at
www.haldenwanger.de

Good mechanical strength of the HALDENWANGER refractory cement is obtained after about 24 to 36 hours drying at air at room temperature. Drying at higher temperatures will accelerate the hardening process and improve the final mechanical strength.

The mechanical strength of the HALDENWANGER refractory cement as a function of the baking temperature was ascertained in a test. Square sectioned Sillimantin 60 rods were cemented together at defined faces and heated to the temperatures indicated in the diagram. The cemented areas of the two pieces were then stressed at room temperature until fracture occurred. The relation between the mechanical strength and the baking temperature proved to be linear.

HALDENWANGER refractory cement should not be used for electrical isolation. We have developed our insulation compounds for such purpose.



Bekannter Versender:
DE/KC/01697-01/0618

Morgan Advanced Materials Haldenwanger GmbH ist international zertifiziert nach
ISO 9001:2008 | ISO 14001:2004 | BS OHSAS 18001:2007 | ISO 50001:2011



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Haldenwanger Ceramics
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Insulation compounds

Insulation compounds are used for embedding or fixing electrical heating coils on ceramic material. An exception is our compound SKA 90 (see below). Insulating compounds are also used for levelling out joints and cracks and for kiln repair. Firing supports can also be made from insulating compounds. The compounds are prepared by mixing the powder with water. They set by heating. Final strength is achieved by heating to the firing temperature indicated in the table. This procedure minimizes postshrinkage. HALDENWANGER insulation compounds are electrolyte-free to ensure good electrical insulation even at very high temperatures.

Instructions for preparation and use of insulation compounds

Mix the powder thoroughly with electrolyte-free water. Best processability is achieved when the paste does not stick to the back of your hand. Let the insulation compound dry for about 24 hours at 50°C after application. When hardened the material can then be scraped, filed or drilled. The insulation material reaches its final strength after heating to the required baking temperature. It is recommended to line the kiln tube with thermal insulation. The first heating should be done with care. Initial blackening of the compounds 1000 and 1000 F during heating is due to carbonization of the organic binder and disappears when the baking temperature is achieved. If you have mixed too much powder you can dry the remainder and reuse it at a later time. But be aware that contamination may render the insulation compound unusable.

Information about kiln design

The electric heating coils must be evenly spaced. Check the spaces with a gauge before you apply the insulation compound. Kilns heated with chrome-nickel wire (temperatures higher than 1000°C) should not be operated at supply voltage. The service life of the heating coils will be longer if the voltage is 100 V or less.

We recommend to use electrolyte-free water to prepare the insulation compounds. The salts contained in normal tap water impair the electrical resistance of the insulation compounds. This is especially important for kilns operating at high temperatures. If insulation compounds are to be reused make sure to only use electrolyte-free water. For heating wires with diameters of 1 mm and more we recommend to use the insulation compound 60 for temperatures up to 1350°C and the insulation compound 1000 for temperatures up to 1800°C.

For wire diameters smaller than 1 mm we recommend to use the insulation compound 250 for temperatures up to 1350°C and the insulation compound 1000 F for temperatures up to 1800°C.

Insulation Compound SKA 90

This insulation compound was developed to withstand slag attack. It is used for lining crucibles used for melting precious metals. Crucibles without lining may contaminate the precious metal melt. Besides excellent corrosion resistance this compound excels in extremely good thermal shock resistance. If processed properly the crucible walls will not chip off.