NOTICE: This standard has either been superceded and replaced by a new version or discontinued.
Contact ASTM International (www.astm.org) for the latest information.

**Designation: B 363 – 02**

# Standard Specification for Seamless and Welded Unalloyed Titanium and Titanium Alloy Welding Fittings[1]

This standard is issued under the fixed designation B 363; 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.*

## 1. Scope

1.1 This specification[2] covers fittings intended for general corrosion-resisting and elevated-temperature services, factory made from unalloyed titanium and titanium alloys. The term welding fittings applies to butt-welding parts such as 45° and 90° elbows, 180° returns, caps, tees, reducers, lap-joint stub ends, and other types.

1.2 *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:*

B 265 Specification for Titanium and Titanium Alloy Strip, Sheet, and Plate[3]

B 338 Specification for Seamless and Welded Titanium and Titanium Alloy Tubes for Condensers and Heat Exchangers[3]

B 348 Specification for Titanium and Titanium Alloy Bars and Billets[3]

B 367 Specification for Titanium and Titanium Alloy Castings[3]

B 381 Specification for Titanium and Titanium Alloy Forgings[3]

B 600 Guide for Descaling and Cleaning Titanium and Titanium Alloy Surfaces[3]

B 861 Specification for Titanium and Titanium Alloy Seamless Pipe[3]

B 862 Specification for Titanium and Titanium Alloy Welded Pipe[3]

2.2 *ANSI Standards:*

B16.9 Wrought Steel Butt-Welding Fittings[4]

B36.19 Stainless Steel Pipe[4]

2.3 *Manufacturers' Standardization Society of the Valve and Fittings Industry Standards:*

SP-25 Standard Marking System for Valves, Fittings, Flanges and Unions[5]

SP-43 Standard Practice for Light Weight Stainless Steel Butt-Welding Fittings[5]

2.4 *ASME Standard:*

ASME Boiler and Pressure Vessel Code, Sections VIII and IX[6]

## 3. Ordering Information

3.1 Orders for material to this specification shall include the following information as required:

3.1.1 Quantity,
3.1.2 Grade number,
3.1.3 Pipe size and schedule,
3.1.4 Method of manufacture and finish,
3.1.5 Restrictive chemistry, if desired,
3.1.6 Nondestructive tests,
3.1.7 Packaging, and
3.1.8 Inspection and required reports.

## 4. Material

4.1 The titanium for welding fittings may consist of billets, bars, plates, seamless or welded pipe or tube that conforms to all the requirements for manufacturing process, testing, chemical composition, and mechanical properties prescribed in Specifications B 861 and B 862 for the particular grades referred to in Table 1.

## 5. Manufacture

5.1 Forging, forming, or shaping operations may be performed by hammering, pressing, piercing, extruding, upsetting, rolling, bending, fusion welding, or by a combination of two or

[1] This specification is under the jurisdiction of ASTM Committee B10 on Reactive and Refractory Metals and Alloys and is the direct responsibility of Subcommittee B10.01 on Titanium.

Current edition approved Oct. 10, 2002. Published December 2002. Originally published as B 363 – 61 T. Last previous edition B 363 – 00.

[2] For ASME Boiler and Pressure Vessel Code applications, see related Specification SB-363 in Section II of that Code.

[3] *Annual Book of ASTM Standards*, Vol 02.04.

[4] Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

[5] Available from Manufacturers Standardization Society of the Valve and Fittings Industry (MSS), 127 Park St., NE, Vienna, VA 22180-4602.

[6] Available from American Society of Mechanical Engineers (ASME), ASME International Headquarters, Three Park Ave., New York, NY 10016-5990.

Copyright © ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States.