

ASTM A105 Flange - Data Sheet

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Supply range

Size range NPS 1/2 - NPS 24 to ASME B16.5; NPS 26 - NPS 60 to ASME B16.47

Pressure classes Class 150, 300, 400, 600, 900, 1500 and 2500; Class 2500 is limited to NPS 1/2 - NPS 12

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

Facings Raised face (RF), flat face (FF) and ring type joint (RTJ)

Bore and hub Bore, hub and face dimensions to the ASME B16.5 tables for each size and class

Surface treatment Black painted, oiled, rust preventive coated or hot dip galvanized; machined faces to the specified finish

Manufacturing process Closed die forged and then machined; blind and certain reducing flanges may be made from plate

Heat treatment As-forged, normalized, normalized and tempered, or quenched and tempered; normalizing is the usual choice where heat treatment is called for

Delivery standard ASTM A105 / A105M, dimensions to ASME B16.5

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	A105 requirement
Carbon, C	0.35 max
Manganese, Mn	0.60 - 1.05
Phosphorus, P	0.035 max
Sulphur, S	0.040 max
Silicon, Si	0.10 - 0.35
Copper, Cu	0.40 max
Nickel, Ni	0.40 max
Chromium, Cr	0.30 max
Molybdenum, Mo	0.12 max
Vanadium, V	0.08 max

Mechanical properties

Property	Requirement	Applies to
Tensile strength, min	485 MPa (70,000 psi)	All
Yield strength, min	250 MPa (36,000 psi)	All
Elongation, min	22%	Round specimen, 2 in. / 50 mm gauge
Elongation, min	30%	Strip specimen, wall 5/16 in. and over
Reduction of area, min	30%	Round specimen
Hardness, max	187 HBW	All

Source

Source: chemical composition requirements of ASTM A105 / ASME SA105, Table 1. The standard is the governing document.

Source: tensile requirements of ASTM A105 / ASME SA105, Table 2. The standard is the governing document.

The class is a rating name, not the pressure: an A105 Class 150 flange is rated 285 psi at ambient and a Class 2500 flange is rated 6,170 psi. Source: this page's class table.

Page: <https://mejorsteel.com/standards/astm-a105-flange/> | The standard is the governing document. MOQ, lead time and price are confirmed on request.