

Mechanical Tubing, Cold-Drawn Buttweld ASTM A 512**1. SCOPE**

This specification covers cold-drawn buttweld carbon steel tubes for use as mechanical tubing.

2. DRAWING SPECIFICATIONS**2.1 VERSATILE ONLY**

Cold-Drawn Buttweld ASTM A512, Soft Annealed, MT 1020 Mechanical Tubing

2.2 NEW HOLLAND ONLY

CD Buttweld DOM ASTM A512, Type NORM—MD—SR, Grade 1018, 1020, incl. 1026

3. RELATED SPECIFICATIONS**3.1 REFERENCE STANDARDS**

ASTM A512—Specification for Cold-Drawn Buttweld Carbon Steel Mechanical Tubing
Versatile 2-A-009—Tube Design

4. ORDERING INFORMATION**4.1 ASTM A512: Cold-Drawn Buttweld Tubing****4.2 Length: Specify Cut Length or Random.****4.3 Chemistry: Specify MT 1020 or Grade 1018, 1020, incl. 1026.****4.4 Type: Specify Soft Annealed or NORM-MD-SR.****4.5 DIMENSIONS****4.5.1 Mandrel Drawn: Specify O.D. and I.D.**

4.5.2 Sunk Drawn: Specify O.D. and Nominal Wall Thickness.

4.6 Request Supplier Certification: If Required**5. CHEMICAL REQUIREMENTS**

	MT 1020	1018, 1020–1026
Carbon, %	0.15/0.25	0.14/0.28
Manganese, %	0.30/0.60	0.30/0.90
Phosphorus, %	0.040 max.	0.040 max.
Sulfur, %	0.045 max.	0.045 max.

6. MECHANICAL REQUIREMENTS**6.1 MT 1020, SOFT ANNEALED**

Tensile Strength, min., ksi (MPa)*	50 (345)
Yield Strength, min., ksi (MPa)*	30 (207)
Elongation in 2", min. %	32
Hardness, min., Rockwell B	50

* min. not guaranteed per specification.

6.2 1018, 1020 TO 1026, STRESS RELIEVED

	Min.	Max.
Tensile Strength, ksi (MPa)	68 (469)	130 (896)
Yield Strength, ksi (MPa)	62 (427)	
Elongation in 2", %	11	
Hardness, Rockwell B or C	B 73	C 20

7. DIMENSIONS AND TOLERANCES**7.1 Diameter and Wall Thickness Tolerances—See Table 1****7.2 Cut Length Tolerances—See Table 2**

					NAME	STD ASTM A512 RD TUB		
					 NEW HOLLAND	ENGINEERING SPECIFICATION		
ALL	P	TH	119292	09-02				
ALL	N	TH	119045	07-02				
ALL	M	TH	118378	05-02				
ALL	L	TH	117108	11-01				
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Table 1: Diameter and Wall Thickness Tolerances

Outside Diameter Range, Inch (mm)	Outside Diam., Inch (mm)		Inside Diam., Inch (mm)		Wall Thickness, %	
	Over	Under	Over	Under	Over	Under
Sunk Drawn, Specify O.D. and Wall Thickness						
Up to 1/2 (12.7), excl.	0.004 (0.10)	0	—	—	15 ^A	15
1/2 to 1-1/2 (12.7 to 38.1), excl.	0.005 (0.13)	0	—	—	10 ^A	10
1-1/2 to 3 (38.1 to 76.2), incl.	0.010 (0.25)	0	—	—	10 ^A	10
Mandrel Drawn, Specify O.D. and I.D. (Wall Thickness Is for Reference Only)						
Under 0.156 (3.96) wall: Up to 1/2 (12.7), excl.	0.004 (0.10)	0	0	0.010 (0.25)	12.5	12.5
1/2 to 1-1/2 (12.7 to 38.1), excl.	0.005 (0.13)	0	0	0.005 (0.13) ^B	10	10
0.156 wall and over: 1/2 to 1-1/2 (12.7 to 38.1), excl.	0.005 (0.13)	0	0	0.005 (0.13) ^B	7	7
Under 0.156 (3.96) wall: 1-1/2 (38.1) and over	0.010 (0.25)	0	—	0.010 (0.25)	10	10
0.156 wall and over: 1-1/2 (38.1) and over	0.010 (0.25)	0	0	0.010 (0.25)	7	7

^A Except at the weld line, where the weld pad may exceed this figure.

^B Tubes with an inside diameter under 1/2 in. (12.7 mm) may require more than 0.005 in. (0.13 mm) I.D. tolerance, and the producer should be consulted.

Table 2: Cut Length Tolerances

Length, Feet	Diameter, Up to 2 Inches	Diameter, Over 2 Inches
Up to 4', incl.	±1/32" (0.8 mm)	±3/64" (1.2 mm)
Over 4' to 10', incl.	±3/64" (1.2 mm)	±1/16" (1.6 mm)
Over 10' to 24', incl.	±1/8" (3.2 mm)	±1/8" (3.2 mm)
Over 24'	±1/8" (3.2 mm)	±1/8" (3.2 mm)

 NEW HOLLAND	NAME				PART NUMBER	
	STD ASTM A512 RD TUB				86050101	
ENGINEERING SPECIFICATION		REV. P	FRAME 2	OF 2	 Document Sharing Hub	