



On-Site Installation Guide

PVC Waterstop — Field Welding & Fixing Procedure

Scope: This guide covers on-site cutting, hot-wedge butt welding, and mechanical fixing of PVC waterstop strips. Follow all seven steps in sequence. Do not skip steps — incorrect jointing is the most common cause of waterstop failure in service.

TOOLS & EQUIPMENT

1 Equipment Required

Gather all tools before starting work:

Equipment	Purpose
Jointing Jig	Holds and aligns the two waterstop ends during welding
Heater Blade	Electric hot-knife that melts the PVC mating faces
Sharp Knife	Trims waterstop to precise length
Wire Brush	Cleans Heater Blade after weiding

CUTTING & PREPARATION

2 Cut Waterstop to Length

Carefully measure the required length of waterstop and add **5–6 mm to each mating end** to compensate for material loss during heat welding.

Clamp the end to be trimmed into one side of the jointing jig, then cut to the target length using the jig edge as a straight cutting guide.

3 Prepare Both Mating Ends

Repeat the trimming operation for the other connecting end.

Clamp both prepared ends into their respective sides of the jointing jig, leaving approximately **10 mm of each end protruding** beyond the jig faces. Lock the guide rods in place to hold the alignment.

HEAT WELDING

4 Preheat the Welding Blade

Plug in the welding blade and allow it to **preheat fully**. Test readiness by pressing a small scrap of PVC waterstop against the blade surface — the material should begin to melt immediately upon contact.

Once the blade reaches melting temperature, place it **vertically on the jig's guide rods** between the two mating ends. Press both waterstop ends firmly and evenly against the two faces of the heating blade simultaneously.

5 Form the Molten Bead & Join

Continue applying steady, even pressure until a **molten PVC bead of approximately 5 mm diameter** forms uniformly across the full cross-section on both sides.

Once the bead has formed, **separate the jig sides and lift the blade upward in one smooth, continuous movement** to avoid deforming the molten bead. Immediately switch off the heating blade.

While the PVC is still molten, **press the two melted faces together firmly** and hold under compression for approximately **20 seconds** until the joint has cooled and solidified.

6 Release, Cool & Inspect

Release the jig clamps and carefully remove the waterstop. Allow the welded joint to **cool completely at ambient temperature** before handling further.

Do not bend, twist, or apply any load to the joint before it has fully cooled — premature loading can cause the weld to fail internally without visible signs.

Once cooled, **inspect the weld joint** for voids, cracks, incomplete fusion, or excessive deformation. A sound weld should show a uniform, continuous bead with no gaps across the full cross-section.

FIXING & INSTALLATION

7 Secure to Reinforcing Steel

Pass **binding wire through the fixing holes** (eyelets) pre-punched along the outer flanges of the waterstop, then twist each wire tight with pliers. Space ties at regular intervals — typically every 300–500 mm — to prevent the strip from shifting during concrete placement and vibration.

The PVC waterstop is now secured and ready for concrete pouring. Verify that the strip lies flat and straight along the full joint length before approving the pour.



Critical installation checks: (1) The waterstop must form a continuous, unbroken run — any gap, puncture, or poorly welded joint creates a water migration path. (2) Concrete must fully encapsulate both sides of the strip with no voids against the ribbed faces. (3) For expansion joint types, ensure the center bulb remains unobstructed and free to flex after concrete placement.