

TECNOS™ 98-S

Superplasticising admixture for concrete and mortar

TECNOS 98-S is based on organic polymers. It is supplied as a dark brown liquid, in a blending of specially selected or instantly dispersible in water.

TECNOS 98-S does disperse the cement particles effectively in the concrete mix and hence exposes a larger surface area to the hydration processes. This effect is used either to increase the strength or to produce high workability concrete or reduce cement content of concrete or to retard the setting time of concrete.

Uses

- To produce high workability concrete without loss of strength. To promote high early and ultimate strengths by taking advantage of water reduction while maintaining workability.
- To produce high quality concrete of improved durability and impermeability.
- At higher dosages, advantages can be taken of the retardation of initial setting time of concrete especially in large pours.

Benefits

- **Pumpability** : Increased workability provides easier and quicker placing and optimum compaction. Aids concrete placement by pump.
- **Increased strength** : Provides higher strength without increase in cement content or reduction in workability. Ideal for precast concrete production.
- **Improved quality and cohesion** : Reduces rate of workability loss normally associated with superplasticiser. Reduces shrinkage cracking because of lower water cement ratio. Makes the concrete water impermeable.
- **Bleeding and segregation minimized.** : Improves durability and impermeability of concrete.
- **Chloride free** : Safe in prestressed concrete production.

Technical support

Thermax's advice can be sought on mix design aspects especially to produce high workability concrete without segregation. Thermax provides advisory service for on-site assistance and guidance on evaluation of trials and usage.

Standards compliance

TECNOS 98-S conforms to IS : 9103 : 1999 as a water reducing admixture and carries license from Bureau of Indian Standards. It also complies with IS 2645 : 1975 and BS 5075 Part 3 and ASTM C494 Type F.

Properties

Specific gravity : 1.18 to 1.24 at 27°C

Chloride content : Nil to IS:456

pH : 6-8

Setting times At higher dosage levels without water reduction, retards setting times 1-2 hours approximately.

Air entrainment Approximately 1% additional air is entrained.

Compatibility Can be used with all types of Portland and slag cement except High Alumina Cements

TECNOS 98-S is compatible with other Thermax admixtures but it is recommended that admixtures used in combination are added separately.

Workability TECNOS 98-S can be used to produce the collapse slump concrete without reducing the water content. However, minor adjustments to mix design may be required to produce flowing concrete to prevent bleeding and segregation.

Compressive strength Substantial reduction in the water content (10-20%) can result in high early strength for a constant slump

Permeability Reduces water/cement ratio increases density and improves impermeability. Improved workability facilitates easy placing and good compaction.

Cohesion/segregation The possibility of bleeding and segregation will be reduced because of increase in cohesion. A uniform close textured surface without honeycombs or voids can be produced.

Pumpability TECNOS 98-S will aid better pumping of concrete by providing lubrication to cement particles and reducing line friction.

Instructions for use

The optimum dosage of TECNOS 98-S admixture can be determined by site trials with a specific concrete mix to facilitate measurement of effects of workability and

Typical test results

M40 Mix design

Cement Ultratech OPC : 450 kg/m³, Sand 730 kg /m³

Coarse aggregate : 998 kg/m³

Test	Dosage of TECNOS 98-S L/50kg cement	W/C ratio	Slump (mm)	Compressive strength (N/mm ²)			Density kg/m ³
				3 Days	7Days	28Days	
1. Control	-	0.36	50	28.7	41.3	51.0	2430
2. Workability increased	0.4L	0.36	155	30.6	42.3	52.1	2422
3. Strength Increased	0.4L	0.32	60	34.0	47.4	56.8	2435

Thermax should be contacted for advice where higher dosage are to be used.

Dispensing: The correct quantity of TECNOS 98-S should be used by means of a dispenser. The measured quantity of TECNOS 98-S should be added along with the gauging of water in the case of batching plants.

Alternatively, correct dosage should be used with about 20% of the total water in the last phase prewetted. after the mix has been prewetted.

Overdosing: The overdose of double the recommended dosage can result in increased retardation of setting time and additional air is entrained which may lead to slight loss in strength.

The ultimate strength of the concrete could be increased if advantage is taken of the increased workability by reducing water.

Curing: Normal curing methods such as water ponding / spray or wet hessian must be used. Where water curing is a problem, efficient curing can be achieved by using MAXCURE CC 75 applied curing membrane.

Health & Safety Instructions

TECNOS 98-S is non-toxic, non-flammable and splashes to the the skin should be washed with copious amounts of water. If contact with eyes occurs, wash well with water immediately and seek medical advice.

Storage

TECNOS 98-S has a is within a range of shelf life of 12 months from the date of manufacture provided the temperature 5 °C to 40°C. If the temperature range is exceeded in any respect, advice should be sought from Thermax. It is recommended that drums should be stored in shade.

Packing

TECNOS 98-S is supplied in 5, 20ltr and 250kg barrel.

Other segments :

- Concrete Admixtures • Surface Treatments • Grouts & Anchors • Repair & Rehabilitation • Protective Coatings • Industrial Flooring • Waterproofing • Sealants • Adhesives
- Cement Grinding Aids

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