



Ridgeline – Data Sheet

Description

Ridgeline™ is a premium corrugated stainless steel piping system engineered for all plumbing applications, including hot and cold water plumbing and central heating systems. The system comprises:

Core 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. This layer makes no contact with drinking water.

Connection Systems:

Ridgeline offers two distinct fitting solutions:

RidgeLock™ Fittings:

- Utilises standard EN 1254 compression fitting bodies and nuts
- Replaces traditional olive with engineered RidgeLock™ sealing ring
- Creates a robust mechanical connection suitable for concealed installations
- Available in sizes DN 15-54

P1™ Permanent Fittings

- Uses the same RidgeLock™ sealing technology
- Features a sliding press-fit sleeve for permanent connection
- Cannot be disassembled after sealing
- Available in sizes DN 15-35



Dimensions of Ridgeline tube

	DN 15	DN 22	DN 28	DN 35
Outer Diameter (with cover)	15 mm	22 mm	28 mm	38 mm
Inner Diameter	11 mm	18 mm	22 mm	32 mm
Tubing Wall Thickness	0.25 mm	0.25 mm	0.25 mm	0.30 mm
Polyethylene Cover Thickness	0.50 mm	0.50 mm	0.50 mm	0.50 mm

Lengths and handling

Ridgeline pipe is available in lengths from 25m up to 500m. Long continuous lengths are ideal for project work, enabling precise measurement and cutting on-site to minimise waste. Shorter lengths are supplied in convenient boxed coils.

For efficient handling of longer lengths, our dedicated spool roller system ensures tangle-free dispensing. Maximum spool weights:

	DN 15	DN 22	DN 28	DN 35
100m	17 kg	22 kg	32 kg	43 kg
200m	36 kg	48 kg	72 kg	99 kg
500m	68 kg			

Materials

- Corrugated tubing: 1.4404 (316L) stainless steel conforming to BS/EN 10088
- Minimum 80% recycled content in stainless steel

Working Parameters

- Suitable for indoor and outdoor use.
- Can be buried without additional protection or sleeving.
- Maximum working pressure: 5 bar
- Maximum operating temperature: 85°C

The system has been independently tested to significantly higher pressures but for optimal long-term performance and reliability, installation and operation should remain within these parameters.

Corrosion Protection & Pressure Testing

- Superior corrosion resistance compared to 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 relevant standards before commissioning

Freeze Protection

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

Installation Parameters

Bend Radius

- Corrugated design enables exceptional flexibility without kinking
- Bend Radius is the diameter of the tube
- Can achieve back-to-back bends where required
- Full kink resistance maintained even at extremely tight bends
- No special tools needed for bending
- 90 degree bends possible instead of elbow fittings

Support Spacing

- Pipe supports and clips should be installed at minimum intervals of:
Horizontal runs: 400mm
Vertical runs: 800mm

Required Tools

- Metal wheel pipe cutter
- Utility knife (for removing protective cover)
- Spanner/wrench for RidgeLock™ connections
- Slide press tool (for P1™ permanent fittings)

Connection Assembly

- RidgeLock™ fittings: Hand-tight plus 3 half turns with a spanner. Do not over-tighten
- P1™ fittings: Use slide press tool according to instructions

RidgeLock™ Fittings and 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.

Key Features:

- Universal access through readily available EN 1254 compression fittings
- Simple replacement of standard olive with RidgeLock™ sealing ring
- Complete fittings available in sealed bags containing nut, sealing ring, and fitting body

RidgeLock™ and Manifold Compatibility

- RidgeLock™ sealing rings are compatible with any 3/4" Female BSP thread
- This compatibility enables connection to standard manifold ports
- Allows for efficient distribution systems when required

P1™ Fittings

P1™ fittings employ the same RidgeLock™ sealing ring but replace the mechanical nut and fitting body with a sliding press-fit sleeve system.

Key Features:

- Requires dedicated press-fit tool
- Creates permanent connection that cannot be undone
- Maintains same reliable sealing method as standard RidgeLock™
- Ideal for concealed locations requiring tamper-proof installation

Damage and Repair

Damage to Corrugated Tube

- If the tube becomes damaged or has a hole in it, it can be repaired by using a Union fitting.

Damage to Outer Sleeve Layer

In locations where the tube may contact building materials containing chlorides (screed floor, plaster, cement):

- Any damage causing a hole in the cover must be repaired
- Use self-amalgamating silicone tape (available from Ridgeline)

Interrelation with Other Systems

Copper Integration

- Use any EN 1254 compression fitting, replacing copper olive with RidgeLock™ sealing ring on Ridgeline side.

Plastic System Connection:

- Connect via male/female BSP thread combination

Specialist Variants

The Ridgeline plumbing system, including pipe, RidgeLock™ and P1™ fittings, is designed for a range of plumbing applications. We also offer specialist variants:

- Ridgeline Underfloor: Specifically designed for underfloor heating systems
- Ridgeline Heat-Connect: Optimised for feed and return lines for Air Source Heat Pumps

Note: 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 in Ridgeline tube is higher than PEX tube of the same outer diameter. Pressure drop (Pascals) and velocity (m/s) is given below for different flow rates and tube diameters..

Flow (L/min)	Flow L / sec	DN 15		DN 22		DN 28		DN 35	
		m/s	Pa	m/s	Pa	m/s	Pa	m/s	Pa
0.00	0.0000	0.00	0	0.00	0	0.00	0	0.00	
2.50	0.0417	0.44	797	0.18	69	0.11	21.5	0.05	2.7
5.00	0.0833	0.88	3,137	0.35	268	0.23	81.5	0.10	10.1
7.50	0.1250	1.32	7,019	0.53	595	0.34	179.9	0.15	22.0
10.00	0.1667	1.75	12,443	0.71	1,050	0.45	316.6	0.21	38.5
12.50	0.2083	2.19	19,410	0.89	1,634	0.57	491.6	0.26	59.5
15.00	0.2500	2.63	27,918	1.06	2,346	0.68	704.9	0.31	85.1
17.50	0.2917	3.07	37,968	1.24	3,186	0.80	956.5	0.36	115.2
20.00	0.3333	3.51	49,560	1.42	4,156	0.91	1246.5	0.41	149.9
22.50	0.3750	3.95	62,695	1.60	5,253	1.02	1574.7	0.46	189.1
25.00	0.4167	4.38	77,371	1.77	6,479	1.14	1941.3	0.51	232.8
27.50	0.4583	4.82	93,590	1.95	7,834	1.25	2346.2	0.56	281.2
30.00	0.5000	5.26	111,350	2.13	9,317	1.36	2789.3	0.62	334.0