Technical Data Sheet

CASTECH HWR

Revision Date: 07/09/2020

High Range Water Reducing Admixture
Type A and Type F Admixture (C 494/C 494M – 04)

1.0 Description

CASTECH HWR is specially designed for building materials in Sri Lanka. It is based on a unique carboxylic ether polymer with long lateral chains. An electrostatic dispersion occurs at the start of the mixing process of concrete. However, the presence of the polymer lateral chains, generate a steric hindrance which stabilizes the cement particle's capacity to separate. This mechanism considerably reduces the water demand in flowable concrete.

2.0 Uses

- Specially designed for Pre-cast concrete.
- Particularly suitable for use in concrete blocks.

3.0 Advantages

- Increased compressive strength and flexural strength at all ages.
- Improved adhesion to reinforcing and stressing steel.
- Better resistance to carbonation.
- Lower permeability.
- Better resistance to aggressive atmospheric conditions.
- Reduced shrinkage.
- Increased durability.

4.0 Properties

Appearance	Brown liquid
Specific gravity (g/cm^3)	1.06 ± 0.02 at 25℃
pH value	5 ± 1
Chloride content (%)	0.03%(w/w)
Alkali content	typically less than 6%

5.0 Typical dosage

The normal dosage range of CASTECH HWR is between 0.5 liters to 2.0 liters per 100 kg of cementations materials. The optimum dosage to meet specific requirements should always be determined by trials using the materials and conditions that will be experienced in use.

6.0 Use at other overdosing

Dosages outside the normal range can be used to meet particular requirements. Please contact Castech Technical Service Department for advice in these cases.

7.0 Instructions for use

7.1 Compatibility

CASTECH HWR should not be used in conjunction with any other admixture unless prior approval is obtained from local Castech office.

CASTECH HWR is suitable for use with all types of Portland cements, OPC, SRC cements and cement replacement materials such as PFA, GGBFS and micro-silica.

7.2 Mixing

a) When used at the mixing plant, CASTECH HWR should be added in the mixing water.
b) In some instances, e.g. addition to ready mix concrete on site, CASTECH HWR can be added directly in the truck mixer and mixed at maximum speed for an extra 5 to 10 minutes till a proper mixing is achieved.
c) For some special self-compacting concrete, a viscosity enhancer maybe helpful. Please contact Castech for suggestion.

7.3 Dispensing

The correct quantity of CASTECH HWR should be measured by means of a recommended dispenser. The admixture should then be added to the concrete with the mixing water to obtain the best results.

8.0 Packaging

200 liter drums and 1000 liter tanks

9.0 Storage

CASTECH HWR has a minimum shelf life of 12 months provided the temperature is kept within the range of 2℃ to 50℃. If the temperature of the product falls outside this range then contact Castech for advice.

10.0 Precautions

10.1 Health and safety

a) CASTECH HWR 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.
b) 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.

10.2 Fire

CASTECH HWR is water based and non-flammable.

10.3 Cleaning and disposal

a) Spillages of CASTECH HWR should be absorbed onto sand or soil and transferred to suitable containers. Remnants should be hosed down with large quantities of water.
b) 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.

11.0 Technical support

CasTech offers full technical support package to specifiers, contractors and end users, as well as technical assistance on site and after sales constructions.
CasTech provides detailed method statements on all its products for use in various applications. These must be referred prior to starting the work. The information above is summery intended for guidance only.