**TECNOS<sup>®</sup> RP** Retarding Plasticizer



TECNOS<sup>®</sup> RP is a chloride free water reducing admixture based on selected hydroxycarboxylic materials. It is supplied as a brown solution which instantly disperses in water.

TECNOS<sup>®</sup> RP disperses the fine particles in the concrete mix, enabling the water content of the concrete to perform more effectively. The initial hydration of the cement is also delayed, resulting in a delay in the setting time of the concrete with no adverse effect on subsequent stiffening and strength gain.

#### Uses

- To improve the effectiveness of the water content of a concrete mix.
- To extend the setting time of concrete, extending working times and minimizing delay problems.
- To extend the working life of semi-dry concrete screeds.
- Particularly suitable for use in mixes having fly ash and also improve the working life of semi dry concrete mixes, specifically RCC (Roller Compacted Concrete) type of mixes.

## Benefits

- Water reduction significantly improves compressive strengths at all ages and enhances durability through the production of low permeability concrete.
- Controlled retardation extends working life and stiffening time for ease of construction.
- Control of stiffening improves slip forming and assists in preventing the formation of cold joints in large pours.
- All specified strength grades to be met at reduced cement content or increased work ability.
- Chloride free, safe for use in pre-stressed and reinforced concrete.

## **Technical Support**

The company provides a technical advisory service supported by a team of specialist in the field.

## **Typical Dosage**

The optimum dosage of TECNOS<sup>®</sup> RP to meet specific requirements should always be determined by trials using the materials and conditions that will be experienced in use.

This allows the optimization of admixture dosage and mix design and provides a complete assessment of the concrete mix. A starting point for such trials is to use a dosage within the normal typical range of 0.25 to 0.60 liters / 100 kg of cementitious material, including PFA, GGBFS or microsilica.

#### Use at Other Dosages

Dosages outside the typical range quoted above may be used if necessary and suitable to meet particular mix requirements, provided that adequate supervision is available. Compliance with requirements must be assessed through trial mixes.

Thermax shall be contacted for advice in these cases.

#### Standards Compliance

TECNOS<sup>®</sup> RP complies with BS 5075 Part 1 and with ASTM C-494 as Type B and Type D.

#### **Properties**

Appearance	Brown Liquid
Specific Gravity	1.1-1.2 at 25⁰C
рН	6-8
Air Entrainment	Typically slightly less air will be entrained than in a normal concrete mix
Alkali Content	Typically less than 55.0g $Na_2O$ equivalent/ liter of admixture.

#### Instructions for Use

#### Compatibility

TECNOS<sup>®</sup> RP is compatible with other Thermax 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 the trial mix to ensure that effects such as unwanted excessive retardation do not occur.

TECNOS<sup>®</sup> RP is suitable for use with all types of ordinary Portland cements and cement replacement materials such as PFA, GGBFS and silica fume. Further information on such usage is provided elsewhere on this datasheet.

# **TECNOS<sup>®</sup> RP**

## Dispensing

The correct quantity of TECNOS<sup>®</sup> RP should be measured by means of a recommended dispenser. The admixture should than be added to the concrete with the mixing water to obtain the best results. Thermax shall be contacted for advice regarding suitable equipment and its installation.

## **Effects of Overdosing**

An overdose of double the intended amount of TECNOS<sup>®</sup> RP will result in a significant increase in retardation as compared to that normally obtained at the intended dosage. 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 overdosing will be further increased if sulphate resisting cement or cement replacement materials are used.

An overdose will tend to increase the plasticising effect of the admixture. As concrete is normally batched to a target workability, increased plasticising will allow an increased water reduction. This will have the effect of increasing ultimate strength and partially or fully offsetting the effect of any increased air entrainment. If no increase in water reduction is taken, and a significant rise is workability is allowed, the chance of segregation may be higher. Increased initial workability will tend to extend the working life of the concrete, which will delay finishing and stiffening times to some extent.

Over dosage may also lead to reduced mix cohesion and may cause segregation and bleeding, particularly in high work ability mixes. The degree of this effect will depend on the particular mix design and overdose level.

## Curing

As with all structural concrete, good curing practice should be maintained, particularly in situations where an overdose has occurred. Water spray, wet hessian or a Maxcure spray applied curing membrane should be used.

## **Health and Safety Instructions**

TECNOS<sup>®</sup> RP 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 it shall be rinsed immediately with plenty of water and medical



advice sought immediately. If swallowed, medical attention shall be sought immediately. Vomiting should not be used.

## **Cleaning and Disposal**

Spillages of TECNOS<sup>®</sup> RP should be absorbed onto sand, earth or vermiculite and transferred to suitable containers.

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

## Storage

TECNOS<sup>®</sup> RP has a minimum shelf life of 12 months provided the temperature is kept within the range of 5°C to 50°C. Should the temperature of the product fall outside this range then Thermax shall be consulted.

## **Freezing Point**

Approximately -4°C

## Packing

TECNOS<sup>®</sup> RP is available in 20ltr and 260kg barrel.

## **TECNOS<sup>®</sup> RP**



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