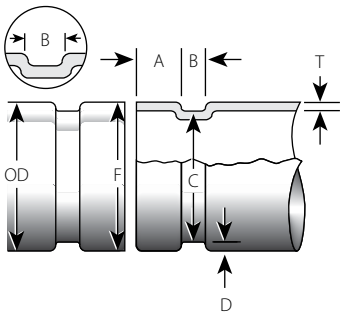
Copper Tubing Roll Groove Specifications

1.0 SPECIFICATIONS

Copper Tubing to CTS US Standards – ASTM B88 & ASTM B306



Exaggerated for clarity

Nominal Size	Actual Outside Diameter[1]		Dimensions					
Tubing inches	Basic inches mm	Tolerance inches mm	Gasket Seat "A"[2] ±0.03 ±0.76 inches mm	Groove Width "B"[3] +0.03/-0.00 +0.76/-0.00 inches mm	Groove Dia. "C"[4] +0.000/-0.020 +0.00/-0.50 inches mm	Groove Depth "D" (ref.)[5] inches mm	Min. Allow. Wall Thick. "T"[6] inches mm	Max. Allow. Flare Diameter "F"[7] inches mm
2	2.125 54.0	0.002 0.05	0.610 15.5	0.300 7.6	2.029 51.5	0.048 1.2	DWV	2.174 55.2
2½	2.625 66.7	0.002 0.05	0.610 15.5	0.300 7.6	2.525 64.1	0.050 1.3	0.065 1.7	2.674 67.9
3	3.125 79.4	0.002 0.05	0.610 15.5	0.300 7.6	3.025 76.8	0.050 1.3	DWV	3.174 80.6
4	4.125 104.8	0.002 0.05	0.610 15.5	0.300 7.6	4.019 102.1	0.053 1.4	DWV	4.174 106.0
5	5.125 130.2	0.002 0.05	0.610 15.5	0.300 7.6	4.999 127.0	0.063 1.6	DWV	5.174 131.4
6	6.125 155.6	0.002 0.05	0.610 15.5	0.300 7.6	5.999 152.3	0.063 1.6	DWV	6.174 156.8
8	8.125 206.4	0.002/-0.004 0.05/-0.10	0.610 15.5	0.300 7.6	7.959 202.2	0.083 2.1	DWV	8.174 207.6

1 Outside diameter: The outside diameter and tolerances of roll grooved tubing shall be in accordance with the standard referenced above. The maximum allowable tolerance from square cut ends is 0.030"/0.76 mm for 2 – 3"/50 – 80 mm and 0.045"/1.14 mm for 4 – 8"/100 – 200 mm, measured from true square line.

2 Gasket seat: The tubing surface shall be free from indentations, roll marks and projections from the end of the tubing to the groove to provide a leak-tight seal for the gasket. All loose scale, dirt, chips and grease must be removed.

3 Groove width: The bottom of the groove shall be free of loose dirt, chips and scale that may interfere with proper coupling assembly.

4 Groove outside diameter: The groove must be uniform depth for the entire tubing circumference. Groove must be maintained within the "C" diameter tolerance listed.

5 Groove depth: For reference only. Groove must conform to the groove diameter "C" listed.

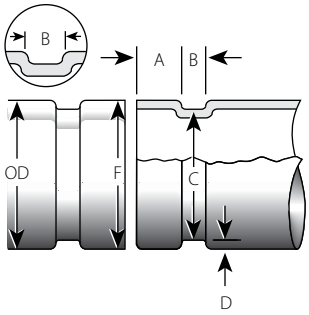
6 ASTM B306 drain waste and vent (DWV) is minimum wall thickness copper tubing which may be roll grooved.

7 Maximum allowable end flare diameter. Measured at the most extreme tubing end diameter.

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

1.0 SPECIFICATIONS (CONTINUED)

Copper Tubing to European Standards – EN 1057



Exaggerated for clarity

Nominal Size	Actual Outside Diameter[1]		Dimensions								
			Gasket Seat "A"[2]			Groove Width "B"[3]		Groove Diameter "C"[4]			
Tubing mm	Max. mm inches	Min. mm inches	Basic mm inches	Max. mm inches	Min. mm inches	Max. mm inches	Min. mm inches	Max. mm inches	Min. mm inches	Groove Depth "D"[5] (ref.)	Max Allow. Flare Diameter[6] "F"
54.0	54.07 2.129	53.93 2.123	15.87 0.625	16.64 0.655	15.11 0.595	8.38 0.330	7.62 0.300	51.51 2.028	51.00 2.008	1.25 0.049	56.39 2.220
64.0	64.07 2.522	63.93 2.517	15.87 0.625	16.64 0.655	15.11 0.595	8.38 0.330	7.62 0.300	61.47 2.420	60.96 2.400	1.27 0.050	66.41 2.615
66.7	66.77 2.629	66.63 2.623	15.87 0.625	16.64 0.655	15.11 0.595	8.38 0.330	7.62 0.300	64.14 2.525	63.63 2.505	1.27 0.050	69.09 2.720
76.1	76.17 2.999	76.03 2.993	15.87 0.625	16.64 0.655	15.11 0.595	8.38 0.330	7.62 0.300	73.41 2.890	72.90 2.870	1.35 0.053	78.61 3.095
88.9	88.97 3.503	88.83 3.497	15.87 0.625	16.64 0.655	15.11 0.595	8.38 0.330	7.62 0.300	85.70 3.374	85.19 3.354	1.60 0.063	91.63 3.607
108.0	108.07 4.255	107.93 4.249	15.87 0.625	16.64 0.655	15.11 0.595	8.38 0.330	7.62 0.300	104.80 4.126	104.29 4.106	1.60 0.063	110.54 4.352
133.0	133.20 5.244	132.80 5.228	15.87 0.625	16.64 0.655	15.11 0.595	8.38 0.330	7.62 0.300	129.29 5.090	128.78 5.070	1.85 0.073	135.79 5.346
159.0	159.20 6.280	158.80 6.252	15.87 0.625	16.64 0.655	15.11 0.595	8.38 0.330	7.62 0.300	155.30 6.114	154.79 6.094	1.85 0.073	161.80 6.370

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2 Gasket seat: The tubing surface shall be free from indentations, roll marks and projections from the end of the tubing to the groove to provide a leak-tight seal for the gasket. All loose scale, dirt, chips and grease must be removed.

3 Groove width: The bottom of the groove shall be free of loose dirt, chips and scale that may interfere with proper coupling assembly.

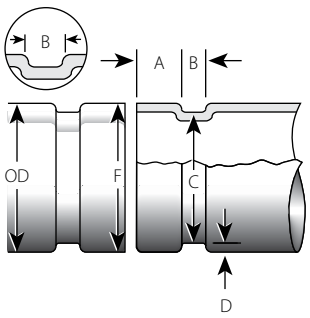
4 Groove outside diameter: The groove must be uniform depth for the entire tubing circumference. Groove must be maintained within the "C" diameter tolerance listed.

5 Groove depth: For reference only. Groove must conform to the groove diameter "C" listed.

6 Maximum allowable end flare diameter. Measured at the most extreme tubing end diameter.

1.0 SPECIFICATIONS (CONTINUED)

Copper Tubing to Australian Standards – AS 1432



Exaggerated for clarity

Nominal Size	Actual Outside Diameter[1]		Dimensions								
			Gasket Seat "A"[2]			Groove Width "B"[3]		Groove Diameter "C"[4]		Groove Depth "D"[5] (ref.)	Max Allow. Flare Diameter[6] "F"
Tubing DN	Max. mm inches	Min. mm inches	Basic mm inches	Max. mm inches	Min. mm inches	Max. mm inches	Min. mm inches	Max. mm inches	Min. mm inches		
DN50	50.80 2.000	50.67 1.995	15.87 0.625	16.64 0.655	15.11 0.595	8.38 0.330	7.62 0.300	48.23 1.899	47.73 1.879	1.25 0.049	51.94 2.045
DN65	63.50 2.500	63.35 2.494	15.87 0.625	16.64 0.655	15.11 0.595	8.38 0.330	7.62 0.300	60.88 2.397	60.38 2.377	1.27 0.050	64.67 2.546
DN80	76.20 3.000	76.02 2.993	15.87 0.625	16.64 0.655	15.11 0.595	8.38 0.330	7.62 0.300	73.56 2.896	73.05 2.876	1.27 0.050	77.37 3.046
DN100	101.60 4.000	101.35 3.990	15.87 0.625	16.64 0.655	15.11 0.595	8.38 0.330	7.62 0.300	98.78 3.889	98.27 3.869	1.35 0.053	102.74 4.045
DN125	127.00 5.000	126.75 4.990	15.87 0.625	16.64 0.655	15.11 0.595	8.38 0.330	7.62 0.300	123.67 4.869	123.16 4.849	1.60 0.063	128.77 5.070
DN150	152.40 6.000	152.10 5.988	15.87 0.625	16.64 0.655	15.11 0.595	8.38 0.330	7.62 0.300	149.05 5.868	148.54 5.848	1.60 0.063	154.66 6.089
DN200	203.20 8.000	202.80 7.984	15.87 0.625	16.64 0.655	15.11 0.595	8.38 0.330	7.62 0.300	199.80 7.866	199.29 7.846	1.60 0.063	205.80 8.102

1 Outside diameter: The outside diameter and tolerances of roll grooved tubing shall be in accordance with the standard referenced above. The maximum allowable tolerance from square cut ends is 0.030"/0.76 mm for 2 – 3"/DN50 – DN80 and; 0.045"/1.14 mm for 4 – 8"/DN100 - DN200, measured from true square line.

2 Gasket seat: The tubing surface shall be free from indentations, roll marks and projections from the end of the tubing to the groove to provide a leak-tight seal for the gasket. All loose scale, dirt, chips and grease must be removed.

3 Groove width: The bottom of the groove shall be free of loose dirt, chips and scale that may interfere with proper coupling assembly.

4 Groove outside diameter: The groove must be uniform depth for the entire tubing circumference. Groove must be maintained within the "C" diameter tolerance listed.

5 Groove depth: For reference only. Groove must conform to the groove diameter "C" listed.

6 Maximum allowable end flare diameter. Measured at the most extreme tubing end diameter.

2.0 NOTIFICATIONS

⚠ CAUTION

- **DO NOT use grooving rolls intended for steel, stainless steel, aluminium, or PVC pipe when preparing copper tubing for use with Victaulic copper connection system products.**

Failure to follow this instruction could cause joint leakage, resulting in property damage.

3.0 REFERENCE MATERIALS

22.01: Victaulic Copper Connection Systems for Copper Tubing (CTS)
22.04: Victaulic Copper Fittings
22.11: Victaulic EN 1057 Standard Copper Products
22.15: Victaulic Installation-Ready™ Fittings for Grooved Copper Tube
22.50: Victaulic Installation-Ready Coupling for Australian Standard Copper Style 607N-AS
22.51: Victaulic Rigid Coupling for Australian Standard Copper Style 606-AS
22.52: Victaulic Australian Standard Copper Fittings
22.53: Victaulic Butterfly Valve for Australian Standard Copper
I-600: Victaulic Field Assembly and Installation Instruction Handbook for Copper Products
I-670/671: Victaulic Style 670 (90 Degree Elbow) and Style 671 (45 Degree Elbow) Installation-Ready™ Fittings for Copper Tubing Installation Instructions

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