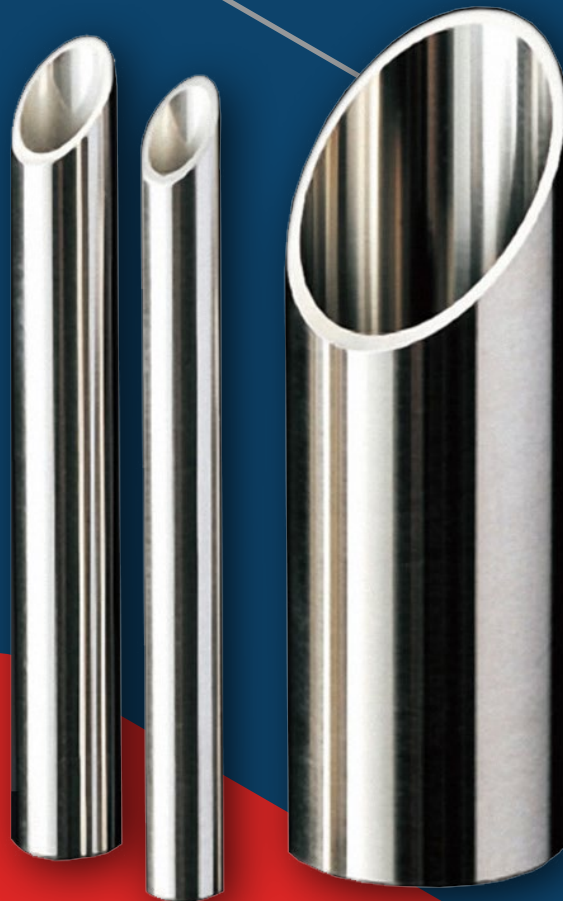


VIS-LOK[®]

A Perfect Connection Every Time

Seamless Instrumentation Tube



Smarter pipeline solutions.



**WATER
WORKS**



Seamless Stainless Steel Bright Annealed (BA) Instrumentation Tube

VIS-LOK high-quality seamless stainless steel instrumentation tube is stocked in New Zealand for use with compression fittings and is suitable for bending and flaring. VIS-LOK seamless instrumentation tube is dual certified 316/316L, dual specified A269/A213 and used extensively in fields such as:

- Oil and gas
- Petrochemical
- Industrial and medical gases
- Mining and resources
- Process and power piping
- Power and cogeneration
- Pharmaceutical
- Food and beverage processing
- Water treatment and chemicals
- Automotive, ship building and aerospace
- Heat exchanger applications
- Industrial machinery manufacturing

VIS-LOK seamless instrumentation tube is available in imperial and metric sizes, fully certified, containing a minimum of 2.5% molybdenum to provide increased corrosion protection with a maximum hardness of 80 HRB.

Specifications:

Product: VIS-LOK seamless stainless steel tube

Standard: ASTM A269/A213 ASME SA213

Grade: TP316/316L (dual certified)

Process: Cold finish, ave. wall, bright annealed

Delivery condition: Plain ends, plugged or capped

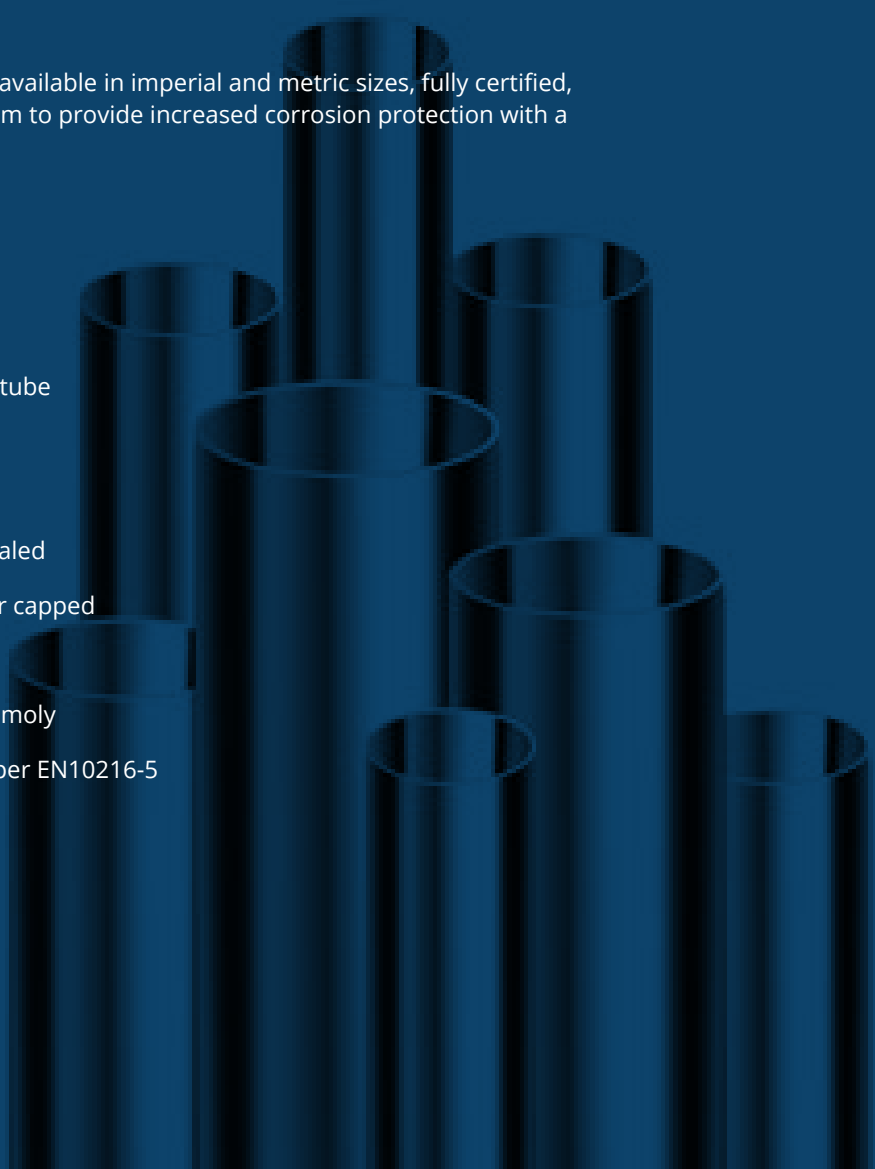
Certification: EN 10204 3.1 available

Molybdenum content: Minimum of 2.5% moly

Chemical composition: meets 1.4435 as per EN10216-5

Maximum hardness: 80 HRB

Country of origin: Japan



Seamless S/S BA Instrumentation Tube



SEAMLESS SS316/316L BRIGHT ANNEALED A269/A213 MIN MOLY 2.5%

| Code | Dimension | Length |
|-----------------|----------------------------------|--------|
| Imperial | | |
| SST1/4SBF35 | 1/4" x 0.035" (6.35mm x 0.89mm) | 6m |
| SST1/4SBF49 | 1/4" x 0.049" (6.35mm x 1.24mm) | 6m |
| SST5/16SBF49 | 5/16" x 0.049" (7.94mm x 1.24mm) | 6m |
| SST3/8SBF35 | 3/8" x 0.035" (9.53mm x 0.89mm) | 6m |
| SST3/8SBF49 | 3/8" x 0.049" (9.53mm x 1.24mm) | 6m |
| SST3/8SBF65 | 3/8" x 0.065" (9.53mm x 1.65mm) | 6m |
| SST1/2SBF35 | 1/2" x 0.035" (12.70mm x 0.89mm) | 6m |
| SST1/2SBF49 | 1/2" x 0.049" (12.70mm x 1.24mm) | 6m |
| SST1/2SBF65 | 1/2" x 0.065" (12.70mm x 1.65mm) | 6m |
| SST1/2SBF83 | 1/2" x 0.083" (12.70mm x 2.11mm) | 6m |
| SST5/8SBF65 | 5/8" x 0.065" (15.88mm x 1.65mm) | 6m |
| SST3/4SBF49 | 3/4" x 0.049" (19.05mm x 1.24mm) | 6m |
| SST3/4SBF65 | 3/4" x 0.065" (19.05mm x 1.65mm) | 6m |
| SST3/4SBF83 | 3/4" x 0.083" (19.05mm x 2.11mm) | 6m |
| SST1SBF49 | 1" x 0.049" (25.40mm x 1.24mm) | 6m |
| SST1SBF65 | 1" x 0.065" (25.40mm x 1.65mm) | 6m |
| SST1SBF83 | 1" x 0.083" (25.40mm x 2.11mm) | 6m |
| Metric | | |
| SST6SBF10 | 6mm x 1mm | 6m |
| SST8SBF10 | 8mm x 1mm | 6m |
| SST10SBF10 | 10mm x 1mm | 6m |
| SST12SBF15 | 12mm x 1.5mm | 6m |
| SST16SBF15 | 16mm x 1.5mm | 6m |
| SST20SBF20 | 20mm x 2mm | 6m |
| SST25SBF20 | 25mm x 2mm | 6m |

Please Note: Sizes marked in grey are not currently stocked in NZ but are available on an indent basis. Please contact us for further information.

Imperial Tubing Theoretical Allowable Working Pressure

| TP316/TP316L | | Wall Thickness | | | | | | | | | | | | | PSI |
|--------------|-------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| Inch | MM | 0.035 | 0.049 | 0.065 | 0.068 | 0.083 | 0.088 | 0.091 | 0.095 | 0.109 | 0.119 | 0.126 | 0.133 | 0.178 | |
| 1/4" | 6.35 | 5400 | 8100 | 11100 | | | | | 2.41 | | | | | | |
| 5/16" | 7.94 | 4300 | 6200 | 8700 | | | | | 2.31 | | | | | | |
| 3/8" | 9.53 | 3500 | 5100 | 7100 | 7400 | | | | | | | | | | |
| 1/2" | 12.7 | 2600 | 3700 | 5100 | 5300 | 6700 | | | | | | | | | |
| 5/8" | 15.88 | 2000 | 2900 | 4000 | 4200 | 5200 | 5500 | 5800 | | | | | | | |
| 3/4" | 19.05 | 1700 | 2400 | 3300 | 3400 | 4200 | 4500 | 4700 | 4900 | 5800 | 6400 | | | | |
| 7/8" | 22.23 | 1400 | 2000 | 2800 | 2900 | 3600 | 3800 | 4000 | 4200 | 4800 | 5300 | 6100 | 8400 | | |
| 1" | 25.4 | 1200 | 1800 | 2400 | 2500 | 3100 | 3300 | 3400 | 3600 | 4200 | 4600 | 5200 | 7300 | | |

Outside Diameter

Values devived from ASTM A269 and B31.3 under -20 to 100°F (-28 to 37°C).

[Formula] $P = (2 \times WT_{min} \times S \times E) / (OD_{max} - (2 \times WT_{min} \times Y))$

| | | |
|--------------------------|----------------------------------|---|
| P: | Allowable working pressure (psi) | |
| WT_{min}: | Min. wall thickness (in.) | WT _{min} =WT×0.90 |
| WT: | Nominal wall thickness (in.) | |
| S: | Allowable stress (=20,000 psi) | |
| E: | Quality factors (=1.0) | |
| OD_{max}: | Max outside diameter (in.) | OD _{max} =OD+0.005 |
| OD: | Nominal outside diameter (in.) | |
| Y: | Thickness coefficients | t≤D/6: T>D/6: Y=0.4 Y=(ID+2c)/(OD+ID+2c) |
| ID: | Nominal inside diameter (in.) | |
| c: | Coefficients (=0.02) | |

Imperial Tubing Theoretical Bursting Pressure

| TP316/TP316L | | Wall Thickness | | | | | | | | | | | | | | PSI |
|--------------|-------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|-----|
| Inch | MM | 0.035 | 0.049 | 0.065 | 0.068 | 0.083 | 0.088 | 0.091 | 0.095 | 0.109 | 0.119 | 0.126 | 0.133 | 0.178 | | |
| 1/4" | 6.35 | 21000 | 29400 | 39000 | 1.73 | 2.11 | 2.24 | 2.31 | 2.41 | 2.77 | 3.02 | 3.20 | 3.38 | 4.52 | | |
| 5/16" | 7.94 | 16800 | 23500 | 31200 | | | | | | | | | | | | |
| 3/8" | 9.53 | 14000 | 19600 | 26000 | 27200 | | | | | | | | | | | |
| 1/2" | 12.7 | 10500 | 14700 | 19500 | 20400 | 24900 | | | | | | | | | | |
| 5/8" | 15.88 | 8400 | 11700 | 15600 | 16300 | 19900 | 21100 | 21800 | | | | | | | | |
| 3/4" | 19.05 | 7000 | 9800 | 13000 | 13600 | 16600 | 17600 | 18200 | 19000 | 21800 | 23800 | 25200 | | | | |
| 7/8" | 22.23 | 6000 | 8400 | 11100 | 11600 | 14200 | 15000 | 15600 | 16200 | 18600 | 20400 | 21600 | 22800 | 30500 | | |
| 1" | 25.4 | 5200 | 7300 | 9700 | 10200 | 12400 | 13200 | 13600 | 14200 | 16300 | 17800 | 18900 | 19900 | 26700 | | |

Values derived from ASTM A269 and B31.3.

[Formula] $P=(2 \times WT \times S)/OD$

| | |
|------------|------------------------------------|
| P: | Bursting pressure (psi) |
| WT: | Nominal wall thickness (in.) |
| S: | Min. tensile strength (=75,000psi) |
| OD: | Nominal outside diameter (in.) |

Metric Tubing Theoretical Allowable Working Pressure

| Outside Diameter | TP316/TP316L | | | PSI |
|------------------|----------------|-------|-----|------|
| | Wall Thickness | | | |
| | MM | 1 | 1.5 | 2 |
| 6 | 6500 | 10600 | | |
| 8 | 4800 | 7700 | | |
| 10 | 3700 | 5900 | | 8300 |
| 12 | 3100 | 4800 | | 6800 |
| 16 | 2300 | 3500 | | 4900 |
| 20 | 1800 | 2800 | | 3800 |
| 25 | 1400 | 2200 | | 3000 |

Values derived from ASTM A269 and B31.3 under -20 to 100°F (-28 to 37°C).

[Formula] $P = (2 \times WT_{min} \times S \times E) / (OD_{max} - (2 \times WT_{min} \times Y))$

| | | | |
|--------------------------|----------------------------------|--------------------------------|--------------------------------|
| P: | Allowable working pressure (psi) | | |
| WT_{min}: | Min. wall thickness (mm.) | WT _{min} = WT × 0.90 | |
| WT: | Nominal wall thickness (mm.) | | |
| S: | Allowable stress (=20,000 psi) | | |
| E: | Quality factors (=1.0) | | |
| OD_{max}: | Max outside diameter (mm.) | OD _{max} = OD + 0.005 | |
| OD: | Nominal outside diameter (mm.) | | |
| Y: | Thickness coefficients | t ≤ D/6: | Y = 0.4 |
| | | T > D/6: | Y = (ID + 2c) / (OD + ID + 2c) |
| ID: | Nominal inside diameter (mm.) | | |
| c: | Coefficients (=0.02) | | |

Metric Tubing Theoretical Allowable Bursting Pressure

| Outside Diameter | TP316/TP316L | | | PSI |
|------------------|----------------|-------|-----|-------|
| | Wall Thickness | | | |
| | MM | 1 | 1.5 | 2 |
| 6 | 24700 | 37400 | | |
| 8 | 18500 | 28000 | | |
| 10 | 14800 | 22400 | | 30000 |
| 12 | 12300 | 18700 | | 25000 |
| 16 | 9200 | 14000 | | 18800 |
| 20 | 7400 | 11200 | | 15000 |
| 25 | 5900 | 8900 | | 12000 |

Values derived from ASTM A269 and B31.3.

[Formula] $P = (2 \times WT \times S) / OD$

| | |
|------------|------------------------------------|
| P: | Bursting pressure (psi) |
| WT: | Nominal wall thickness (mm.) |
| S: | Min. tensile strength (=75,000psi) |
| OD: | Nominal outside diameter (mm.) |

Notable Projects

The following are notable projects that were supplied with this Seamless Stainless Steel BA Instrumentation Tube.

Chevron - Gorgon Project

Gorgon is one of the world's largest LNG projects.

| Material Supplied | Tons | Year |
|--------------------------|------|------|
| ASTM A269/A213TP316/316L | 12 | 2011 |
| ASTM A269/A213TP316L | 4 | 2014 |

Inpex - Ichthys Project

Ichthys LNG is ranked among the most significant oil and gas projects in the world.

| Material Supplied | Tons | Year |
|--------------------------|------|------|
| ASTM A269/A213TP316/316L | 7 | 2012 |

Woodside - Greater Enfield Project

The Greater Enfield Project was approved in 2016, with a total investment of approximately US\$1.9 billion.

| Material Supplied | Tons | Year |
|----------------------|------|------|
| ASTM A213/A269TP316L | 1 | 2017 |

Complementary Products

| | |
|---|--|
|   | <ul style="list-style-type: none"> • Stainless Steel Compression Fittings • Double ferrule compression • Unique perfect tightness indicator |
|   | <ul style="list-style-type: none"> • Stainless Steel Threaded High Pressure Pipe Fittings |

EN 10204 3.1 Mill Certifications Available



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