



## ( TECHNICAL BULLETIN )

CONCRETE AND MORTAR ADDITIVES

FLEXIBILITY, RESISTANCE TO THERMAL SHOCK AND STRONG SUBSTRATE ADHESION

# CA-4000



### PRODUCT TYPE

Thermoplastic Acrylic Solution.

### DESCRIPTION / USE

**CA-4000** is a water based concrete additive developed specially for use in concrete and mortars as an internal plasticiser, adhesion promoter and as a strengthening agent for thin section mortars. It can also be used for newer applications in areas of two pack cementitious thin wall renders for flushing single block wall constructions. CA-4000 exhibits clear performance benefits over common PVA vinyl types of mortar additives, through its excellent resistance to hydrolysis, weathering and oils.

The adhesion of mortar to various surfaces employed in the building industry has always been a serious problem. The conventional processes of *staking out* or *roughing* the surface to be covered is not always satisfactory and poor keying of the renders is a common result. Furthermore, the application of thin layers of render has rarely proven successful, as the rapid evaporation of the renders gauging water is detrimental to the setting action of the cement, leaving the render friable with unstable adhesion to the substrate. Again it is almost impossible to obtain a good adhesion between hydraulic mortars and many of the new materials such as cork, styrene foam, compressed fibres, and plastics, which are becoming increasingly common in the building industry.

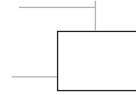


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## CA-4000

### ( TECHNICAL BULLETIN )



INTERIOR/EXTERIOR PROTECTIVE AND DECORATIVE COATINGS

#### DESCRIPTION/USE

CA-4000 has found applications in a wide range of traditional and newer concrete and mortar applications. CA-4000 was designed to overcome adhesion problems, provide outstanding flexibility and enhance the thermal shock resistance of mortar.

Cement mixes containing CA-4000 concrete additive will be useful for any of the following applications:

- Preparation of very thin renderings of concrete or mortar.
- Restoration of concrete structures.
- Repair of cracks, holes and damage in all cement based materials.
- Restoration of pre-cast concrete articles which have been damaged during stripping of the moulds or in subsequent handling.
- Preparing joints in masonry, stoneware, etc.
- Setting and bedding of tie braces and pipes in masonry and concrete.
- Setting of ceramic wall or floor tiles
- Two pack cementitious coating systems

#### TYPICAL USES:

##### **Jointing Different Materials**

When different materials have to be fixed in concrete, for example wooden tie-beams, metal ducts for electrical wires, pipes, and corrugated plastics, a ratio of 20-30% CA-300 on weight of concrete is suggested. This addition will avoid cracking due to the different expansion rates of the materials involved.

##### **Jointing Mortars**

In the case of jointing mortars the grading of sand will depend on the particular application involved.

##### **Rendering**

In the case of rendering a coarser grading of sand may be used. For example, a river sand with addition of suitable gravel or crushed aggregate if necessary. Ratio used should be 2-5 parts by weight of aggregated or sand to one part of cement.

##### **Rendering On Concrete**

Incorporation of 10-15% CA-300 on the weight of cement enables the formulation of thin renderings (5-10mm) on compact air entrained concrete supports without the necessity for using the conventional bonding layer. The advantages in this type of facing are reduced volume, non-tracking and excellent flexibility.

## CA-4000

### TYPICAL PROPERTIES



■	Appearance	Milky White Aqueous Solution
■	Solids Content	50.5%
■	Viscosity	5.5 poise
■	Specific Gravity	1.08
■	Final Mortar Characteristics	Tough and Thermal Shock Resistant
■	Resistance to Weathering	Excellent [NON-YELLOWING]
■	Packaging	15ltr plastic drum

#### TYPICAL USES CONT':

#### Renderings On Hollow Masonry

Renderings on such supports as terracotta reinforced lightweight concrete, etc. are prepared with 15-20% CA-300 on the weight of cement. The ability to apply thinner coats of CA-300 based mortars gives a much reduced weight on the completed structure.

#### PREPARATION

The surface to be coated should be clean, and free of dust, grease and loose particles. It may be damp but must not be saturated, as too much water will be detrimental to adhesion.

#### FORMULATIONS

The proportion of CA-4000 is generally 10-30% on the weight of cement, but its effect is quite noticeable at levels as low as 5%. If highly porous surfaces are to be treated, it is advisable that you prime the surface with CA-4000 cut 1:1 with fresh clean water added subsequently to give the desired consistency. Care must be taken so as not to aerate the mix as it will weaken the mixture.

If excessive air entrainment is experienced during mixing, Astec Anti-foam can be added at a rate of 0.5% by weight of the CA-300 added to the cement mix. Alternatively at a rate of 5 grams per litre of CA-4000 added to the mix.



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