Designation: B130 – 13

Standard Specification for Commercial Bronze Strip for Bullet Jackets[1]

This standard is issued under the fixed designation B130; 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 the requirements for commercial bronze strip for manufacture of bullet jacket cups and ammunition components from Copper Alloy UNS No. C22000.[2]

1.2 Units–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]

B248/B248M Specification for General Requirements for Wrought Copper and Copper-Alloy Plate, Sheet, Strip, and Rolled Bar

B601 Classification for Temper Designations for Copper and Copper Alloys—Wrought and Cast

B846 Terminology for Copper and Copper Alloys

E3 Guide for Preparation of Metallographic Specimens

E8/E8M Test Methods for Tension Testing of Metallic Materials

E18 Test Methods for Rockwell Hardness of Metallic Materials

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

E112 Test Methods for Determining Average Grain Size

E255 Practice for Sampling Copper and Copper Alloys for the Determination of Chemical Composition

E478 Test Methods for Chemical Analysis of Copper Alloys

E527 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 B846.

4. Ordering Information

4.1 Include the following specified choices when placing orders for product under this specification, as applicable:

4.1.1 ASTM 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 8),

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. Materials and Manufacture

5.1 *Material:*

5.1.1 The material of manufacture shall be a form (cast bar, cake, slab, et cetera) of Copper Alloy UNS No. C22000 of such purity or soundness as to be suitable for processing into products prescribed herein.

5.1.2 When specified in the contract or purchase order, 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.

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.

[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.

Current edition approved April 1, 2013. Published April 2013. Originally approved in 1940. Last previous edition approved in 2008 as B130 – 08. DOI: 10.1520/B0130-13.

[2] Refer to Practice E527 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.

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

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

6.2 These composition limits do not preclude the presence of other elements. By agreement between the manufacturer and purchaser, limits may be established and analysis required for unnamed elements.

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 The standard tempers for products described in this specification are given in Tables 2-4:

7.1.1 *Cold-Rolled Tempers*—H01 to H10.

7.1.2 *Annealed Tempers*—OS015 to OS035.

8. Grain Size of Annealed Tempers

8.1 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×, 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.

9. Mechanical Property Requirements

9.1 *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.

TABLE 3 Grain Size Requirements of Annealed Strip

Annealed Temper Designation	Grain Size, mm		
Standard	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

9.2 *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.

9.3 *Tensile Strength of Annealed Tempers*—The tension test shall be the standard test for all tempers of annealed strip, and

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.

the acceptance or rejection based upon mechanical properties, shall depend only on the tensile strength which shall conform to the requirements prescribed in Table 4. Tension test specimens shall be taken so the longitudinal axis is parallel to the direction of rolling.

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 B248/B248M.

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

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 1/8 in. (1.59 to 3.18 mm) incl, in Thicknesses	Over 1/8 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	1/4	64
10 (3.05) and under		
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.

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 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	1/16 (1.6)	1/32 (0.8)
Over ⅛ to 3/16 (3.18 to 4.76), incl	⅛ (3.2)	3/64 (1.2)
Over 3/16 (4.76)	⅛ (3.2)	1/16 (1.6)

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.

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 E255 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 Analysis:*

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 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 E3.

15.2 In the tension test, all strip less than ¾ in.-wide shall be pulled in full size when practicable. Machined test specimens shall be as specified in Test Method E8/E8M, 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 E255.

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	E478
Lead	E478 (AA)
Iron	E478
Zinc	E478 (Titrimetric)
Tension	E8/E8M[A]
Grain Size	E3, E112
Rockwell hardness	E18

[A] The tension test specimen shall conform to the dimensions shown in Fig. 1 of Test Methods E8/E8M.

16.1.1 In cases of disagreement, test methods for chemical analysis shall be subject to agreement between the manufacturer or supplier and the purchaser.

16.1.2 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.

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 E29:

Property	Rounded Unit for Observed or Calculated Value
Chemical composition	nearest unit in the last right-hand significant digit used in expressing the limiting value.
Hardness	
Tensile strength	nearest ksi (5 MPa)
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 manufacturer, or supplier, shall inspect and make tests necessary to verify the furnished product conforms to the specification requirements.

18.2 If, in addition, source inspection of the material by the purchaser is agreed upon by the manufacturer, or supplier, 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 purchaser's agent shall be subject to rejection.

19.1.2 Rejection shall be reported to the manufacturer or supplier promptly. In addition, a written notification of rejection shall follow.

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

19.2 *Rehearing*—As a result of product rejection, the manufacturer or supplier shall have the option to make 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 contract or purchase order, 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.

22.3 When specified in the contract or purchase order, the product specification number shall be shown.

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 ($N = kg \cdot m/s^2$). 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 ksi = 6 894 757 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 (B130 – 08) that may impact the use of this standard. (Approved April 1, 2013.)

(1) Various corrections were made to bring the document up to date with regards to Form and Style.