



TufFlow SP 600

Superior High Range Water Reducer Specifically Designed For Precast and High Early Strength Concrete

Uses

- Specifically formulated for use in the Precast industry.
- Recommended for low slump concrete to produce more uniform, predictable and consistent concrete.
- Can be used in semi-dry conditions.
- Can be used for effective dispersion in coloured concrete.
- Ideally suited for factory-line concrete production including applications using cement replacement materials and white cement.

Typical Applications & Advantages

- Chloride free, suitable for use in precast, prestressed and reinforced concrete.
- Reduced permeability level even for low slump concrete, especially in the case of the precast elements, which reduces penetration of water and other deleterious impurities and increases the durability of concrete. Also reduces efflorescence.
- High range water reducing property helps achieve high early-strengths and low water absorption values. High early strengths help in reducing production cycles.
- Improves cohesion and particle/pigment dispersion to produce dense concrete matrix.
- Helps in superior concrete finishes which increase life of moulds.
- Can help in moderate slump retention.
- Compatible with all Portland cements including cement replacement materials and white cement.

Standards Compliance

TufFlow SP 600 complies with the requirements of the following standards:
ASTM C494 Type A & Type F depending on dosage used.
ASTM E96-00 ε¹

Product Description

TufFlow SP 600 is chloride free, superplasticising admixture based on selected synthetic and organic polymers. **TufFlow SP 600** disperses the fine particles in the concrete

mix, enabling the water content of the concrete to perform more effectively.

Typical Properties

Appearance	:Brown liquid
Specific Gravity	:1.230 @25±2 ⁰ C
Avg. Water Vapor Transmission:	0.00
(grains/h. ft ²) - .INCH-POUND UNIT	
Avg. Permeance (perms) - .INCH-POUND UNIT:	0.00

Technical Support

GIC provides a technical advisory service for on-site assistance and advice on admixture selection, dosage evaluation trials based on mix design and dispensing equipment.

Instructions for Use

Mix design

Where the main requirement is to improve strengths, initial trials should be made with normal concrete mix designs. The addition of the admixture will allow the removal of water from the mix whilst maintaining workability. After initial trials, minor modifications to the overall mix design may be made to optimize performance.

Compatibility

TufFlow SP 600 is compatible with other GIC admixtures used in the same concrete mix. All admixtures should be added to the concrete separately and must not be mixed together prior to addition. The resultant properties of concrete containing more than one admixture should be assessed by trial mixes.

TufFlow SP 600 is suitable for use with all types of Portland cements and replacement materials such as PFA, GGBFS and micro silica.

Dispensing

The correct quantity of **TufFlow SP 600** should be measured by means of a recommended dispenser. Normally, the admixture should then be added to the concrete with the mixing water to obtain the best results. These admixtures are not recommended to be added in dry aggregates or





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cement. It should always be added in wet mix conditions. Full blending of the admixture and the concrete should be ensured by mixing at high speed for a period of at least two minutes.

TuffFlow SP 600 should be re-circulated once a day for 10 minutes contacts GIC for advice regarding suitable equipment and its installation.

Dosage

The optimum dosage of **TuffFlow SP 600** to meet specific requirements should always be determined by trial mixes using the materials and conditions that will be experienced in use.

For normal concrete a dosage between 0.75% to 1.5% by weight of cement may be used, and for high strength concrete, dosage between 1.5% to 3.0% by weight of cement may be used.

Use at Other Dosages

Dosages outside the typical range quoted above can be used to meet particular requirement, contact GIC for advice.

Effects of Over Dosage

An overdose of double the amount of **TuffFlow SP 600** will result in a slight increase in retardation. Provided that adequate curing is maintained, the ultimate strength of the concrete will not be impaired by increased retardation and will generally be increased. The effects of over dosage will be further increased if sulphate resisting cement or cement replacement materials are used.

Over dosage may also cause increased air entrainment, which will tend to reduce strength. The degree of this effect will depend on the particular mix design and overdose level.

Cleaning and Disposal

Spillages of **TuffFlow SP 600** should be absorbed onto sand, earth or vermiculite and transferred to suitable containers. Remnants should be hosed down with large quantities of water.

The disposal of excess or waste or waste material should be carried out in accordance with local legislation under the guidance of the local waste regulatory authority.

Packaging & Storage

TuffFlow SP 600 is supplied for site installations deliveries will be made in bulk to site storage

tanks of 210 litres. It has a minimum shelf life of 12 months provided it is stored under cover, out of direct sunlight.

Health & Safety Precautions

TuffFlow SP 600 does not fall into the hazard classifications of current regulations. However, it should not be swallowed or allowed to come into Contact with skin and eyes. Suitable protective gloves and goggles should be worn. Splashes on the skin should be removed with water. In case of contact with eyes rinse immediately with plenty of water and seek medical advice. If swallowed seek medical attention immediately – do not induce vomiting.

For further information refer to the Material Safety Data Sheet available for this product.

Important note

GIC endeavors to ensure that the technical information contained herein is true, accurate and represents our best knowledge and experience. No warranty is given or implied with any recommendations made by us, our representatives or distributors, as GIC has no control over the conditions of use and the competence of any labor involved in the application are beyond our control.

As all GIC technical data sheets are updated on a regular basis it is the customer's responsibility to check that the product is suitable for the intended application, and that the actual conditions of use are in accordance with those recommended.

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