Designation: ~~A626/A626M – 03 (Reapproved 2008)ε1~~ A626/A626M – 13

Standard Specification for Tin Mill Products, Electrolytic Tin Plate, Double Reduced[1]

This standard is issued under the fixed designation A626/A626M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the Department of Defense.

~~ε[1] NOTE—Editorially changed 4.1 and 5.1.2 in October 2008.~~

1. Scope*

1.1 This specification covers double-reduced electrolytic tin plate produced from low-carbon cold-reduced steel furnished in coils and cut sizes for use predominately in the manufacture of cans. It is furnished in commercially available tin coating weights [masses] and is normally supplied with a trimmed edge.

1.2 This specification is applicable to orders in either inch-pound units (as A626) which is supplied in thicknesses from 0.0050 to 0.0118 in. or SI units [as A626M] which is supplied in thicknesses from 0.127 to 0.300 mm.

1.3 The values stated in either inch-pound or SI units are to be regarded as standard. Within the text, the SI units are shown in brackets. The values stated in each system are not exact equivalents. Therefore, each system must be used independently of the other. Combining values from the two systems may result in nonconformance with this specification.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

A623 Specification for Tin Mill Products, General Requirements

A623M Specification for Tin Mill Products, General Requirements [Metric]

A630 Test Methods for Determination of Tin Coating Weights for Electrolytic Tin Plate

A754/A754M Test Method for Coating Weight (Mass) of Metallic Coatings on Steel by X-Ray Fluorescence

B339 Specification for Pig Tin

3. Ordering Information

3.1 Orders for product under this specification shall include the following information, as required and applicable, to describe adequately the desired product:

3.1.1 Name of product (double-reduced electrolytic tin plate) (Section 1),

3.1.2 Tin coating weight [mass] designation, and marking, if any (Section 5, ~~Table 1,~~ Table 1, and ~~Fig. 1~~Fig 1 and ~~Fig. 2),~~2),

3.1.3 Surface appearance and finish (Section 6),

3.1.4 Chemical treatment (Section 7),

3.1.5 Oiling (Section 8),

3.1.6 Thickness (Specification A623 [A623M]) (consistent with the intended application),

3.1.7 Coil width or cut size in increments of 1/16 in. or 1 mm,

3.1.8 Due to the very distinct directional properties, rolling direction must be specified on cut sizes by underlining the slit (rolling width) dimension (Section 4) (consistent with the intended application),

3.1.9 Steel type (Specification A623 [A623M]),

[1] This specification is under the jurisdiction of ASTM Committee A01 on Steel, Stainless Steel and Related Alloysand is the direct responsibility of Subcommittee A01.20 on Tin Mill Products.

Current edition approved ~~Oct. 1, 2008~~Oct. 1, 2013. Published ~~October 2008~~ October 2013. Originally approved in 1968. Last previous edition approved in ~~2003~~2008 as ~~A626/A626M - 03.~~A626/A626M - 08ε1. DOI: ~~10.1520/A0626_A0626M-03R08E01.~~10.1520/A0626_A0626M-13.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

***A Summary of Changes section appears at the end of this standard**

TABLE 1 Electrolytic Tin Plate Coating Weight [Mass]

NOTE 1—Listed as follows are commonly produced coating weights [masses]. By agreement between the producer and the purchaser, other combinations of the coatings may be specified and the appropriate minimum average test values will apply.

~~Designation No.~~	~~Nominal Tin Coating Weight [Mass] each Surface, lb/base box [g/m^2]~~	~~Minimum Average Coating Weight [Mass] each Surface Test Value, lb/base box^A [g/m^2]~~
~~5 [0.6/0.6]^B~~	~~0.025/0.025 [0.6/0.6]~~	~~0.02/0.02 [0.5/0.5]~~
~~10 [1.1/1.1]~~	~~0.05/0.05 [1.1/1.1]~~	~~0.04/0.04 [0.9/0.9]~~
~~15 [1.7/1.7]~~	~~0.075/0.075 [1.7/1.7]~~	~~0.06/0.06 [1.4/1.4]~~
~~20 [2.2/2.2]~~	~~0.10/0.10 [2.2/2.2]~~	~~0.08/0.08 [1.8/1.8]~~
~~25 [2.8/2.8]~~	~~0.125/0.125 [2.8/2.8]~~	~~0.11/0.11 [2.5/2.5]~~
~~35 [3.9/3.9]~~	~~0.175/0.175 [3.9/3.9]~~	~~0.16/0.16 [3.6/3.6]~~
~~50 [5.6/5.6]~~	~~0.25/0.25 [5.6/5.6]~~	~~0.23/0.23 [5.2/5.2]~~
~~75 [8.4/8.4]~~	~~0.375/0.375 [8.4/8.4]~~	~~0.35/0.35 [7.8/7.8]~~
~~100 [11.2/11.2]~~	~~0.50/0.50 [11.2/11.2]~~	~~0.45/0.45 [10.1/10.1]~~
~~D 50/25 [D 5.6/2.8]^C~~	~~0.25/0.125 [5.6/2.8]~~	~~0.23/0.11 [5.2/2.5]~~
~~D 75/25 [D 8.4/2.8]~~	~~0.375/0.125 [8.4/2.8]~~	~~0.35/0.11 [7.8/2.5]~~
~~D100/25 [D 11.2/2.8]~~	~~0.50/0.125 [11.2/2.8]~~	~~0.45/0.11 [10.1/2.5]~~
~~D100/50 [D 11.2/5.6]~~	~~0.50/0.25 [11.2/5.6]~~	~~0.45/0.23 [10.1/5.2]~~
~~D135/25 [D 15.2/2.8]~~	~~0.675/0.125 [15.2/2.8]~~	~~0.62/0.11 [14.0/2.5]~~

TABLE 1 Electrolytic Tin Plate Coating Weight [Mass]

NOTE 1—Listed as follows are commonly produced coating weights [masses]. By agreement between the producer and the purchaser, other combinations of the coatings may be specified and the appropriate minimum average test values will apply.

Designation No.	Nominal Tin Coating Weight [Mass] each Surface, lb/base box [g/m^2]	Minimum Average Coating Weight [Mass] each Surface Test Value, lb/base box^A [g/m^2]
5 [0.6/0.6]^B	0.025/0.025 [0.6/0.6]	0.02/0.02 [0.5/0.5]
10 [1.1/1.1]	0.05/0.05 [1.1/1.1]	0.04/0.04 [0.9/0.9]
15 [1.7/1.7]	0.075/0.075 [1.7/1.7]	0.06/0.06 [1.4/1.4]
20 [2.2/2.2]	0.10/0.10 [2.2/2.2]	0.08/0.08 [1.8/1.8]
25 [2.8/2.8]	0.125/0.125 [2.8/2.8]	0.11/0.11 [2.5/2.5]
35 [3.9/3.9]	0.175/0.175 [3.9/3.9]	0.16/0.16 [3.6/3.6]
50 [5.6/5.6]	0.25/0.25 [5.6/5.6]	0.23/0.23 [5.2/5.2]
75 [8.4/8.4]	0.375/0.375 [8.4/8.4]	0.35/0.35 [7.8/7.8]
100 [11.2/11.2]	0.50/0.50 [11.2/11.2]	0.45/0.45 [10.1/10.1]
D 50/25 [D 5.6/2.8]^C	0.25/0.125 [5.6/2.8]	0.23/0.11 [5.2/2.5]
D 75/25 [D 8.4/2.8]	0.375/0.125 [8.4/2.8]	0.35/0.11 [7.8/2.5]
D100/25 [D 11.2/2.8]	0.50/0.125 [11.2/2.8]	0.45/0.11 [10.1/2.5]
D100/50 [D 11.2/5.6]	0.50/0.25 [11.2/5.6]	0.45/0.23 [10.1/5.2]
D135/25 [D 15.2/2.8]	0.675/0.125 [15.2/2.8]	0.62/0.11 [14.0/2.5]

^{A}The minimum spot value shall be not less than 80 % of the minimum average coating weight [mass] (see 5.3 and 5.4).

^{B}Some No. 5 melted applications may require revised minimum and maximum levels for fully alloyed end uses.

^{C}The letter D on differentially coated tin plate indicates the coated surface to be marked. For example, the examples indicate that the heavy-coated side is marked (see 5.1.2 and 5.1.3).

3.1.10 Mechanical requirement designation (Specification A623 [A623M]) (consistent with the intended application),

3.1.11 Intended application,

3.1.12 Quantity in base boxes ~~SITAS~~SITAs (see Note 4),

3.1.13 On coils, specify minimum or range of acceptable inside diameters. The standard inside diameter is approximately 16 in. if ordered to Specification A626 [410 mm if ordered to Specification A626M]. Coils should be specified to a maximum coil weight if ordered to Specification A626 [mass if ordered to Specification A626M] or maximum outside diameter, or both,

3.1.14 Packaging,

3.1.15 Special requirements, where applicable (J = plate or K = plate), and

3.1.16 ASTM specification number and year of issue.

NOTE 1—A typical ordering description is as follows: 1000 base boxes, double-reduced electrolytic tin plate, D50/25, melted, CDC, ~~DOS,~~ATBC, 0.0066-in. thickness, 30 by coil, MR, DR-8 CA, for 307 by 401 welded can bodies in accordance with Specification A626/A626M - XX. [250 ~~SITAS,~~SITAs, double-reduced electrolytic tin plate, D 5.6/2.8, melted, CDC, ~~DOS,~~ATBC, 0.17-mm thickness, 760 by coil, MR, DR-8, for 99 by 105 mm welded can bodies to Specification A626/A626M - XX.]

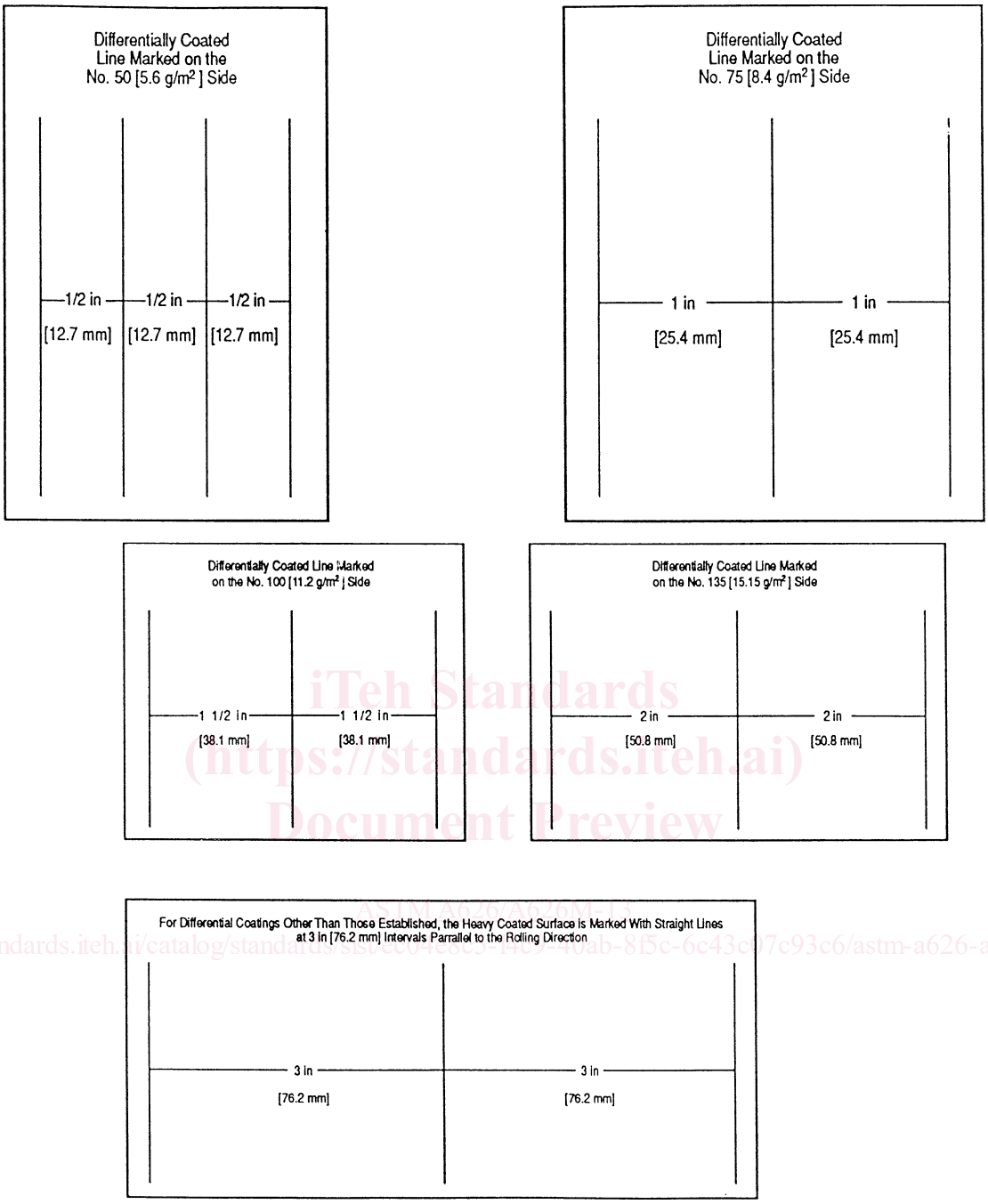

FIG. 1 Standard Heavy-Side Marking System for Differential Electrolytic Tin Plate

NOTE 2—A typical ordering description for cut sizes is as follows: 500 base boxes, single reduced electrolytic tin plate, No. 25, ~~DOS,~~ATBC, MR, T-2 BA, 7C, 0.0110 in. thickness, 30 ¾ in. by 30 7⁄16 in., for 307 diameter general line rings in accordance with Specification A626/A626M-XX. [100 ~~SITAS,~~SITAs, single reduced electrolytic tin plate, 2.8/2.8, ~~DOS,~~ATBC, MR, DR-8 CA, 7C, 0.28 mm thickness, 781 by 773 mm, for 99 by 105 mm welded can bodies to Specification ~~A626~~A626/A626M~~/A626M-XX.]~~-XX.]

NOTE 3—The production of coils does not afford the same opportunity for inspection, grading, and sorting as does the production of cut sizes. Accordingly, appropriate processing and quality control procedures are required by the purchaser to obtain optimum utilization of the material. Cut sizes are line inspected visually and mechanically during production. Sheets having surface imperfections that will not interfere with their utilization are included.

NOTE 4—In inch-pound units, double-reduced electrolytic tin plate is supplied on an area basis expressed in base boxes. In coils, the number of base boxes is computed from the measured length and the specified width. In cut sizes, the number of base boxes is computed from the specified length and width dimensions and sheet count. [In SI units, double-reduced electrolytic tin plate is supplied on an area basis expressed in ~~SITAS.~~SITAs. In coils, the number of ~~SITAS~~SITAs is computed from the measured length and the specified width. In cut sizes, the number of ~~SITAS~~SITAs is computed from the specified length and width dimensions and sheet count.] For calculating mass, the density of steel for tin mill products is 0.2836 lb/in.^{3} [7850 kg/m^3].