

treatment of cylinders were observed and found satisfactory.

* * * * *

■ 73. In § 178.44, the introductory text preceding the table in paragraph (b) is revised to read as follows:

§ 178.44 Specification 3HT seamless steel cylinders for aircraft use.

* * * * *

(b) *Authorized steel.* Open hearth or electric furnace steel of uniform quality must be used. A heat of steel made under the specifications listed in Table 1 in this paragraph (b), a check chemical analysis that is slightly out of the specified range is acceptable, if satisfactory in all other respects, provided the tolerances shown in Table 2 in this paragraph (b) are not exceeded. The maximum grain size shall be 6 or finer. The grain size must be determined in accordance with ASTM E 112–88 (IBR, see § 171.7 of this subchapter). Steel of the following chemical analysis is authorized:

* * * * *

■ 74. In § 178.45, paragraphs (f)(5)(ii), (f)(5)(iii), (f)(5)(iv), and (j)(4) are revised to read as follows:

§ 178.45 Specification 3T seamless steel cylinder.

* * * * *

(f) * * *

(5) * * *

(ii) Taper threads, when used, must be the American Standard Pipe thread (NPT) type and must be in compliance with the requirements of NBS Handbook H–28 (IBR, see § 171.7 of this subchapter).

(iii) Taper threads conforming to National Gas Taper thread (NGT) standards must be in compliance with the requirements of NBS Handbook H–28.

(iv) Straight threads conforming with National Gas Straight thread (NGS) standards are authorized. These threads must be in compliance with the requirements of NBS Handbook H–28.

* * * * *

(j) * * *

(4) Each impact specimen must be Charpy V-notch type size 10 mm x 10 mm taken in accordance with paragraph 11 of ASTM A 333 (IBR, see § 171.7 of this subchapter). When a reduced size specimen is used, it must be the largest size obtainable.

* * * * *

■ 75. In § 178.46, footnote 2 following table 1 in paragraph (b)(4), and paragraphs (e)(5)(ii)(A), (e)(5)(ii)(B), (e)(5)(iii)(A), (e)(5)(iii)(B), (e)(5)(iii)(C), (e)(5)(iv), and (i)(3)(i) are revised to read as follows:

§ 178.46 Specification 3AL seamless aluminum cylinders.

* * * * *

(b) * * *

(4) * * *

² Except for “Pb” and “Bi”, the chemical composition corresponds with that of Table 1 of ASTM B 221 (IBR, see § 171.7 of this subchapter) for Aluminum Association alloy 6061.

* * * * *

(e) * * *

(5) * * *

(ii) * * *

(A) American Standard Pipe Thread (NPT) type, conforming to the requirements of NBS Handbook H–28 (IBR, see § 171.7 of this subchapter);

(B) National Gas Taper Thread (NGT) type, conforming to the requirements of NBS Handbook H–28; or

* * * * *

(iii) * * *

(A) National Gas Straight Thread (NGS) type, conforming to the requirements of NBS Handbook H–28;

(B) Unified Thread (UN) type, conforming to the requirements of NBS Handbook H–28;

(C) Controlled Radius Root Thread (UN) type, conforming to the requirements of NBS Handbook H–28; or

* * * * *

(iv) All straight threads must have at least 6 engaged threads, a tight fit, and a factor of safety in shear of at least 10 at the test pressure of the cylinder. Shear stress must be calculated by using the appropriate thread shear area in accordance with NBS Handbook H–28.

* * * * *

(i) * * *

(3) * * *

(i) The yield strength must be determined by either the “offset” method or the “extension under load” method as prescribed in ASTM B 557 (IBR, see § 171.7 of this subchapter).

* * * * *

■ 76. In § 178.55, paragraph (d)(3) is revised to read as follows:

§ 178.55 Specification 4B240ET welded or brazed cylinders.

* * * * *

(d) * * *

(3) Welding procedures and operators must be qualified in accordance with CGA C–3 (IBR, see § 171.7 of this subchapter).

* * * * *

■ 77. In § 178.56, paragraph (d)(3) is revised to read as follows:

§ 178.56 Specification 4AA480 welded steel cylinders.

* * * * *

(d) * * *

(3) Welding procedures and operators must be qualified in accordance with CGA C–3 (IBR, see § 171.7 of this subchapter).

* * * * *

■ 78. In § 178.59, paragraph (l)(1)(v) is revised to read as follows:

§ 178.59 Specification 8 steel cylinders with porous fillings for acetylene.

* * * * *

(l) * * *

(1) * * *

(v) The installed filling material must meet the requirements of CGA C–12 (IBR, see § 171.7 of this subchapter); and

* * * * *

■ 79. In § 178.60, paragraph (p)(1)(v) is revised to read as follows:

§ 178.60 Specification 8AL steel cylinders with porous fillings for acetylene.

* * * * *

(p) * * *

(1) * * *

(v) The installed filling material must meet the requirements of CGA C–12 (IBR, see § 171.7 of this subchapter); and

* * * * *

■ 80. In § 178.65, paragraph (b)(2) is revised to read as follows:

§ 178.65 Specification 39 non-reusable (non-refillable) cylinders.

* * * * *

(b) * * *

(2) *Aluminum.* Aluminum is not authorized for service pressures in excess of 500 psig. The analysis of the aluminum must conform to the Aluminum Association standard for alloys 1060, 1100, 1170, 3003, 5052, 5086, 5154, 6061, and 6063, as specified in its publication entitled “Aluminum Standards and Data” (IBR, see § 171.7 of this subchapter).

* * * * *

■ 81. In § 178.245–1, paragraph (a) is revised to read as follows:

§ 178.245–1 Requirements for design and construction.

(a) Tanks must be seamless or welded steel construction, or a combination of both, and have a water capacity in excess of 454 kg (1,000 pounds). Tanks must be designed, constructed, certified and stamped in accordance with Section VIII of the ASME Code (IBR, see § 171.7 of this subchapter).

* * * * *

■ 82. In § 178.245–3, paragraph (a) and Note 1 are revised to read as follows:

§ 178.245–3 Design pressure.

(a) The design pressure of a tank authorized under this specification shall