

Single-jacketed tubing

Protective PVC and TPU jackets for instrumentation, hydraulic and process tubing.



Coiled. Straight. Cut to length.

F-Line single-jacketed tubing combines a metallic tube with an external protective jacket. Select the core tube and jacket together for the process fluid, pressure, temperature, routing and external environment.

Product element	Available selection
Core material	316/316L stainless steel or copper; other materials by enquiry.
Tube range	6 to 25 mm and 1/4 to 1 inch outside diameter. Seamless and welded options; confirm the selected construction.
Jacket	Thermoplastic polyurethane (TPU) or PVC. Other materials by enquiry.
Supply form	Coiled, straight lengths or cut to length, subject to quotation.

Product scope: The technical tables in this datasheet cover single-jacketed tubing. Thermal-insulated tubing (TJ) appears in the ordering guide, but insulation thickness and thermal performance are not specified here; request a project-specific selection.



Metric tube data

Outside diameter and wall in mm. Listed working pressures in bar; read all conditions below.

Tube OD mm	Wall mm	316 SS seamless bar	316 SS welded bar	Copper bar	Min. jacket OD* mm
6	1.0	420	336	90	8.60
6	1.2	540	432	150	8.60
6	1.5	710	568	200	8.60
10	1.0	240	192	60	12.60
10	1.2	300	240	100	12.60
10	1.5	400	320	140	12.60
12	1.0**	200	160	50	14.60
12	1.2	250	200	75	14.60
12	1.5	330	264	100	14.60
12	2.0	470	376	130	14.60
18	1.2**	150	120	40	20.60
18	1.5	200	160	60	20.60
18	2.0	290	232	80	20.60
25	1.8**	180	144	40	27.60
25	2.0	200	160	50	27.60

Table conditions and selection notes

Tube materials: annealed 316 stainless steel; the source lists ASTM A213 or A269. A213 covers seamless tubing; confirm A269 for any welded option. Copper is listed to ASTM B68 / B75.

Parameter	Listed value
Maximum process temperature	PVC: 105°C. TPU: 125°C***.
Minimum temperature	Service: -34°C. Installation: -23°C. These table notes differ from the jacket-property values on pages 4-5.
Support centres / minimum bend radius	Horizontal: 1.80 m. Vertical: 4.60 m. Minimum bend radius: 20.00 cm. Verify for the actual installation.

* Standard jacket wall: 1.3 mm (approximately 0.052 in.). ** Not recommended for gas service. *** 125°C is a maximum process value, not a continuous rating; the accompanying note states 105°C continuous according to UL 1581.

Pressure values are reproduced as reference data. The source does not establish that the tabulated pressure applies at the listed maximum process temperature. Confirm the applicable pressure-temperature basis, jacket variant and complete assembly rating with Fluidline.

Fractional tube data

Outside diameter and wall in inches. Listed working pressures in psig; read all conditions below.

Tube OD in.	Wall in.	316 SS seamless psig	316 SS welded psig	Copper psig	Min. jacket OD* in.
1/4	0.035	5200	4160	1400	0.35
1/4	0.049	7600	6080	2175	0.35
1/4	0.065	10150	8120	2900	0.35
3/8	0.035	3350	2680	900	0.48
3/8	0.049	4850	3880	1450	0.48
3/8	0.065	6525	5220	2030	0.48
1/2	0.035**	2650	2120	800	0.60
1/2	0.049	3750	3000	1088	0.60
1/2	0.065	5150	4120	1450	0.60
1/2	0.083	6525	5220	1885	0.60
3/4	0.049**	2450	1960	580	0.85
3/4	0.065	3350	2680	870	0.85
3/4	0.083	4250	3400	1160	0.85
1	0.065**	2100	1680	580	1.10
1	0.083	2700	2160	725	1.10

Table conditions and selection notes

Tube materials: the same stainless steel and copper scope applies as on page 2. Metric and fractional sizes are separate dimensional ranges; do not substitute one for the other.

Parameter	Listed value
Maximum process temperature	PVC: 221°F. TPU: 257°F***.
Minimum temperature	Service: -30°F. Installation: -10°F. Confirm the applicable variant against the jacket-property tables.
Support centres / minimum bend radius	Horizontal: 6.00 ft. Vertical: 15.00 ft. Minimum bend radius: 8.00 in. Verify for the actual installation.

* Standard jacket wall: 0.052 in. (approximately 1.3 mm). ** Not recommended for gas service. *** 257°F is a maximum process value, not a continuous rating; the accompanying note states 221°F continuous according to UL 1581.

Selection responsibility: The system designer must establish application suitability, material compatibility and product ratings, and ensure proper installation, operation and maintenance. Incorrect selection or use can cause injury or property damage.



Jacket materials: PVC

Comparison data and PVC property references. Confirm the precise jacket compound on the quotation.

Property	Standard 105°C PVC	F-Line TPU
Maximum temperature	105°C (221°F)	125°C (257°F)***
Minimum installation temperature	-10°C (14°F)	-40°C (-40°F)
Minimum service temperature	-10°C (14°F)	-58°C (-72°F)
Hardness, Shore A	95 A	90 A
Tensile strength	2,000 psi (approx. 138 bar)	4,655 psi (approx. 321 bar)
Water absorption	1,500-3,000 ppm	5,000-7,000 ppm
Flame classification	V2	V0 (3 mm)
UV / abrasion resistance	F / G	E / E
Halogenated (chlorides)	Yes	No

Comparative ratings: P = poor; F = fair; G = good; E = excellent.

F-Line PVC reference properties

Property	Value	Listed test method
Maximum temperature	105°C (221°F)	BS 6746
Minimum installation / service	-10°C (14°F) / -40°C (-40°F)	BS 6746
Hardness, Shore A	93 A	ASTM D2240
Tensile strength	2,900 psi (approx. 200 bar)	ASTM D638
Water absorption	1,500-3,000 ppm	ASTM D638 (as listed)
Flame classification	V0	UL 94
UV resistance / abrasion	750 h / 200-300 (unit not supplied)	UL 1581
Halogenated (chlorides)	Halogenated	UL 1581 (as listed)

Characteristics: high hardness, abrasion resistance, UV stabilisation, low-temperature flexibility, coilability and flame-retardant properties. Listed PVC references: BS 6746 Type 5; DIN/VDE 0207 YI8, YM4; MIL-W-16878; UL 1581 Type 105C. Confirm applicable conformity documentation for the supplied compound.

*** Maximum process temperature only. The accompanying continuous-temperature note states 105°C (221°F). Values describe the listed compounds and are not a universal rating for all PVC or TPU jackets.



Jacket materials: TPU

Low-temperature, abrasion and chemical-resistance properties for the specified jacket compound.

Property	F-Line TPU value	Listed test method
Maximum temperature	125°C (257°F)***	ISO 868 (as listed)
Minimum installation temperature	-40°C (-40°F)	ISO 868 (as listed)
Minimum service temperature	-58°C (-72°F)	ISO 868 (as listed)
Hardness, Shore A	90 A	ISO 868
Tensile strength	4,655 psi (32.1 MPa)	ISO 527
Water absorption	5,000-7,000 ppm	ISO 527 (as listed)
Flame classification	V0 (3 mm)	UL 94
UV resistance	2,000 h	UL 1581
Abrasion resistance	65 mm³ loss	ISO 4649
Halogenated (chlorides)	Zero halogen	ISO 4649 (as listed)

*** Maximum process temperature is not the continuous rating. The source footnote gives 105°C (221°F) continuous according to UL 1581. Several source test-method cells span unlike properties; the entries above preserve that mapping and are not independent verification of the stated test scope.

Properties and application context

The specified TPU compound is described as tough, abrasion resistant, hydrolysis resistant, chemical and oil resistant, weather resistant and bacteria resistant. Other listed features include low friction, cold flexibility, a matt surface, coilability and flame-retardant properties.

An external jacket can help protect the tube surface, but it does not increase the metal tube pressure rating or guarantee immunity from corrosion or chloride stress-corrosion cracking. Assess jacket terminations, trapped moisture, salts, temperature and inspection access for offshore and coastal installations.

Customer-supplied tube and special jackets

For coating of customer-supplied coiled or straight tubing, send Fluidline the tube specification, condition, total length and required jacket. Fluidline will confirm whether the service is available, the minimum quantity, coating material and logistics before accepting the order.

Temperature reconciliation: The tube tables on pages 2-3 list different service and installation minima from the compound tables on pages 4-5. Use neither set as a blanket limit. Obtain the selected jacket variant and its approved operating limits from Fluidline before specification.

Ordering & enquiries

Build the product description below. Fluidline will confirm the final ordering reference and supply scope.

Example reference: SJ - SS - 4-S-035 - TP - 250

Single jacket / stainless steel / 1/4 in. OD seamless × 0.035 in. wall / TPU / 250 ft.

Element	Designators and information
I. Model	SJ = single jacket; TJ = thermal-insulated jacket; CT = customer-supplied tube. TJ and CT require scope confirmation.
II. Core material	SS = 316/316L stainless steel; CU = copper. Other materials by enquiry.
III. Tube outside diameter	Metric: 6M, 10M, 12M, 18M, 25M. Fractional codes: 4 = 1/4 in.; 6 = 3/8 in.; 8 = 1/2 in.; 12 = 3/4 in.; 16 = 1 in.
III. Construction and wall	S = seamless; W = welded; ST = straight stick, nominal 6 m; confirm supplied length. Wall: fractional thousandths (035 = 0.035 in.); suffix M for millimetres.
IV. Jacket material	TP = TPU; PV = PVC.
V. Length	Number = feet; number followed by M = metres. Specify continuous length and quantity.

Marking and traceability

Agree the F-Line / Fluidline identification, model, jacket material, tube dimensions, process-temperature marking, batch reference and metre/foot count on the order. Preserve the connection between the delivered tube and its material documentation. Add project caution markings where required.

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Send OD × wall, material, construction, jacket type, length, quantity, medium, pressure, temperature, inspection requirements and delivery address. Specifications are reference information and subject to confirmation; actual dimensions can vary within the agreed specification.