



Standard Specification for Commercial Bronze Strip for Bullet Jackets¹

This standard is issued under the fixed designation B 130; 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.

1. Scope*

1.1 This specification establishes general requirements for (commercial bronze) strip for manufacture of bullet jacket cups and ammunition components from Copper Alloy UNS No. C22000.²

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

2. Referenced Documents

2.1 *ASTM Standards*:³

B 248 Specification for General Requirements for Wrought Copper and Copper-Alloy Plate, Sheet, Strip, and Rolled Bar

B 601 Classification for Temper Designations for Copper and Copper Alloys—Wrought and Cast

B 846 Terminology for Copper and Copper Alloys

E 3 Guide for Preparation of Metallographic Specimens

E 8 Test Methods for Tension Testing of Metallic Materials

E 18 Test Methods for Rockwell Hardness of Metallic Materials

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

E 112 Test Methods for Determining Average Grain Size

E 255 Practice for Sampling Copper and Copper Alloys for the Determination of Chemical Composition

E 478 Test Methods for Chemical Analysis of Copper Alloys

E 527 Practice for Numbering Metals and Alloys in the Unified Numbering System (UNS)

3. Terminology

3.1 For definition of terms related to copper and copper alloys, refer to Terminology **B 846**.

4. Ordering Information

4.1 Order for product under this specification should include the following information:

4.1.1 Specification designation and year of issue,

4.1.2 Quantity or weight for each size,

4.1.3 Temper (Section 7),

4.1.4 Grain size of annealed temper (optional) (Section 9),

4.1.5 Dimensions: thickness, width, length, (Section 10),

4.1.6 How furnished: straight lengths or coils,

4.1.7 Heat identification or traceability, when required,

4.1.8 Certification, when required, and

4.1.9 Mill test report, when required.

4.1.10 When material is purchased for agencies of the U.S. government, see Section 11.

5. Material and Manufacture

5.1 *Material*:

5.1.1 The material of manufacture shall be a cast bar, cake, slab, and so forth of copper alloy UNS No. C22000 as specified in the ordering information.

5.1.2 In the event that heat identification or traceability is required, the purchaser shall specify the details desired.

NOTE 1—Because of the discontinuous nature of the processing of castings into wrought products, it is not always practical to identify a specific casting analysis with a specific quantity of finished material.

5.2 *Manufacture*:

5.2.1 The product shall be manufactured by such hot working, cold working, and annealing processes as to produce a uniform wrought structure in the finished product.

¹ This specification is under the jurisdiction of ASTM Committee B05 on Copper and Copper Alloys and is the direct responsibility of Subcommittee B05.01 on Plate, Sheet, and Strip.

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² Refer to Practice **E 527** for an explanation of the unified numbering system (UNS).

³ 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.

5.2.2 The product shall be hot or cold worked to the finished size and subsequently annealed, when required, to meet the temper properties specified in the ordering information.

5.2.3 *Edges*—Slit edges shall be furnished unless otherwise specified in the contract or purchase order.

6. Chemical Composition

6.1 The product shall conform to the composition prescribed in **Table 1**.

6.2 These composition limits do not preclude the presence of other elements. Limits for unnamed elements may be established and determination required by agreement between manufacturer or supplier and purchaser.

6.3 Either copper or zinc may be taken as the difference between the sum of all elements analyzed and 100 %. Copper, when determined by difference, must conform to the requirements of **Table 1**. When all elements are analyzed, their sum shall be 99.8 % min.

7. Temper

7.1 Tempers available under this specification, as defined in Classification **B 601**, are as follows:

7.1.1 *Cold-Rolled Tempers*—For cold rolled strip, a temper designation from **Table 2** shall be specified.

7.1.2 *Annealed Tempers*—For annealed tempered strip, a temper designation from **Table 3** shall be specified.

8. Mechanical Property Requirements

8.1 *Tensile Strength of Rolled Tempers*—The tension test shall be the standard test for all tempers of cold-rolled strip, and the acceptance or rejection, based upon mechanical properties, shall depend only on the tensile strength which shall conform to the requirements prescribed in **Table 2**. Tension test specimens shall be taken so the longitudinal axis is parallel to the direction of rolling.

8.1.1 *Rockwell Hardness of Rolled Tempers*—Since a Rockwell hardness test offers a quick and convenient method of checking commercial bronze for general conformity to the requirements for tensile strength, the approximate Rockwell hardness values for each of the cold-rolled tempers are given in **Table 2** for general information and assistance in testing.

8.2 *Tensile Strength of Annealed Tempers*—Annealed strip shall conform to the tensile property requirements prescribed in **Table 4**. Tension test specimens shall be taken so the longitudinal axis is parallel to the direction of rolling.

9. Grain Size of Annealed Tempers

9.1 In addition to the tensile properties prescribed in **Table 4** for strip, grain size may also be specified by the purchaser.

When grain size is specified, the average grain size of the annealed strip shall be within the limits prescribed in **Table 3**. At a magnification of 75 $\times$, the average grain size of selected areas 79.8 mm in diameter of each of two samples of annealed strip shall be determined on a plane parallel to the surface of the strip.

10. Dimensions, Mass, and Permissible Variations

10.1 *Thickness*—The standard method of specifying thickness shall be in decimal fractions of an inch. The tolerances shall be as shown in **Table 5**.

10.2 *Width*—The width tolerances of strip metal shall be as prescribed in **Table 6**.

10.3 *Length*—The strip shall be furnished in straight lengths or in coils (rolls), as specified. Rolls shall consist of not more than three lengths, no one of which shall be less than 10 ft (3.05 m) in length. The tolerances for straight lengths shall be as prescribed in **Table 7**.

10.3.1 *Stock Lengths*—When furnished in stock lengths with short lengths included, the schedule of short lengths shall be as prescribed in **Table 8**.

10.3.2 *Special Length*—When special lengths are required, they shall be specified in the order.

NOTE 2—For the purpose of determining conformance with the dimensional requirements prescribed in this specification, any measured value outside the specified limiting values for any dimension may be cause for rejection.

10.4 *Straightness Tolerances*—The straightness tolerances shall be as prescribed in **Table 9**.

11. Purchases for the U.S. Government

11.1 When specified in the contract or purchase order, product purchased for agencies of the U.S. Government shall conform to the special government regulations specified in the Supplemental Requirements section as defined in the current issue of Specification **B 248**.

12. Workmanship, Finish, and Appearance

12.1 The material shall be free of defects, but blemishes of a nature that do not interfere with normal commercial operations are acceptable. It shall be well-cleaned and free of dirt. A superficial film or residual light lubricant is normally present and is acceptable unless otherwise specified.

12.2 The surface finish and appearance shall be the normal commercial quality for the alloy, thickness, and temper ordered. When application information is provided with purchase order, the surface shall be that commercially producible for the application. Superficial films of discoloration, or lubricants, or tarnish inhibitors are permissible unless otherwise specified.

13. Sampling

13.1 *Sampling*—The lot size, portion size, and selection of sample pieces shall be as follows:

13.1.1 *Lot Size*—40 000 lb (18 144 kg) or less material of the same mill form, temper, and thickness, subject to inspection at one time.

TABLE 1 Chemical Requirements

Copper Alloy UNS No. C22000	
Element	Composition
Copper	89.0–91.0
Lead, max	0.05
Iron, max	0.05
Bismuth, max	0.006
Zinc	remainder

TABLE 2 Tensile Strength Requirements and Approximate Rockwell Hardness Values for Cold-Rolled Strip

Rolled Temper Designation		Tensile Strength, ksi ^A (MPa ^B)		Approximate Rockwell Hardness ^C	
Standard	Former	Min	Max	B Scale	Superficial 30-T
H01	Quarter-hard	40 (275)	50 (345)	27–56	34–54
H02	Half-hard	47 (325)	57 (395)	50–66	50–61
H03	Three-quarter hard	52 (360)	62 (425)	59–71	55–64
H04	Hard	57 (395)	66 (455)	65–75	60–67
H06	Extra-hard	64 (440)	72 (495)	72–79	64–69
H08	Spring	69 (475)	77 (530)	76–81	67–70
H10	Extra-spring	72 (495)	80 (550)	78–83	68–71

^A ksi = 1000 psi.

^B See [Appendix X1](#).

^C Rockwell hardness values apply as follows: The B scale applies to metal 0.020 in. (0.058 mm) in thickness and over; the 30-T scale applies to metal 0.012 in. (0.305 mm) in thickness and over.

TABLE 3 Grain Size Requirements of Annealed Strip

Annealed Temper Designation	Grain Size, mm		
	Nominal Average	Min	Max
OS015	0.015	^A	0.025
OS025	0.025	0.015	0.040
OS035	0.035	0.025	0.050

^A Although no minimum grain size is required, this material must be fully recrystallized.

TABLE 4 Tension Test Requirements of Annealed Strip

Annealed Temper Designation	Thickness of Annealed Tempers, in. (mm)	Tensile Strength min, ksi ^A (MPa ^B)	Elongation in 2 in. (50.8 mm), min, %
Standard			
OS015	0.005 to 0.010 (0.127 to 0.254), incl	38 (260)	15
	Over 0.010 to 0.050 (0.254 to 1.27), incl	38 (260)	25
	Over 0.050 to 0.100 (1.27 to 2.54), incl	38 (260)	27
	Over 0.100 (2.54)	38 (260)	30
OS025	0.005 to 0.010 (0.127 to 0.254), incl	36 (250)	20
	Over 0.010 to 0.050 (0.254 to 1.27), incl	36 (250)	30
	Over 0.050 to 0.100 (1.27 to 2.54), incl	36 (250)	32
	Over 0.100 (2.54)	36 (250)	35
OS035	0.005 to 0.010 (0.127 to 0.254), incl	34 (235)	25
	Over 0.010 to 0.050 (0.254 to 1.27), incl	34 (235)	35
	Over 0.050 to 0.100 (1.27 to 2.54), incl	34 (235)	38
	Over 0.100 (2.54)	34 (235)	40

^A ksi = 1000 psi.

^B See [Appendix X1](#).

13.1.2 Portion Size—Sample pieces shall be selected from eight individual pieces and shall be taken so as to be representative of those pieces. If the lot consists of less than eight pieces, a sample shall be taken from each individual piece.

13.2 Chemical Analysis:

13.2.1 The sample for chemical analysis shall be taken in accordance with Practice [E 255](#) for product in its final form taken from the pieces selected in [13.1.2](#) and combined into one composite sample. The minimum weight of the composite sample shall be 150 g.

13.2.2 Instead of sampling as directed in [13.2.1](#), the manufacturer shall have the option of sampling at the time the castings are poured or samples taken from the semifinished product. If the manufacturer determines the chemical composition of the material during the course of manufacture, he shall not be required to sample and analyze the finished product.

13.2.2.1 When samples are taken at the time the castings are poured, at least one sample shall be taken from each group of castings poured from the same source of molten metal.

13.2.2.2 When samples are taken from semifinished product, a sample shall be taken to represent each 10 000 lbs (5000 kg) or fraction thereof, except that no more than one sample shall be required per piece.

13.2.2.3 Only one sample need be taken from the semifinished product of one cast bar from a single melt charge continuously processed.

13.3 Samples for All Other Tests—Samples for all other tests shall be taken from the sample portions selected in [13.1.2](#) and be of an convenient size to accommodate the test and comply with the requirements of the appropriate product specification and test method.

14. Number of Tests and Retests

14.1 Test:

14.1.1 Chemical Requirements:

14.1.2 When samples are taken at the time the castings are poured, at least one sample shall be analyzed for each group of castings poured simultaneously from the same source of molten metal.

14.1.3 When samples are taken from the semifinished or finished product, at least one sample representative of the product of each cast bar from a single melt charge continuously processed with heat identity maintained shall be analyzed.

14.2 Mechanical Properties and Grain Size—Unless otherwise provided in the product specification, test specimens shall be taken from two of the sample pieces selected in accordance with [13.1.2](#). The required tests shall be made on each of the specimens so selected.

14.3 Other Tests—For other tests, test specimens shall be taken from four of the sample pieces selected in accordance with [13.1.2](#). The required tests shall be made on each of the specimens so selected.

14.4 Retests:

14.4.1 If the chemical analysis of the specimens prepared from samples selected in accordance with [13.1.2](#) fails to



TABLE 5 Thickness Tolerances

Thickness, in.	Thickness Tolerances, plus and minus, ^A in.		
	8 in. and under in Width	Over 8 to 14 in., incl, in Width	Over 14 to 20 in., incl, in Width
0.004 and under	0.0003 (0.008)	0.0006 (0.015)	
Over 0.004 to 0.006, incl	0.0004 (0.010)	0.0008 (0.020)	0.0013 (0.033)
Over 0.006 to 0.009, incl	0.0006 (0.015)	0.0010 (0.025)	0.0015 (0.038)
Over 0.009 to 0.013, incl	0.0008 (0.020)	0.0013 (0.033)	0.0018 (0.046)
Over 0.013 to 0.017, incl	0.0010 (0.025)	0.0015 (0.038)	0.0020 (0.051)
Over 0.017 to 0.021, incl	0.0013 (0.033)	0.0018 (0.046)	0.0020 (0.051)
Over 0.021 to 0.026, incl	0.0015 (0.038)	0.0020 (0.051)	0.0025 (0.064)
Over 0.026 to 0.037, incl	0.0020 (0.051)	0.0020 (0.051)	0.0025 (0.064)
Over 0.037 to 0.050, incl	0.0020 (0.051)	0.0025 (0.064)	0.0030 (0.076)
Over 0.050 to 0.073, incl	0.0025 (0.064)	0.0030 (0.076)	0.0035 (0.089)
Over 0.073 to 0.130, incl	0.0030 (0.076)	0.0035 (0.089)	0.0040 (0.102)
Over 0.130 to 0.188, incl	0.0035 (0.089)	0.0040 (0.102)	0.0045 (0.114)

^A When tolerances are specified as all plus or all minus, double the values given.

TABLE 6 Width Tolerances

Slit Metal and Slit Metal with Rolled Edges		
Width, in. (mm)	Width Tolerances ^A Plus and Minus, in. (mm)	
	0.004 to 0.032 in. (0.102 to 0.813 mm), incl, in Thickness	Over 0.032 to 0.188 in. (0.813 to 4.78 mm), incl, in Thickness
2 (50.8) and under	0.005 (0.13)	0.010 (0.25)
Over 2 to 8 (50.8 to 203), incl	0.008 (0.20)	0.013 (0.33)
Over 8 to 14 (203 to 356), incl	0.010 (0.25)	0.015 (0.38)
Over 14 to 20 (356 to 508), incl	0.013 (0.33)	0.018 (0.46)

Square Sheared Metal (All Lengths up to 120 in. (3.05 m), incl)

Width, in. (mm)	Width Tolerances, ^A Plus and Minus, in. (mm)		
	1/16 in. (1.59 mm) and Under in Thickness	Over 1/16 to 3/8 in. (1.59 to 3.18 mm) incl, in Thicknesses	Over 3/8 in. (3.18 mm) in Thickness
20 (508) and under	1/32 (0.79)	3/64 (1.2)	1/16 (1.6)

^A When tolerances are specified as all plus or all minus, double the values given.

TABLE 7 Length Tolerances for Straight Lengths

NOTE 1—The following length tolerances are all plus; if all minus tolerances are desired, use the same values; if tolerances are desired plus and minus, halve the values given.

Length, ft (m)	Length Tolerances	
	in.	mm
Specific lengths, mill lengths, multiple lengths, and specific lengths with ends 10 (3.05) and under	1/4	64
Over 10 to 20 (3.05 to 6.10), incl	1/2	13
Stock lengths and stock lengths with ends	1 ^A	25 ^A

^A As stock lengths are cut and placed in stock in advance of orders, departure from this tolerance is not practicable.

conform to the specified limits, analysis shall be made on a new composite sample prepared from the pieces selected in accordance with 13.1.2.

14.4.2 If one of the two tests made to determine any of the mechanical or grain size requirements fails to meet a specified limit, this test shall be repeated on the remaining pieces, maximum of two, selected in accordance with 13.1.2, and the results of both of these tests shall comply with the specified requirements.

14.4.3 If any test specimen shows defective machining or develops flaws, it may be discarded and another specimen substituted.

14.5 *Chemical Analysis*—Chemical analysis shall be determined as the average of at least two replicate determinations for each element specified.

15. Specimen Preparation

15.1 In the grain size test, all specimens shall be prepared as specified in Guide E 3.

15.2 In the tension test, all strip less than 3/4 in.-wide shall be pulled in full size when practicable. Machined test specimens shall be as specified in Test Method E 8, Fig. 1, for sheet type specimens.

15.3 *Chemical Composition*—The composite sample for laboratory analysis shall, in case of disagreement, be prepared in accordance with Practice E 255.

16. Test Methods

16.1 The properties and chemical compositions enumerated in this specification shall, in case of disagreement, be determined in accordance with the following ASTM methods:

Test	ASTM Designation
Copper	E 478
Lead	E 478 (AA)
Iron	E 478
Zinc	E 478 (Titrimetric)
Tension	E 8 ^A
Grain Size	E 3, E 112
Rockwell hardness	E 18

^A The tension test specimen shall conform to the dimensions shown in Fig. 1 of Test Methods E 8.

16.1.1 Since no recognized test method is known to be published, the determination of bismuth shall be subject to the agreement between the manufacturer and purchaser.

16.2 *Measurement of Dimensions*—At least ten strips shall be selected to be representative of the lot of material. The dimensions of each strip shall be measured. Measurements for thickness shall be made over the entire width of the strip, in at least three different places not less than 1 ft from each end, and at such other points as may be selected.

**TABLE 8 Schedule of Minimum Length and Maximum Weight of Ends for Mill Lengths, Specific Lengths with Ends and Stock Lengths with Ends**

Nominal Length, ft (m)	0.050 in. (1.27 mm) and Under in Thickness			Over 0.050 to 0.125 in. (1.27 to 3.18 mm) incl, in Thickness			Over 0.125 to 0.250 in. (3.18 to 6.35 mm) incl, in Thickness		
	Minimum Length of Shortest Piece		Maximum Permissible Weight of Ends, % of Lot Weight	Minimum Length of Shortest Piece		Maximum Permissible Weight of Ends, % of Lot Weight	Minimum Length of Shortest Piece		Maximum Permissible Weight of Ends, % of Lot Weight
	ft	m		ft	m		ft	m	
6 to 8 (1.83 to 2.44), incl	4	1.22	20	4	1.22	25	3	0.91	30
8 to 10 (2.44 to 3.05), incl	6	1.83	25	5	1.52	30	4	1.22	35
10 to 14 (3.05 to 4.27), incl	7	2.13	30	6	1.83	35	5	1.52	40

TABLE 9 Straightness Tolerances
Maximum Edgewise Curvature (depth of arc) in any 72-in. (1.83-m) Portion of the Total Length

Slit Metal and Slit Metal with Rolled Edges				
Width, in. (mm)	Straightness Tolerance, in. (mm)			
	As Slit Only		As Slit and Either Straightened or Edge Rolled	
	Shipped in Rolls	Shipped Flat	Shipped Flat, in Rolls, or on Bucks	
Over ¼ to ⅜ (6.35 to 9.52), incl	2 (51)	1½ (38)	½ (13)	
Over ⅜ to ½ (9.52 to 12.7), incl	1½ (38)	1 (25)	½ (13)	
Over ½ to 1 (12.7 to 25.4), incl	1 (25)	¾ (19)	½ (13)	
Over 1 to 2 (25.4 to 50.8), incl	⅝ (16)	⅝ (16)	⅜ (9.5)	
Over 2 to 4 (50.8 to 102), incl	½ (13)	½ (13)	⅜ (9.5)	
Over 4 (102)	⅜ (9.5)	⅜ (9.5)	⅜ (9.5)	
Square Sheared Metal				
Not applicable to metal over 120 in. (3.05 m) in length				
Thickness, in. (mm)	Straightness Tolerances, in. (mm)			
	Up to 10 in. (254 mm), incl, in Width		Over 10 in. (254 mm) in Width	
⅛ (3.18) and under	⅛ (1.6)		⅓ ₃₂ (0.8)	
Over ⅛ to ⅜ (3.18 to 4.76), incl	⅛ (3.2)		⅜ ₆₄ (1.2)	
Over ⅜ (4.76)	⅛ (3.2)		⅓ ₁₆ (1.6)	

17. Significance of Numerical Limits

17.1 For purposes of determining compliance with the specified property limits for the properties listed in the following table, an observed value of a calculated value shall be rounded as indicated in accordance with the rounding method of Practice E 29:

Property	Rounded Unit for Observed or Calculated Value
Chemical composition	nearest unit in the last right-hand place of figures of the specified limits.
Hardness	nearest ksi (nearest 5 MPa)
Tensile strength	
Grain size:	
Up to 0.055 mm, incl	nearest multiple of 0.005 mm
Over 0.055 to 0.160 mm, incl	nearest 0.01 mm
Elongation:	
5 % and over	nearest 1 %

18. Inspection

18.1 The manufacture shall inspect and make the test necessary to verify that the product furnished conforms to the requirements of this specification.

18.2 If, in addition, source inspection of the material by the purchaser is agreed upon by the manufacturer and the purchaser as part of the purchase contract, the nature of the facilities needed to satisfy the inspector representing the purchaser that the product is being furnished in accordance with this specification shall be included in the agreement. All tests and the inspection shall be conducted so as not to interfere unnecessarily with the operation of the works.

18.3 The manufacturer and the purchaser, by mutual agreement, may accomplish the final inspection simultaneously.

19. Rejection and Rehearing

19.1 Rejection:

19.1.1 Product that fails to conform to the specified requirements when inspected or tested by the purchaser or his agent may be rejected.

19.1.2 Rejection should be reported to the manufacturer or supplier promptly and in writing.

19.1.3 In case of dissatisfaction with the results of the test, the manufacturer or supplier may make claim for a rehearing.

19.2 *Rehearing*—As a result of product rejection, the manufacturer or supplier may make a claim for a retest to be conducted by the manufacturer or supplier and the purchaser. Samples of the rejected product shall be taken in accordance with this specification and subjected to test by both parties using the test method(s) specified in this specification, or alternatively, upon agreement of both parties, an independent laboratory may be selected for the test(s) using the test method(s) specified in this specification.

20. Certification

20.1 When specified in the purchase order or contract, the purchaser shall be furnished certifications that samples representing each lot have been tested or inspected as directed in this specification and that the requirements have been met.

21. Test Report

21.1 When specified in the purchase order or contract, a report of the test results shall be furnished.

22. Packing, Marking, Shipping, and Preservation

22.1 *Packaging*—The product shall be separated by size, composition, and temper, and prepared for shipment in such a



manner as to ensure acceptance by common carrier for transportation and to afford protection from the normal hazards of transportation.

22.2 *Package Markings*—Each shipping unit shall be legibly marked with the purchase order number, metal alloy designation, temper, size, shape, gross and net weight, and name of supplier. The specification number shall be shown, when specified.

23. Keywords

23.1 ammunition components; bronze; bullet jackets; strip; UNS No. C22000

APPENDIX

(Nonmandatory Information)

X1. METRIC EQUIVALENTS

X1.1 The SI unit for strength properties now shown is in accordance with the International System of Units (SI). The derived SI unit for force is the newton (N), which is defined as that force which when applied to a body having a mass of one kilogram gives it an acceleration of one metre per second squared ($N = \text{kg}\cdot\text{m}/\text{s}^2$). The derived SI unit for pressure or

stress is the newton per square metre (N/m^2), which has been named the pascal (Pa) by the General Conference on Weights and Measures. Since $1 \text{ ksi} = 6\,894\,757 \text{ Pa}$ the metric equivalents are expressed as megapascal (MPa), which is the same as MN/m^2 and N/mm^2 .

SUMMARY OF CHANGES

Committee B05 has identified the location of selected changes to this standard since the last issue (B 130 – 02) that may impact the use of this standard. (Approved April 1, 2008.)

- (1) Section 2.1 was deleted and section 2.2 was renumbered section 2.1.
- (2) Changed Materials to Material and Manufacturer to Manufacture in Section 5.
- (3) Corrected a typographical error in “accommodate” in section 13.3.
- (4) Corrected a typographical error in “requirements” in section 14.4.2.
- (5) Added specific test methods for chemical analysis of each element in section 16.1.
- (6) Changed 355 MPa to 350 MPa for Tensile Strength Min Requirements of H03 in Table 2.
- (7) Changed 240 MPa to 235 MPa for Tensile Strength Min Requirements of OS035 in Table 4.
- (8) Changed thickness tolerances in Table 5. Added a zero to

have the correct significant digits to many values, and corrected an error on metric equivalents on thicknesses for thicknesses over 0.026 mm to 0.037 mm for 8 in. and under width and thicknesses over 0.037 to 0.050 for 8 in. and under width.

(9) Revised minimum length of shortest piece for 6 to 8 ft. from 0.914 m to 0.91 m in Table 8 to have the correct significant digits.

(10) Corrected Table 9 metric equivalent from 9.53 mm to 9.52 mm in the width column, corrected Table 9 metric equivalent from 4.78 mm to 4.76 mm in the thickness column, and corrected Table 9 metric equivalent straightness tolerance for over 254 mm width from 0.79 mm to 0.8 mm to have the correct significant digits.

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