INSTALLATION GUIDE

PPR-C / Blue Fusion — Installation Guide

Heat-fusion welding · DVS 2207-11

Before you start

- Confirm the pipe and fitting carry matching pressure-class markings (PN16 / PN20 / PN25 / Blue Fusion).
- Inspect for visible damage — UV-bleached, scored or oval pipe ends must be cut back before welding.
- Allow material stored below 5 °C to acclimatise indoors before welding.
- Check the welding tool calibration: 260 °C ±10 °C at the heating-element face.

Step-by-step (socket fusion)

1. Cut. Cut pipe square with a pipe shear or fine-tooth saw. Deburr inside and outside.

2. Mark. Mark the insertion depth on the pipe end (per DVS 2207-11 — ≈ pipe OD for sizes ≤63, less for larger).

3. Clean. Wipe pipe and fitting with a lint-free cloth and isopropyl alcohol. No oils, no grease.

4. Heat. Push pipe and fitting onto the welding heads simultaneously, square. Hold for the heating time per OD (Ø20: 5 s · Ø25: 7 s · Ø32: 8 s · Ø40: 12 s · Ø50: 18 s · Ø63: 24 s · Ø75: 30 s · Ø90: 40 s · Ø110: 50 s).

5. Join. Remove from heads and push pipe straight into fitting in one motion within the joining time (Ø20–25: 4 s · Ø32–50: 6 s · Ø63: 8 s · Ø75: 10 s · Ø90: 11 s · Ø110: 12 s). Do NOT twist.

6. Hold. Maintain axial force until the joint visibly cools and rounds out a small uniform bead. Do not stress the joint.

7. Cool. Full cooling before pressure test (Ø20–25: 2 min · Ø32–50: 4 min · Ø63: 6 min · Ø75–90: 8 min · Ø110: 10 min).

8. Test. Hydrostatic test per project specification — typically 1.5× operating pressure, monitored for 30 min minimum.

Routing & expansion

- PPR-C linear expansion coefficient $\alpha \approx 1.5 \times 10^{-4}$ m/m·K. Expansion $\Delta L = \alpha \times L \times \Delta T$.
- Use anchor / guide combinations to direct expansion into loops, legs or arms — never restrain a long horizontal run with two anchors.
- Recommended support spacing depends on size and temperature; generally 0.6–1.2 m horizontal, 1.0–1.8 m vertical for PPR-C at Ø20–63 mm.
- Above 60 °C service, halve the support spacing to compensate for sag.

Common mistakes (avoid)

- Twisting the joint while inserting — creates a cold spot and weakens the weld.
- Skipping the cooling period before pressure test — most field failures trace back to this.
- Mixing PN classes on the same circuit — the lowest class governs the system rating.
- Welding cold pipe straight from a winter site without acclimatisation — leads to micro-cracking.

For project-specific installation supervision, expansion-loop layout drawings or a calibration audit of your fusion tools, contact info@vala.com.tr.