

PRODUCT DATA SHEET

GripKey 1000

Keying and bonding agent for plasters and cementitious products

Product Description:

GripKey 1000 is a Styrene/Butadiene Copolymer Latex that has been specifically designed as a latex admixture for use in cement compositions. The use of **GripKey1000** as an admixture offers improved adhesion to substrate, toughness and flexibility, resistance to certain chemicals, excellent water resistance, better resistance to frost as well as dust suppression.

Typical Properties:

Appearance:	Milky white liquid
Solids (+1%):	30-35%
Viscosity1 (cP):	<100
pH:	9.0 - 10.0
Tg2 (°C):	-2
Specific Gravity:	1.00
Freeze/Thaw Stability:	Good

Features & Benefits:

The addition of **GripKey 1000** confers numerous advantages over untreated mortars and concretes, such as:

- Greatly improved adhesion to substrates, including dense impervious concrete
- Excellent resistance to water and water vapour
- Improved toughness and flexibility
- Better resistance to frost
- Improved resistance to certain chemicals
- Diminishing dust

Applications:

Cement compositions containing **GripKey 1000** are particularly useful in a number of applications. Some examples are:

- Water-resistant rendering for interior or exterior walls or basements
- Damp-resistant layers
- Levelling floors prior to laying tiles, wood blocks, etc
- Patching and repairing concreted areas
- Waterproof flat roofing and balconies
- Industrial flooring, screeding and topping
- Nosing for stairs indoors/outdoors
- Flooring for dairies, food factories, fertiliser stores where improved chemical resistance is required
- Lining of effluent ducts, tunnels and canals
- Corrosion protection of steel reinforcing rods in concrete and of steel structures
- Water-resistant adhesives for tiles, aggregates, glass, steel, etc
- Screeds for bathrooms and showers

Mixing with GripKey 1000:

Mixing procedure for mortars or concretes containing **GripKey1000** is similar to that used for conventional compositions, gauging water being partly or completely replaced by **GripKey1000**. The quantity of **GripKey1000** recommended will depend upon the application and is normally from 9 to 18 litres per 50 kgs of cement. The higher level of latex addition is used for thin screeds where maximum performance is required; levels lower or higher than those quoted may be used in special circumstances.

Water/cement ratio:

Mortars containing **GripKey1000** will have a water/cement ratio slightly lower than that of conventional mortars.

Aggregate:

Washed sharp sand, free from excessive fibres, should always be used in latex modified cement mortars. Where a very smooth surface is required, fine sand may be used, but it is important to ensure that there are no very fine clay-like particles present. Many types of aggregate have been successfully used in **GripKey1000** modified compositions; typical examples are those conforming to the SABS 1090 - 1976 "Sand for plaster and mortar" as well as granite chippings used in heavy duty flooring.

Workability:

The workability time is generally slightly increased by the addition **GripKey1000**. In cold weather conditions (i.e. below 10° C) especially when it is also damp, it is desirable to use a rapid or extra-rapid hardening cement. Alternatively, ordinary Portland cement may be used in conjunction with 2% - 4% of calcium chloride (expressed on cement weight); the calcium chloride should be added as a 50% solution in water to the mortar mix.

Additives:

Workability additives such as fly ash and lime are not necessary as **GripKey1000** exerts a considerable plasticising effect of its own. Air entraining agents should not be used without adequate testing.

The addition of an anti-foaming agent may sometimes be desirable and we have found that Nopco NDW added at the level of 20g per 5 litres of **GripKey1000** is an effective material.

Cleaning of equipment:

All tools should be cleaned immediately after use because hardened **GripKey1000** modified cement compositions have excellent adhesion and are therefore difficult to remove. If this important precaution is overlooked, solvents such as white spirit, solvent naphtha or preferably toluene can be useful in removing hardened latex modified mortar.

Note on anti-foam:

- For most applications, addition of anti-foam is not normally necessary when using **GripKey1000**. Occasionally, it may be desirable to incorporate an anti-foam in some **GripKey1000**-modified flooring compositions, eg: those containing flint aggregates.
- If anti-foam is required, we suggest the addition of Nopco NDW added at the level of 14g antifoam per 5 litres.

Application of GripKey 1000:

Wall Renderings:

Preparation:

It is necessary to ensure that the wall surface is free from crumbly or other unsound areas. Dusty patches and old paint should also be removed. It is usually sufficient to prepare the wall with a wire brush. All surfaces should be dampened an hour or so before priming.

Priming:

The application of a priming coat is normally recommended to obtain maximum adhesion of the subsequently applied rendering. The priming coat, consisting of 2 parts of ordinary Portland cement slurried with 1 part of **GripKey1000**, should be thoroughly brushed on to the prepared wall surface. The rendering is applied whilst the priming coat is still wet.

Mixing:

A general purpose rendering composition is as follows:-

SABS 1090 - 1976 "plaster sand"	100 kgs
Ordinary Portland cement *	33 kgs
GripKey 1000	6 litres water as required to adjust consistency

Note:

Although fine sand may be used, especially where a very smooth surface is required, it is essential that there should be no ultra-fine clay-like material present in the sand.

Mixing should preferably be carried out in a concrete mixer, although hand mixing is permissible where the total weight of the dry batch does not exceed 50 kgs. The usual procedure is to quickly pre-mix the sand and cement in a mixer, pour in the **GripKey1000**, mix for 2-3 minutes and finally cautiously add water little by little until the required consistency is achieved. Over addition of water causes rapid thinning of latex modified mortars owing to the plasticising effect of the latex.

Storage:

GripKey1000 can be stored for 6 months in closed, unopened original drums or plastic buckets, provided the temperature does not fall below 5°C or exceed 40°C. Keep out of direct sunlight and protect from frost.

Health and Safety:

Refer to **GripKey 1000** MSDS sheet



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