TAC 501 (HR SUPERPLASTICIZER)

TECHNICAL DATA SHEET (TDS)

TAC COATING
Coating Chemistry

High Range, water reducing superplasticizer for Rheoplastic Concrete.

DESCRIPTION

Tac 501 is a liquid admixture for concrete to achieve high resistance to water ingress. It is based on a blend of surface active agents and refined lignosulphonate.

RECOMMENDED USE

Tac 501 should be used in all structural concrete that is constantly or intermittently in contact with water such as sea walls, tunnels, basements, structural and pre-cast concrete in exposed superstructures. **Tac 501** can also be used as waterproofing cum plasticising admixture for cement mortars and plasters.

FEATURES AND BENEFITS

- Provides resistance to water penetration either under hydrostatic pressure or capillary absorption.
- Increased durability.
- Reduced sulphate attack.
- Reduced efflorescence.
- Improved cohesion, reduce segregation.
- Pumpabiity of concrete is greatly improved.
- Improved surface finish.
- Reduced shrinkage cracks in plasters
- Do not reduce compressive strengths
- Liquid – easy to use.
- Low dosage – Economical.

PERFORMANCE TEST DATA

Aspect	**Dark Brown Liquid**
Specific Gravity	**1.16 ± 0.02 at 25°C**
pH	**≥6**
Air Entrainment %	**2 ± 1**
Chloride Ion Content	**<0.2%**
Surface Absorption of water, BS 1881	**Reduction of 60–80%**

DOSAGE

As a guide, a dosage range of 200ml to 400ml per 100kg of cementitious material is recommended.

Optimum dosage of **Tac 501** should be determined with trial mixes. Higher dosages may be required when certain combinations of materials and conditions are present or water reduction in excess of 15% is required. Because of variations in concrete materials, job site conditions, and/or applications, dosages outside of the recommended range may be required. In such cases, contact your local representative.

For addition information on **Tac 501** admixture or on its use in developing concrete mixes with special performance characteristics, contact your local representative.

Points to remember when producing waterproof concrete:

- Ensure water/cement ratio is within the range of 0.40 to 0.60.
- Keep water content as low as possible.
- Place concrete quickly and compact it well.
- Ensure complete curing with a curing compound.

Effects of over dosage

A severe over-dosage of **Tac 501** shall result in some of the followings:
- Extension of initial and final set.
- Increase in air entrainment.
- Bleed/segregation of mix, quick loss of workability.
- Increased plastic shrinkage.

A slight overdosing may not adversely affect the ultimate strength of the concrete and can achieve higher strengths than normal concrete, provided it is properly compacted and cured. Due allowance should be made for the effect of fluid concrete pressure on form work, and stripping times should be monitored.

In the event of over dosage, contact your local representative immediately.

APPLICATION

Tac 501 is a ready-to-use liquid which is dispensed into the concrete together with the mixing water. The plasticising effect and water reduction are higher if the admixture is added to the damp concrete after 50 to 70% of the mixing water has been added. The addition of **Tac 501** to dry aggregate or cement is not recommended.

SUGGESTED SPECIFICATION

The liquid integral waterproofer shall be **Tac 501**, lignosulphonate polymer based, waterproofing cum plasticising admixture. The product shall comply with IS: 2645-2003 when tested at a dosage of 300ml/100kg bag of cement. The product must be free of chlorides and shall have specific gravity not less then 1.16 and shall comply with ASTM C494 Type A & D.

COMPATIBILITY

Tac 501 is compatible with most admixtures used in the production of quality concrete including normal, other mid-range and high-range water-reducing admixtures, air entrainers, accelerators, retarders, extended setcontrol admixtures, corrosion inhibitors, and shrinkage reducers.

Tac 501 is also compatible with slag and pozzolans such as fly ash and silica fume.

CORROSIVITY – NON CHLORIDE, NON CORROSIVE

Tac 501 admixture will neither initiate nor promote corrosion of reinforcing steel embedded in concrete, prestressed concrete or concrete placed on galvanized steel floor and roof systems. Neither calcium chloride nor any calcium chloride-based ingredients are used in the manufacture of **Tac 501** admixture. In all concrete application, **Tac 501** admixture will conform to the most stringent or minimum chloride ion limits currently suggested by construction industry standards and practices.

WORKABILITY

Tac 501 ensures that concrete remains workable in excess of 60 minutes at +25°C. Workability loss is dependent on temperature, and on the type of cement, the nature of aggregates, the method of transport and initial workability.

It is strongly recommended that concrete should be properly cured particularly in hot, windy and dry.

PACKAGING

Tac 501 is available in 225kg drum only.

STORAGE / SHELF LIFE

Tac 501 must be stored where temperatures do not drop below +5°C. If product has frozen, thaw at +5°C or above and completely reconstitute using mild mechanical agitation. Do not use pressurized air for agitation. Store under cover, out of direct sunlight and protect from extremes of temperature.

Shelf life is 12 months when stored as above.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult your local representative.

PRECAUTIONS

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapour until product fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use. Do not reuse containers for storage of consumable item.