

Mechanical Tubing, Electric Resistance Welded A513 Type 1**1. SCOPE**

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

1.2 This specification covers round mechanical tubing made from hot rolled sheet, flash in or flash controlled, in the "as welded" condition (Type 1), or cold rolled sheet (Type 2).

2. DRAWING SPECIFICATIONS**2.1 VERSATILE ONLY**

2.1.1 Hot Rolled Electric Weld, Flash In, As Welded—Material Code 301 AWHR MT1010.

2.1.2 Hot Rolled Electric Weld, Flash Controlled, As Welded—Material Code 302 AWHR MT1010.

2.2 NEW HOLLAND ONLY

2.2.1 HR ERW Tubing, ASTM A513, MT1010 Type 1 (specify flash control requirements).

2.2.2 HR ERW Tubing, ASTM A513, MT1015 Type 1, for conditioner rolls.

2.2.3 CR ERW Tubing, ASTM A513, MT 1010, Type 2.

3. APPLICABLE STANDARDS

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

4. CONDITION

Thermal condition is as welded, no heat treat.

5. CHEMICAL REQUIREMENTS

	MT 1010	MT 1015/MT 1020
Carbon, %	0.05 - 0.15	0.10 - 0.25
Manganese, %	0.30 - 0.60	0.30 - 0.60
Phosphorus, %	0.035 max	0.035 max
Sulfur, %	0.035 max	0.035 max

6. MECHANICAL REQUIREMENTS

Typical Properties	MT1010	MT1015/MT1020 for Conditioner Rolls
Yield Strength, ksi (Mpa)	32 (221)	42 (290)
Tensile Strength, ksi (Mpa)	45 (310)	55 (380)
Elongation in 2", %	15	15
Rockwell B, minimum	55	58

7. TOLERANCES**7.1 FLASH TOLERANCES**

7.1.1 Flash-In Tubing: The maximum height of inside flash shall not exceed the wall thickness or 0.094" (2.4 mm), whichever is less. Specify F.I.

7.1.2 Flash Controlled to 0.010" (0.25 mm): The height of the remaining weld flash is controlled so as not to exceed 0.010 inches. Specify F.C., .010".

7.1.3 Flash Controlled to 0.005" (0.13 mm): The height of the remaining weld flash is controlled so as not to exceed 0.005 inches. Any remaining I.D. flash is part of the applicable I.D. tolerance. Specify F.C., .005".

					NAME	STD A513 T-1 RD TUB		
ALL	J	TD	121458	30APR03				
ALL	H	BJF	112648	10/98	 NEW HOLLAND	ENGINEERING SPECIFICATION		
ALL	G	RLF	110229	JUL 97				
ALL	F	RLF	109952	970514				
ALL	E	RLF	107053	951019				
ALL	D	RE	104739	940216				
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7.2 DIAMETER TOLERANCES

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

7.2.2 O.D. and I.D. Tolerances—see Table 1A and Table 1B.

7.2.3 Special Tolerance on Ovality for Conditioner Roll applications: 0.040 inch (1.0 mm) Maximum TIR measured at any location along tube.

7.3 WALL THICKNESS TOLERANCES

7.3.1 HR ERW normally specified for wall thicknesses from .065" to .650" (see Table 2A).

7.3.2 CR ERW normally specified for wall thicknesses from .028" to .134" (see Table 2B).

7.4 STRAIGHTNESS TOLERANCE

7.4.1 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.

7.4.2 For conditioner roll applications, the maximum TIR is ± 0.060 " (1.5 mm) measured with a roller span of at least 100" (2540 mm).

7.5 LENGTH TOLERANCE—see Table 3.

 NEW HOLLAND	NAME				PART NUMBER	
	STD A513 T-1 RD TUB				9842937	
ENGINEERING SPECIFICATION				REV. J	FRAME 2	OF 6

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