

MECHANICAL TUBING, ELECTRIC RESISTANCE WELDED A513 TYPE 5**1. SCOPE**

1.1 This standard specification applies to electric resistance welded steel mechanical tubing.

1.2 This specification covers mechanical tubing made from hot-rolled or cold-rolled sheet, drawn over mandrel, in the "as drawn" or "drawn and stress relieved" condition.

2. APPLICABLE STANDARDS

ASTM A513, Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing.

3. DRAWING SPECIFICATIONS**3.1 VERSATILE ONLY**

Hot Rolled Electric Weld, Drawn Over Mandrel, Material Code 305 - MD MT1020, 1026.

3.2 NEW HOLLAND ONLY

3.2.1 CD DOM ERW Tubing, A513, MT1020, 1026 Type 5.

3.2.2 CD DOM ERW Tubing, A513, 1026 Type 5, as drawn, 70 ksi minimum yield strength.

3.2.3 CD DOM ERW Tubing, A513, 1026 Type 5, stress relieved.

3.2.4 CD DOM ERW Tubing, A513, HSLA Steel, stress relieved.

4. ORDERING INFORMATION

4.1 ASTM A513 ERW Mechanical Tubing.

4.2 Length; specify cut length or random.

4.3 Material and Chemistry

4.3.1 Hot-rolled ERW 1020/1026 - Versatile

4.3.2 Cold-rolled ERW 1020/1026

4.3.3 Cold-rolled ERW 1026

4.3.4 Cold-rolled ERW St 52.3

4.3.5 Hot-rolled ERW St 52.3

4.4 Type 5 - Mandrel Drawn

4.5 Thermal Treatment; specify "as drawn" or "stress relieved".

4.6 Specify Cylinder Application, Ends Capped - if required.

4.7 Request Supplier Certification - if required.

4.8 Dimensions; specify O.D. and I.D., or O.D. and wall thickness dimensions.

4.9 Specify Special Smooth Inside Diameter - if required.

					NAME	STD A513 T-5 RD TUB		
					 NEW HOLLAND		ENGINEERING SPECIFICATION	
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5. CHEMICAL REQUIREMENTS

	<u>MT 1020</u>	<u>1026</u>	<u>St 52.3</u> <u>(modified)</u>
Carbon, %	0.15 - 0.25	0.22 - 0.28	0.18 max.
Mang., %	0.30 - 0.60	0.60 - 0.90	1.60 max.
Phos., %	0.035 max.	0.035 max.	0.025 max.
Sulfur, %	0.035 max.	0.035 max.	0.025 max.
Aluminum, %	---	---	0.020-0.075
Silicon, %	---	---	0.15-0.35

6. MECHANICAL REQUIREMENTS - see Table 1.**7. DIMENSIONS AND TOLERANCES****7.1 Diameter Tolerances**

7.1.1 When specifying diameter tolerances on mechanical tubing, any two of the three following tolerances may be specified: outside diameter; wall thickness; inside diameter.

7.1.2 O.D. and I.D. Tolerances - see Table 2.

7.2 Wall Thickness Tolerances - see Table 3.

7.3 Straightness Tolerance

The maximum curvature in any 3 foot length shall be 0.030". For lengths less than 3 feet, it shall be a ratio of 0.010" per foot.

7.4 Cut Length Tolerance - see Table 4.

7.5 Squareness Tolerance - see Table 5.

8. ADDITIONAL REQUIREMENTS FOR CYLINDER TUBE APPLICATIONS**8.1 MATERIAL**

8.1.1 CD DOM ERW Tubing, A513, 1026 Type 5, stress relieved.

8.1.2 CD or HR DOM ERW Tubing, A513, HSLA Steel, (to either St 52.3 or "TuffDOM 520" specifications), stress relieved.

8.1.3 Tubing shall be manufactured from fully killed, fine grain continuous cast or bottom poured steel; electric resistance welded; drawn over mandrel.

8.2 APPEARANCE

Tubes shall be free of injurious defects such as surface oxide, rust, and dents.

8.3 NON-DESTRUCTIVE TEST

Tubes will be tested at final inspection in accordance with section S-8 of ASTM A513.

8.4 THERMAL TREATMENT

Tubes will be stress relieved after cold drawing.

8.5 IDENTIFICATION

Tubes shall be continuously marked with material type, mill name or symbol, and heat number.

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ENGINEERING SPECIFICATION			REV. L	FRAME 2	OF 5