

Product Data Sheet

CasTech PC-5070M

Nov-2025, Ver. 01.01



Mid-Range Superplasticizer based on Poly-carboxylate Ether

DESCRIPTION

CasTech PC-5070M is a versatile, mid-range superplasticizer based on polycarboxylate technology, specifically formulated for high-performance applications in both the ready-mix and precast concrete sectors. This advanced additive is designed to enhance durability and performance across a broad range of concrete mixtures, from traditional formulations to self-compacting variants.

CasTech PC-5070M differs from conventional superplasticizers in its dual-action mechanism. While traditional additives rely primarily on electrostatic repulsion, **CasTech PC-5070M** combines this with the stabilizing influence of long lateral chains bonded to the polymer structure. This significantly improves workability retention and accelerates the development of early compressive strength.

USES

- Precast concrete where low water-cement ratios are required
- Ready-mix concrete requiring low water-cement ratios
- High early and high ultimate strength concrete production
- Conventional concrete production
- Self-compacting concrete
- Pumped concrete
- High-performance concrete
- Concrete requiring long workability retention
- Concrete with micro silica, GGBS, PFA
- Hot weather concreting

ADVANTAGES

Key advantages:

- High workability without segregation
- Reduced labor costs
- Chloride-free
- Enhanced durability
- Superior flowability; increased early and ultimate compressive strength
- Improves concrete durability and rheology
- Lowers permeability
- Reduces drying shrinkage and creep

TYPICAL PROPERTIES

Consistence	Liquid
Colour	Light Brown
Chloride Content (BS 5075)	Nil
Classification According to ASTM C494 / BS EN 934-2	Type G / Complies
Specific Gravity	1.06 ± 0.02 @ 25°C
pH	4.0 ± 1.0

COMPATIBILITY

CasTech PC-5070M is fully compatible with all Portland cements that comply with recognized international standards. **CasTech PC-5070M** is ideal for use in mixes containing micro silica, pulverized fuel ash and ground granulated blast furnace slag cement. Avoid using this product alongside naphthalene-based admixtures.

INSTRUCTIONS FOR USE

CasTech PC-5070M is a ready-to-use liquid which is dispensed into the concrete together with the mixing water. The plasticizing effect and water reduction are higher if the admixture is added to the concrete after 50% to 70% of the mixing water has been added. The addition of **CasTech PC-5070M** to dry aggregate or cement is not recommended.

DOSAGE

Dosage rates will vary based on the desired level of plasticity and water reduction. The suggested dosage ranges from 0.50 to 2.0 litres per 100 kg of total cementitious material. Different dosages may be recommended depending on specific site conditions. Trial mixes are strongly advised to identify the optimal dosage.

Overdosing:

Exceeding the recommended dosage may lead to increased retardation and enhanced workability; with proper curing, the ultimate strength of the concrete should remain unaffected. The impact is more pronounced with cement replacement materials or Type V cement. Overdosing may also increase air entrainment, which could reduce strength.

PRECAUTIONS

Health & Safety:

CasTech PC-5070M is a water-based liquid and is not a fire or health hazard. However, it should not be swallowed or allowed to come into contact with skin and eyes. Suitable protective gloves and goggles should be worn. Spillages should be washed down immediately with cold water. For further information refer to the Material Safety Data Sheet.

Curing:

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Curing methods to protect concrete surfaces should be adopted.

STORAGE

Up to 1 year in unopened original packing, protected from extremes of heat and cold and stored under shade.

Fire:

CasTech PC-5070M is not a fire hazard.

PACKAGING

CasTech PC-5070M is available in 210-litre drums and in 1000 L IBC tanks upon request.

TECHNICAL SUPPORT

CasTech provides technical support service on mix design, admixture selection, evaluation of trials, dispensing equipment etc. Please contact the Technical Department in these cases.

CasTech MIDDLE EAST FZE

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