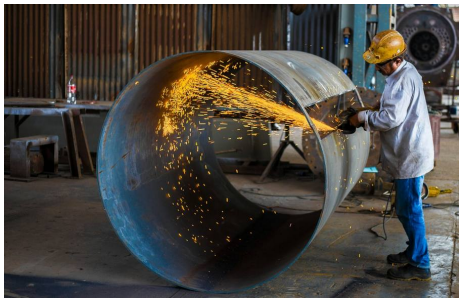
ALLOY STEEL Advanced Materials. Engineered for Performance.

SA387 Grade 12 Class 2



Alloy Steel | ASTM / ASME: A387 / SA387 Grade 12 Class 2 | EN: 13CrMo4-5 / 1.7335

1Cr-0.5Mo pressure vessel plate. The economical Cr-Mo grade for moderate temperature pressure parts, widely used for separator and drum shells where creep and hydrogen resistance are needed but the duty is below the 2.25Cr range.

Stock status: Mill indent - Typical lead time: 4 - 8 weeks mill indent

Key features

- Chromium-molybdenum creep strength at elevated temperature
- Resistance to hydrogen attack (Nelson curve service)
- Supplied normalised and tempered with simulated PWHT on request
- Ultrasonic testing to SA578 and through-thickness Z grades available

Available forms & sizes

Form	Size range
Plates	6 - 150 mm thk, up to 3000 mm wide, N or Q+T
Flanges	1/2" - 24", 150# - 2500#, F11 / F12 / F22 / F5 / F9 / F91
Fittings	1/2" - 24" butt weld fittings, WP11 / WP22 / WP91

Chemical composition (%)

Element	Min	Max
C	0.05	0.17
Cr	0.80	1.15
Mo	0.45	0.60
Si	0.15	0.40
Mn	0.40	0.65

Mechanical properties

Property	Value	Unit
Yield Strength (0.2%)	275 min	MPa
Tensile Strength	450 - 585	MPa

Property	Value	Unit
Elongation	18 min	%
Condition	Normalised and tempered	-

Physical properties

Property	Value	Unit
Density	7.85	g/cm3
Max Service Temperature	550 - 650 depending on grade	C

Standards

ASTM A387 / ASME SA387 Class 2, ASME Section II Part A, EN 10028-2, EN 10204 3.1 / 3.2

Equivalent grades

13CrMo4-5, 1.7335, A387 Gr 12 Cl 2

Industries served

Oil & Gas, Petrochemical, Refining, Power Generation, Fertiliser

Typical applications

- Pressure vessel shells and heads for elevated temperature service
- Hydrogen service reactors and separators
- Boiler drums, headers and steam plant
- Petrochemical heaters and hot wall equipment

Live datasheet