Stainless Steel Fitting Specifications

Welding Fittings “As-Welded” Grade - “as-welded” fittings are welded using ASME qualified welding procedures and can be supplied in a wide range of diameters and wall thicknesses from any of the weldable corrosion resistant alloys. Welding elbows can be provided with smooth flow or mitered construction, tees and crosses can be drawn outlet or nozzle-welded types and reducers can be conical or bell-shaped Alaskan manufacturers “as-welded” fittings to ANSI B16.9, ANSI B16.28 or MSS SP-43 dimensions, with weld ends furnished square cut. Fittings with special dimensions or those that require beveled, belied or roll-grooved ends can be provided. Spot radiography or 100% radiography of welded seams can also be performed. Alaskan pickles and passivates its fittings to maintain corrosion resistance and to prevent surface discoloration from free iron oxidation. “As-welded” fittings are commonly used with “as-welded” pipe and tubing in pulp and paper mills, food processing plants and other industries where corrosion resistance is essential.

ASTM A 774 - This specification covers “as-welded” stainless steel pipe fittings for low pressure piping intended for low to moderate temperatures and general corrosive service where heat treatment is not required for corrosion resistance. Fittings are normally furnished per MSS SP-43 dimensions unless otherwise agreed upon between the purchaser and manufacturer. A 774 is generally considered to be the most applicable ASTM specification for “as-welded” fittings.

ASTM A 403 - This specification includes seamless and welded wrought austenitic stainless steel butt welding fittings and consists of two general Classes. WP and CR. Class WP fittings are manufactured to the dimensional requirements of ANSI B16.9 or ANSI B16.28 and have pressure ratings equal to that prescribed for the specific matching pipe. Class CR fittings are manufactured to the dimensional requirements end pressure ratings of MSS SP-43. Both Classes require carbide solution heat treatment which includes rapid cooling to prevent reprecipitation of carbides, Fitting sub-classes covered by ASTM A 403 include the following specific requirements:

Sub-class Requirement

WP.S Seamless construction WP-W Welded fittings where fitting construction welds are 100% radiographed or ultrasonically examined and where side med. with the addition of filter metal in any starting material (e.g., welded pipe) are 100% radiographed

WF-WX Welded fittings where all welds are 100% radiographed or ultrasonically examined.

CRSeamless or welded fittings with no nondestructive testing required.

Special fittings with sizes and shapes not included in the above dimensional specifications can be ordered per A 403, provided they are marked “S9” and meet all other requirements of the sub-class specified.

ASME SA-403

This specification includes seamless -and welded wrought austenitic stainless steel butt welding fittings intended for use as commercial components that comply with Sections I, IV and VIII and nuclear power plant components that comply with Section III of the ASME Boiler and Pressure Vessel Code. With the exception of changes in tensile properties of 304L 316L and 316N, and the additional requirements for ASME Code documentation, this specification is identical to ASTM A 403. Alaskan produces and stocks SA-403 quality fittings, welded with filler metal and stamped with the “U” symbol (Section VIII) under a Certificate of Authorization from the American Society of Mechanical Engineers.

ASTM B 361

This specification includes seamless and welded aluminum and aluminum alloy butt welding fittings manufactured to the dimensional requirements of ANSI B16.9 and B16.28 and are generally available in diameters and schedule wall thicknesses shown In ANSI B36,10 and ANSI B36.19.

ASTM B 363 - This specification covers seamless and welded unalloyed titanium butt welding fittings intended for general corrosion resisting and elevated temperature service. Dimensions are in accordance with ANSI B18.9 or MSS SP-43 standards and are generally available in diameters and schedule well thicknesses shown in ANSI B36.10 and ANSI 636.19.

ASTM B 366 - This specification includes seamless and welded wrought nickel and nickel alloy butt welding fittings and consists of two general Classes, WP and CR. Class WP fittings are manufactured to the dimensional requirements of ANSI B16.9 or ANSI B16.28 and have pressure ratings equal to that prescribed for the specified matching pipe. Class CR fit tings are manufactured to the dimensional requirements and have pressure ratings of MSS SP-43. Heat treating is optional as agreed upon with the purchaser. Fitting sub-classes covered by ASIM B 366 include the following specific requirements:

Sub-class Requirement.

WP-S Seamless construction

WP-W Welded fittings where fitting construction welds are 100% radiographed or ultrasonically examined end where welds made with the addition of filler metal in any starting material (e.g.. welded pipe) are 100% radiographically examined.

WP-WX Welded fittings where all welds are 100% radiographically or ultrasonically examined

CRSeamless or welded fittings with no nondestructive testing required.

BASIC MATERIAL DATA

	PVC	CPVC
Base Resin	Poly(vinyl chloride) Homopolymer	Chlorinated Poly(vinyl chloride)
Commercial Classification of Rigid Compound *	Type 1, Grade 1 PVC 1120	Type IV, Grade 1 CPVC 4120
Class Designation	12454-B	23447-A
*Rigid Material is also known as Un-Plasticized (U-PVC)		