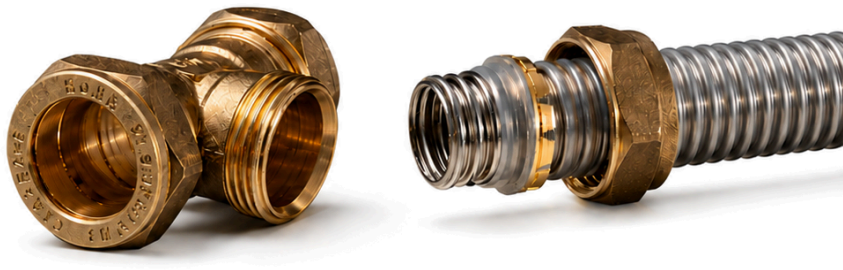
Ridgeline

TECHNICAL DATA SHEET

Ridgeline™ + RidgeLock™

Ridgeline™ is a premium corrugated stainless steel piping system for hot and cold water plumbing and central heating. The RidgeLock™ system connects it using standard EN 1254 compression fittings: simply swap the copper olive for the engineered RidgeLock sealing ring.



316L	R-15 to R-28	10 bar
Marine-grade stainless steel core	Three sizes · EN 1254 compression system	Working pressure · up to 90 °C

SYSTEM DESCRIPTION

The Ridgeline + RidgeLock system pairs corrugated 316L stainless steel tube with the RidgeLock™ sealing-ring connection. RidgeLock uses the same **standard EN 1254 compression fittings already used for copper**: the copper olive is simply replaced with an engineered RidgeLock sealing ring, whose teeth interlock with the tube's corrugations for a robust, reliable seal. Available for R-15, R-22 and R-28. For larger sizes and the full mechanical and high-temperature range, Ridgeline tube is used with the P1™ fitting system (see the separate Ridgeline + P1 Data Sheet).

PIPING CONSTRUCTION

- **Primary layer:** marine-grade 316L stainless steel with engineered corrugations that provide maximum flexibility while delivering superior crush and burst performance.
- **Protective layer:** high-grade polyethylene (PE) outer sleeve that protects the stainless steel from building materials containing chlorides, and makes pulling the tube through concealed spaces easier. This layer makes no contact with drinking water.

RIDGELOCK™ FITTING CONNECTION SYSTEM

- Uses standard EN 1254 compression fitting bodies and nuts, widely available from merchants across the UK.
- Replaces the traditional olive with the engineered RidgeLock™ sealing ring; the ring's teeth interlock with the tube's corrugations to create a robust mechanical connection suitable for concealed installations.
- Available for R-15, R-22 and R-28, and fully interchangeable with the P1™ fittings range on these sizes.

APPLICATIONS

- Hot and cold water plumbing
- Central heating systems
- Concealed and buried installations
- Connection to, and repair of, existing copper systems

DIMENSIONS OF RIDGELINE TUBE

	R-15	R-22	R-28
Outer diameter (with cover)	15 mm	22 mm	28 mm
Inner diameter	11 mm	18 mm	23 mm
Tubing wall thickness	0.25 mm	0.25 mm	0.25 mm
Polyethylene cover thickness	0.80 mm	0.80 mm	0.80 mm

The RidgeLock™ sealing-ring system is available for R-15, R-22 and R-28. Ridgeline tube is also made in larger sizes (R-32-HP, R-35, R-42 and R-54); these use the P1™ fitting system; see the Ridgeline + P1 Data Sheet.

MATERIALS

- Corrugated tubing: 1.4404 (316L) stainless steel conforming to BS EN 10088.
- High recycled content in the stainless steel.
- Protective outer sleeve: high-grade polyethylene (PE).

LENGTHS, WEIGHT & HANDLING

- Available in lengths up to 500 m. Long continuous lengths enable precise measurement and cutting on-site to minimise waste.
- Shorter lengths supplied in boxed coils for easy handling.
- For long spools, the Ridgeline spool roller system ensures tangle-free dispensing.
- Reduced weight per metre versus copper reduces handling effort and the risk of theft on site.

WORKING PARAMETERS

- Maximum working pressure 10 bar; maximum operating temperature 90 °C.
- WRAS Approved and certified under Kiwa Reg 4 (KUKreg4 ATS 3) for R-15, R-22 and R-28: certificate 2501716 at 10 bar maximum working pressure and 85 °C maximum operating temperature. The published 90 °C figure is the manufacturer working parameter; an updated certificate reflecting it is pending.
- Suitable for indoor and outdoor use. Can be buried in screed; for direct ground burial follow the Ridgeline installation guidance.
- All installations must be pressure tested to the relevant standards before commissioning.

INSULATION & LAGGING

- For many applications insulation or lagging may be required.
- Insulation type and thickness should be tailored to the specific installation for optimal performance.
- The polyethylene cover supports smooth, effortless application of any standard insulation product for a secure fit.

KEY ADVANTAGES

- Connects with the standard EN 1254 compression fittings merchants already stock; no proprietary tooling required.
- The engineered sealing ring interlocks with the tube's corrugations for a secure, concealable mechanical seal.
- Switch mid-run between copper and Ridgeline without specialist parts.
- Marine-grade 316L stainless steel core: drinking water never touches plastic, rubber or braid.
- **100+ year design life**, with an inherently lower carbon footprint than copper.
- Fully interchangeable with the P1™ fitting system on R-15, R-22 and R-28.

INSTALLATION PARAMETERS

BEND RADIUS

- Corrugated design enables exceptional flexibility without kinking.
- Bend radius equals the diameter of the tube; adjacent (back-to-back) bends can be achieved where required.
- Full kink resistance is maintained even at extremely tight bends.
- No special tools needed for bending.
- 90° bends are possible in place of elbow fittings.

SUGGESTED PIPE CENTRES

Pipe supports and clips should be installed at the suggested pipe centres below.

TUBE	R-15	R-22	R-28
Suggested pipe centres	1.2 m	1.2 m	1.2 m

REQUIRED TOOLS

- Metal wheel pipe cutter.
- Utility knife (for removing the protective cover).
- Spanner / wrench (for RidgeLock™ connections).

CONNECTION ASSEMBLY

- Hand-tight, then a further three half-turns with a spanner. Ensure the RidgeLock™ sealing ring is correctly seated in the third corrugation valley, with three peaks visible ahead of the ring.

PERFORMANCE PARAMETERS

CORROSION RESISTANCE

- Superior corrosion resistance compared with copper tube in UK drinking water conditions (verified through independent testing at Lancaster University).
- Engineered for domestic water systems.
- All installations must be pressure tested to the relevant standards before commissioning.

FREEZE PROTECTION

- Corrugated design provides superior resistance to single freeze events compared with rigid tube.
- Corrugations can accommodate expanding ice.
- Protection against freezing should always be the primary approach.
- Long continuous runs without fittings are recommended in freeze-risk areas.
- Repeated freeze/thaw cycles may cause permanent deformation.

INTERRELATION WITH OTHER SYSTEMS

- **Copper integration:** use any WRAS-approved EN 1254 compression fitting, replacing the copper olive with a RidgeLock™ sealing ring on the Ridgeline side.
- **Plastic system connection:** connect via a male / female BSP thread combination.
- **P1 compatibility:** Ridgeline tube is fully interchangeable with the P1™ fitting system on R-15, R-22 and R-28.

RIDGELOCK™ FITTINGS & SEALING RINGS

The RidgeLock™ system combines standard EN 1254 compression fitting components with our engineered sealing ring. The sealing ring's teeth mechanically interlock with the tube's corrugations, creating a robust, reliable seal that maintains its integrity even when subjected to bending forces. Use any WRAS-approved EN 1254 compression fitting (couplers, elbows, tees, reducers and tap connectors) in place of copper.

RIDGELOCK™ RANGE	R-15	R-22	R-28
Engineered RidgeLock™ sealing ring	✓	✓	✓
Standard EN 1254 compression fittings	✓	✓	✓
Interchangeable with P1™ fittings	✓	✓	✓

WRAS & KIWA REG 4

Ridgeline™ tube with the RidgeLock™ system (a RidgeLock™ sealing ring plus a WRAS-approved EN 1254 compression fitting) is WRAS Approved and certified under Kiwa Reg 4 (KUKreg4 ATS 3) for R-15, R-22 and R-28. An uprated Kiwa Reg 4 certificate reflecting the 10 bar / 90 °C working parameters is pending.

DAMAGE & REPAIR

DAMAGE TO CORRUGATED TUBE

- If the tube becomes damaged it can be repaired using a coupler / union fitting.

DAMAGE TO OUTER SLEEVE LAYER

- Any damage that creates a hole in the protective cover must be repaired in locations where the tube may contact building materials containing chlorides (screed, plaster, cement).
- Use self-amalgamating silicone tape, available from Ridgeline.

SPECIALIST VARIANTS

The Ridgeline plumbing system (tube, RidgeLock™ and P1™ fittings) is designed for a wide range of plumbing applications. We also offer specialist variants: **Ridgeline Underfloor**, engineered specifically for underfloor heating systems, and **Ridgeline Flexis**, flexible connectors that replace braided rubber flexis.

These specialist variants are not directly compatible with regular Ridgeline pipe or RidgeLock™ and P1™ fittings. Please contact us for more information.

PRESSURE DROP

Pressure drop (Pascals) and velocity (m/s) per metre of tube run, for a range of flow rates and tube diameters.

FLOW		R-15		R-22		R-28	
L/MIN	L/S	M/S	PA	M/S	PA	M/S	PA
2.50	**0.0417**	0.44	797	0.16	56	0.10	15
5.00	**0.0833**	0.88	3,137	0.33	216	0.20	58
7.50	**0.1250**	1.32	7,019	0.49	480	0.30	128
10.00	**0.1667**	1.75	12,443	0.65	847	0.40	225
12.50	**0.2083**	2.19	19,410	0.82	1,317	0.50	349
15.00	**0.2500**	2.63	27,918	0.98	1,891	0.60	500
17.50	**0.2917**	3.07	37,968	1.15	2,568	0.70	679
20.00	**0.3333**	3.51	49,560	1.31	3,349	0.80	885
22.50	**0.3750**	3.95	62,695	1.47	4,233	0.90	1,118
25.00	**0.4167**	4.38	77,371	1.64	5,221	1.00	1,378
27.50	**0.4583**	4.82	93,590	1.80	6,312	1.10	1,666
30.00	**0.5000**	5.26	111,350	1.96	7,507	1.20	1,981

Ridgeline tube is also available in larger sizes (R-32-HP to R-54), which use the P1™ fitting system; full pressure-drop data for those sizes is in the Ridgeline + P1 Data Sheet.

Brochures, certifications & technical documents

Scan the QR code to access the full Ridgeline document library, or visit **www.ridgelinetubes.com** · 01625 70 71 72.