

Product Data Sheet

CasTech PVC Waterstop 350

Nov-2025, Ver. 01.01



High-Elongation Extruded PVC Waterstop – $\geq 350\%$

DESCRIPTION

CasTech PVC Waterstop 350 is extruded from premium-quality raw materials sourced globally. Its design allows easy concrete flow thanks to its extreme flexibility and smooth surface, and it is engineered for an exceptional elongation of $> 350\%$, giving superior ability to accommodate joint movement. CasTech waterstops have been installed in major projects across the Middle East, delivering assured long-term performance in extreme conditions.

FIELD OF APPLICATION

PVC waterstops are designed for water-retaining and water-excluding structures where a positive seal is required. Embedded in concrete, they span the joint to form a continuous, watertight diaphragm that prevents the passage of liquid through the joint. The waterstop must be properly selected and installed to accommodate joint expansion, contraction and other longitudinal and transverse movements, and must be resistant to any liquids to which it may be exposed.

ADVANTAGES

Characteristics:

- Exceptional elongation: $\geq 350\%$ to accommodate significant structural movement
- High tensile strength: $\geq 13.8 \text{ N/mm}^2$ for robust performance under hydrostatic pressure
- Unique ribbed profile for effective water sealing
- Brass eyelets on edge flanges for secure tying to steel rebars (internal profiles)
- Heat weldable for seamless on-site jointing
- Non-toxic: certified for use in contact with potable water
- Prefabricated intersections available for complex joint details
- Excellent chemical resistance over a wide pH range (2.5 to 11.5)
- Non-staining: will not discolour concrete or cause electrolytic action

APPLICATION INSTRUCTIONS

Fixing internally

Internal waterstops are positioned centrally within the concrete, with the centreline of the waterstop aligned with the centre of the joint, acting as a watertight diaphragm. Split formwork is recommended for slab-to-slab, slab-to-wall and wall-to-wall joints. Tie the waterstop to the reinforcement with wire through the eyelets on the end flanges so it is not misaligned or folded during the pour. One half is cast in the first pour and the other half projects into the second. A tight fit between waterstop and form prevents leakage of paste and honeycombing.

Fixing externally

External waterstops are installed before concreting. The external expansion joint profile is laid on the compacted grade or mud-slab and nailed or glued in position; the external construction joint (ECJ) profile is glued or nailed to the vertical shutter. Only the ribbed side is embedded in the concrete.

Jointing

Form a fully continuous waterstop network at bends and additional joints, using factory-welded junctions. Weld field butt-splices with a welding knife (220 – 240 V, ideally thermostatically controlled): cut the ends evenly with a knife, align them in a fixing jig with at least 25 mm protruding, place the knife between the ends until the PVC melts ($> 140^\circ\text{C}$) and beads form, then remove the knife and press the ends firmly together until the PVC cools to a strong fusion-welded joint.

PRECAUTIONS

- Compact concrete properly around the waterstop to ensure full contact and seal
- Clean the waterstop surface of dirt and cement laitance that can affect the seal
- Clearance between waterstop and reinforcement should be at least twice the maximum aggregate size, to prevent voids and honeycombing
- Do not puncture the waterstop to allow reinforcement to pass through
- Protect installed waterstops from UV; prolonged exposure makes PVC brittle due to oil loss

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TECHNICAL SPECIFICATION

Width	250 mm
Web Thickness	4 mm
Specific Gravity (ASTM D792)	≥ 1.35
Tensile Strength (ASTM D638)	≥ 13.8 N/mm ²
Elongation (ASTM D638)	≥ 350%
Shore A Hardness (ASTM D2240)	80 ± 5
Resistance to Water Pressure @ 5 bar (BS EN 12390)	Nil
Water Absorption (ASTM D570)	< 0.07%
Chemical Resistance (ASTM D543)	pH 2.5 to 11.5
Suitability with Potable Water (BS 6920, WRC)	Passes (non-toxic)
Tear Strength (ASTM D624)	51.7 N/mm

In accordance with the standard, 5 - 10% variation is expected.

STORAGE AND SHELF LIFE

Shelf life is 5 years from the date of manufacture when stored in original, unopened and undamaged packaging in a dry environment, away from direct sunlight and rain, between 10°C and 40°C. Extreme temperatures, high humidity, damaged packaging and contamination may reduce shelf life.

HEALTH AND SAFETY

CasTech PVC Waterstop 350 is a non-flammable and non-hazardous material. Take care when cutting and welding joints on site. Hydrogen chloride vapours are released during welding, so welding should be done in a well-ventilated area.

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 are available on request.

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