

FITTINGS SUMMARY DATA SHEET

ASTM A403 - 304/304L & 316/316L

CHEMICAL REQUIREMENTS (in %) | Maximum, unless otherwise indicated.

Grade (WP)	C	Mn	P	S	Si	Ni	Cr	Mo
WP 304	0.08	2.00	0.045	0.030	1.00	8.0 - 11.0	18.0 - 20.0	---
WP 304L	0.03	2.00	0.045	0.030	1.00	8.0 - 12.0	18.0 - 20.0	---
WP 316	0.08	2.00	0.045	0.030	1.00	10.0 - 14.0	16.0 - 18.0	2.00 - 3.00
WP 316L	0.03	2.00	0.045	0.030	1.00	10.0 - 14.0	16.0 - 18.0	2.00 - 3.00

MECHANICAL REQUIREMENTS | Values listed are minimums.

Grade (WP)	Yield Strength	Tensile Strength	Elongation %	
	(ksi)	(ksi)	Longitudinal	Transverse
WP 304/316	30	75	28	28
WP 304L/316L	25	70	20	20

SCOPE

This specification covers wrought stainless steel fittings of seamless and welded construction for pressure piping applications which are manufactured to the dimensional specifications of ASME B16.9.

MATERIALS

The starting material for fittings shall consist of forgings, bars, plates, or seamless or welded tubular products that conform to the chemical requirements of ASTM A403 for the grade specified.

MANUFACTURE

Forging or shaping operations may be performed by hammering, pressing, piercing, extruding, upsetting, rolling, bending, fusion welding, machining, or by a combination of two or more of these operations. The forming process shall be applied so that it will not produce injurious defects in the fittings.

HEAT TREATMENT

All fittings shall be furnished in the heat-treated condition. The heat treatment for these grades shall consist of solution annealing the fittings at the appropriate temperature until the chromium carbides go into solution and then cooling at a sufficient rate to prevent reprecipitation.

Note: All information contained in this document is derived from ASTM A403. Please refer to ASTM A403 for a complete description of all requirements. Data sheets are subject to change without notice.

DIMENSIONS

Butt-welding fittings purchased in accordance with this specification shall conform to the dimensions and tolerances given in the latest revision of ASME B16.9.

CERTIFICATION

Test reports are required for all fittings covered by ASTM A403. Each test report shall meet the requirements for certification as specified in ASTM A960 as well as include the following information specific to ASTM A403.

- Chemical analysis results for all starting materials.
- Tensile property results, report the yield strength and tensile strength in ksi [or MPa] and elongation in percent.
- For construction with filler metal added, weld metal chemical analysis.
- For welded fittings, construction method, weld process and procedure specification number.
- Type of heat treatment.
- Results of all non-destructive examinations.
- Any supplemental testing required by the customer.

PRODUCT MARKING

All fittings shall have the prescribed information stamped or stamped or otherwise suitable marked on each fitting in accordance with ASTM A403 / MSS SP-25. APP fittings are marked as follows:

- APP Name • Heat Identification Number
- Nominal Pipe Size • Pipe Wall Thickness Designation
- ASTM Spec • Material Grade