NOVACAST ACE

Chloride-free Accelerating and Water-reducing Admixture

Description

Novacast ACE is a chloride-free accelerating and water-reducing admixture on a combination of inorganic formate and nitrite salts.

It is used to accelerate the setting and early strength gain of Portland cement concrete and mortar mixes without the introduction of chloride. It acts as a plasticiser, so gives significant increases in both ultimate and early strengths. Typical applications include precast concrete, concrete placed in cold weather, concrete for repairs, mortars for brickwork

Domains of Application

- ✓ Cold weather concreting
- ✓ Ready mix concrete
- ✓ Pre-stressed concrete
- ✓ Concrete for repairs
- ✓ Mortars for brickwork

Advantages

- ✓ Chloride free, safe in pre-stressed and reinforced concrete
- ✓ Produces exceptionally high early strengths
- ✓ Plasticising action gives increased workability and / or increased strengths
- ✓ Early setting improves frost resistance
- ✓ Suitable for bricklaying mortar mixes
- ✓ Particularly effective in concrete at low temperatures

Standard Compliance

Novacast ACE complies with BS 5075 Part 1 and ASTM C494 Type C.

Technical Properties

Appearance	Light brown liquid
Chloride content, %	Nil (As per BS 5075 Part 1)
Freezing point, °C	-16
Air Entrainment, %	Less than 1

Compatibility with Cement

Novacast ACE is suitable for use with all types of Portland cement. It is not suitable for use with special cement like high alumina cement.

Acceleration

The addition of **Novacast ACE** to Portland cement concrete mixes accelerates both the setting and rate of strength gain. The strength improvements are most significant during the first 18 hours.

Long term effects

Accelerated corrosion testing of steel in concrete has shown that **Novacast ACE** does not affect the protection of steel afforded by cement against corrosion even at four times the normal dose level.

Instructions for use

Mixing

Novacast ACE should be stirred before use.

Dispensing

The correct quantity of **Novacast ACE** should be measured by means of a recommended dispenser. The company's technical department should be consulted regarding suitable equipment and its installation. **Novacast ACE** should be added direct into the mixer. Best results are obtained when added at the same time as the mixing water.

Curing

Novacure WB, curing membrane or alternative methods such as polythene, water spray or wet hessian should be used.

Cleaning

Spillages of **Novacast ACE** can be removed with water.

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Typical effect of Novacast ACE on strength gain

Curing Temperature	Novacast ACE Dosage L/100 kg	Initial set (BS 5075) hours	Final set (BS 5075) hours	Compressive Strength (N/mm²)					
				10 hours	18 hours	24 hours	3 days	7 days	28 days
5°C	Nil	14	19			1.5	5.5	17	32
	2.5	12	17		0.5	3	10	20	36
10°C	Nil	4	6			2.5	8	20	35
	2.5	3	4.5		2	4.5	13	24	40
20°C	Nil	3	4	1	4.5	6	17	29	43
	2.5	2	3	3.5	9	11	24	36	48

Dosage

The recommended dosage range for standard concrete and mortar mixes with all grades of Portland cement is 2.0 L to 3.0 L per 100 kg cement (see table).

Overdosing

An overdose of double the recommended amount of **Novacast ACE** will result in a slight increase in initial acceleration but will not materially alter the ultimate strength or characteristics of the cured concrete or mortar.

Packaging

Available in 5 kg, 20 kg and 200 kg HDPE containers.

Storage & Shelf life

If stored in a cool, dry place away from heat, it has a shelf life of approximately 12 months.

Precautions

Novacast ACE is toxic. Do not ingest. If ingested, give an emetic of common salt in water and seek immediate medical attention. Prolonged contact with skin should be avoided. Any splashes should be washed well with water. The use of rubber gloves and safety glasses is recommended. Any splashes on eyes should be flushed immediately with plenty of clean water and medical treatment sought.

Fire

Novacast ACE is non-flammable. But should be stored away from combustible materials.

Safety

Before use, refer to the Material Safety Data Sheet (MSDS). The MSDS is available on www.ccichemicals.in or contact us at info@ccichemicals.in.

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