

GENERAL

The properties of an inorganic adhesive are mainly influenced by the filler, its purity and particle size distribution.

Impurities as a result of the mixing process or the water used can deteriorate the electrical properties (always use deionised water). Not homogenous particle size can lead to disturbances of the structure and thereby deteriorate the mechanical properties of the cured cement.

As all products - also the one in powder form - tend to settle, they have to be well stirred up before use, e.g. on a drum roller (roller block).

While mixing it must be taken care that as few of air as possible is stirred in. Applications with e.g. extreme stable temperature or optimal gas density require a stirring under vacuum or a supplementary de-airing at minimum 4 torr.

SURFACE PREPARATION

The materials to be bonded have to be carefully cleaned from rust, oil films, grease and dirt. For an optimal adhesion the joining parts should be sand-blasted (0,5 mm grain) and afterwards degreased.

Porous, sucking materials (ceramic, concrete) should be primed with solvent L-10 resp. L-20 directly before the adhesion takes place. Like this a "blow away" of the solvent prevents a weakening of the bond structure. By large areas of metal/metal or metal/ceramic parts the adhesive should be applied in lines. As a result of this application method the different thermal expansion coefficients can better be absorbed and also the shrinking during cure be reduced.

Materials with strong alkali surfaces (pH > 9) can prevent a cure of the adhesive. Alkali surfaces can be neutralised with a 10% hydrochloric acid solution.

Working temperatures

The best temperatures for the use of Cerastil is between +10°C to +35°C. It has to be taken care that the product and the parts to be bonded have a temperature as equal as possible.

Temperatures under +10°C prevent the cure.

Cure Conditions

The product is diluted with water. Always take deionized water for e.g. not disturbing electrical properties.

The hereafter mentioned cure conditions are approximate values if good physical properties of the cured product, a small porosity and vacuum density are required. For best performance the product should reach while the curing process the maximum working temperature.

If the requirements are not very demanding, shorter times with higher cure temperatures may be applied.



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Air-drying products - complete cure cycle

	2 - 3 days	at	room temperature
+	4 hours	at	+80 °C
+	5 °C/h.	to	+120 °C
+	4 hours	at	+120 °C
+	50 °C/h..	to	working temperature

2. Chemically reacting products - complete cure cycle

	1 - 2 days	at	room temperature
+	4 hours	at	+80 °C
+	20 °C/h.	to	+250 °C
+	8 hours	at	+250 °C
+	50 °C/h..	to	working temperature

At the first application material should not be cooled down with a shock effect.

Other advises

When mixing some Cerastil type with solvent L-20 instead of water the pot life can be considerably shortened, e.g. with Cerastil C-3. Likewise a higher lap shear strength may be achieved on some other types.

Please read the corresponding **Safety Data Sheet** for the product.



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