Forged Rings and Forged Bars

Designations: Seamless rolled rings | forged bars, discs, shafts | A105, F304/F316, 42CrMo4

Applicable standards: ASTM A105, A182, EN 10250, EN 10228

Product Description

Ochnology is a manufacturer and supplier of seamless rolled rings, forged bars, discs and shafts in carbon, alloy and stainless steel, to ASTM A182, A105 and EN 10250. Material is supplied normalised, quenched and tempered or solution annealed as required, with mechanical tests and ultrasonic testing to EN 10228 on request. Used for flanges, gears, wind-turbine and bearing rings, valve bodies, pressure vessels and heavy machinery.

Chemical Composition (% by weight)

Element	Carbon steel A105	Stainless F316L	Alloy 42CrMo4+QT
Carbon (C)	≤ 0.35	≤ 0.030	0.38–0.45
Manganese (Mn)	0.60–1.05	≤ 2.00	0.60–0.90
Silicon (Si)	0.10–0.35	≤ 1.00	≤ 0.40
Phosphorus (P)	≤ 0.035	≤ 0.045	≤ 0.025
Sulphur (S)	≤ 0.040	≤ 0.030	≤ 0.035
Chromium (Cr)	≤ 0.30	16.0–18.0	0.90–1.20
Nickel (Ni)	≤ 0.40	10.0–15.0	—
Molybdenum (Mo)	≤ 0.12	2.00–3.00	0.15–0.30

Mechanical and Physical Properties

Property	Carbon steel A105	Stainless F316L	Alloy 42CrMo4+QT
Yield strength, min	250 MPa	170 MPa	750 MPa
Tensile strength, min	485 MPa	485 MPa	1000–1200 MPa
Elongation, min	22 %	30 %	11 %
Hardness, max	187 HBW	187 HBW	—

Supply Details

Item	Detail
Forms	Seamless rolled rings, forged bars, discs, shafts
Dimensions	As per drawing or enquiry
Delivery condition	Normalised, quenched and tempered, or solution annealed
Certification	Mill test certificate (EN 10204 3.1) and third-party inspection available on request

Typical Applications

- Flanges and valve bodies
- Gears and bearing rings
- Wind-turbine rings
- Pressure vessels and heavy machinery

Ordering Information

To request a quotation, send the grade and standard, form, size or thickness, quantity, delivery condition, destination port and required certificates to info@ochnology.com or bd@ochnology.com. Typical values apply to the stated standards; actual values are certified on the mill test certificate for each lot.

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