

ASTM A182 F316 Flange - Data Sheet

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Supply range

Ends Weld neck with butt weld end; raised face (RF), flat face (FF) or ring joint (RTJ) facings

Surface treatment Solution annealed and pickled, machined gasket face, or as specified

Delivery condition Solution annealed

Manufacturing process Forged or rolled, then machined

Heat treatment Solution annealed at 1040 degrees C (1900 degrees F) minimum

Delivery standard ASTM A182 / ASME SA182, dimensions and ratings to ASME B16.5

Size range 1/2 inch - 24 inch (DN 15 - DN 600) to ASME B16.5; larger sizes to ASME B16.47 on request

Types Weld neck, slip-on, blind, lap joint, threaded, socket weld, long weld neck

Inspection and documentation

Inspection Inspected by the producing mill's own inspection department, which is independent of production, against the delivery standard above. Third-party inspection - SGS, BV or TUV, or an inspector you send yourself - can be arranged at the mill or before shipment; give us the dates and the scope at the order stage.

Certificate A mill test certificate to EN 10204 3.1 showing the heat number, the chemical composition and the mechanical results is standard on every order. EN 10204 3.2, countersigned by the inspector you nominate, is available on request.

Documents with the goods The mill test certificate and the packing list travel with the shipment, and the heat number is traceable from cast through to the finished product.

Packing Sea-worthy export packing: bundled by size with end protection, corrosion protection on request, stencilled with the size, grade and heat number.

MOQ One bundle or one truckload; mixed sizes within a bundle accepted.

Lead time Counted from order confirmation, not from the enquiry. Stock sizes 7-15 days; mill run or non-stock 4-6 weeks. The delivery window is fixed on the quotation.

How we supply Sourced through partner mills; the producing mill is named on the quotation.

Chemical composition

Element	Range	Element	Range
Carbon, C	0.08 max	Nickel, Ni	10.0 - 14.0
Manganese, Mn	2.00 max	Phosphorus, P	0.045 max
Silicon, Si	1.00 max	Sulphur, S	0.030 max
Chromium, Cr	16.0 - 18.0	Molybdenum, Mo	2.00 - 3.00

Mechanical properties

Grade	Tensile strength	Yield strength	Elongation	Reduction of area
F316 (ASTM A182)	515 MPa min (75,000 psi)	205 MPa min (30,000 psi)	30% min	50% min
F316L (for reference)	485 MPa min (70,000 psi)	170 MPa min (25,000 psi)	30% min	50% min
F316H (for reference)	515 MPa min (75,000 psi)	205 MPa min (30,000 psi)	30% min	50% min

Source

Source: chemical composition requirements of ASTM A182 / ASME SA182. The standard is the governing document.

Source: tensile requirements of ASTM A182 / ASME SA182. The standard is the governing document.

F316 sits in group 2.2 of ASME B16.5. A Class 150 flange is rated 275 psi at ambient and 80 psi at 800 degrees F (427 C), while a Class 600 flange is rated 1440 psi at ambient and 845 psi at the same temperature. Source: this page's ASME B16.5 group 2.2 pressure-temperature table.

Page: <https://mejorsteel.com/standards/astm-a182-f316-flange/> | The standard is the governing document. MOQ, lead time and price are confirmed on request.