

Product Data Sheet

CasTech WT-140

Nov-2025, Ver. 01.01

Liquid Crystalline Permeability Reducing Admixture

DESCRIPTION

CasTech WT-140 Liquid is an integral liquid crystalline permeability reducing admixture for concrete. It is designed to permanently reduce water permeability and enhance the durability of concrete structures.

CasTech WT-140 Liquid consist of various active proprietary chemicals which reacts with the moisture in fresh concrete and the by-products of cement hydration to cause a reaction, which generates an insoluble crystalline deposit throughout the pores and capillary tracts of the concrete. These crystalline deposits effectively reduce permeability, capillary absorption and penetration of water and other liquids into the concrete.

CasTech WT-140 Liquid is formulated to meet the requirements of ASTM C494/AASHTO M 194, Type S and is certified to NSF/ANSI/CAN 61

Typical Uses

CasTech WT-140 Liquid is recommended for a wide range of watertight concrete applications, including:

Industrial Applications:

- Tunnels and Subway Stations
- Manholes and Sewage Systems
- Bridges and Water Treatment Plants
- Dams, Reservoirs, and Water Tanks
- Secondary Containment Structures

Commercial Applications:

- Underground Parking Garages
- Basements and Elevator Pits
- Shopping Centers and Data Centers
- Water Parks and Swimming Pools

Residential Applications:

- Foundations and Concrete Basements
- Swimming Pools

Advantages

- Integral Protection – Provides uniform waterproofing throughout the entire concrete volume.
- Self-Sealing – Activates in the presence of moisture to seal non-moving cracks up to 0.5 mm.
- Enhanced Durability – Reduces water ingress, protecting reinforcement and extending service life.

- Hydro-static Resistance – Effective against water under pressure.
- Minimal Impact on Concrete Properties
- Does not significantly affect set times or compressive strength.
- Cost-Effective – Lowers construction costs compared to external membranes.

Standards

CasTech WT-140 Complies with ASTM C494/AASHTO M 194, Type S. Certified to NSF/ANSI/CAN 61.

Technical data

(25°C, 50% RH)

Characteristic	Specification
Composition	Proprietary crystalline chemicals in an aqueous solution
Form	Liquid
Color	Clear to Cloudy Liquid
Recommended Dosage	1-2.5% by weighth of cementitious materials
Density	≈ 1.09 kg/L (Typical)
Shelf Life	12 months (in original, unopened packaging)

Application

DOSAGE

- Typical dosage is 1-2.5% by weighth of cementitious materials.
- The mix water must be reduced by an equivalent volume of **CasTech WT-140** Liquid used.
- Conduct trial mixes with project materials to determine optimal dosage.

MIXING

- Measure the required quantity manually or by automated dispenser.
- Add **CasTech WT-140** Liquid directly into the freshly mixed concrete, or as an integral material in the batching cycle. Do NOT pre-mix with dry cement.

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COVERAGE

- Based on a standard dosage of 1-2.5% of cementitious materials (e.g., 400 kg/m³ cement).
- Consumption: Approximately 4-10 Liters per m³ of concrete.

Hazard

Hazard : Regarded as non-hazardous for transportation.

Disposal : Do not reuse containers. To be disposed as per local rules and regulations.

Additional Information: Refer to MSDS (available on request.)

Technical Support

CasTech provides on-site assistance and consulting services on projects when requested. Technical data sheets on other CasTech products and guidance on their use is available on request

CONCRETE DESIGN & CURING

- For optimum performance, design concrete with a minimum cementitious content of 350 kg/m³ and a maximum water-cement ratio of 0.42.

Packaging, Storage & Shelf Life

- 20 Litre plastic pails, 200 Litre drums, and 1000 Litre IBC totes.
- Storage: Store in original packaging in a dry warehouse between 5°C and 50°C. Protect from direct sunlight and freezing. If frozen, thaw and agitate thoroughly before use.
- Shelf life: 12 months from date of manufacture in original, unopened packaging. Sedimentation may occur; agitate before use.

CasTech MIDDLE EAST FZE

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