

ASTM A333 GR. 6 Datasheet

ASTM A333

ASTM A333 is the standard specification for seamless and welded carbon and alloy steel pipe for low temperature service or other applications requiring notch toughness. There are several grades of ferritic steel covered by this standard: Grade, Grade 3, Grade 4, Grade 6, Grade 7, Grade 8, Grade 9, Grade 10 and Grade 11. Metals-Piping provides ASTM A333 pipes made by the seamless or welded process with the addition of no filler metal in the welding operation except that Grade 4 shall be made only by seamless process. The pipe shall be furnished free of welding repair, either radiographically tested or ultrasonically examined. A333 offers excellent impact toughness at low temperatures.

ASTM A333 GR. 6

ASTM A333 Grade 6 is a specific grade of low-temperature carbon steel (LTCS) pipe used in various industrial applications. It is a seamless and welded carbon and alloy steel pipe intended for use at low temperatures, typically above -50°F (-45°C). The Gr 6 designation refers to the grade of steel, which meets the requirements of the ASTM A333 standard. In general, A333-6 pipes are manufactured in a size range from 1/2 inches to 24 inches. This steel grade is commonly used in industries such as oil and gas, chemical, and power generation, where low-temperature service is required. The A333 Gr 6 steel is designed to withstand brittle fracture and has excellent impact toughness, making it ideal for use in cold environments up to a temperature of -45°C. For applications of A333-6 pipe material below -45°C, there will be a requirement for impact testing.

Chemical Composition

	C(max)	Mn	P(max)	S(max)	Si	Ni
Grade 6	0.3	0.29 –1.06	0.025	0.025	0.10 (min)	

Mechanical Properties

Grade	Yield strength, min, psi (MPa)	Tensile strength, min, psi (MPa)	Elongation (%)
A333 Gr.6	35 000 (240)	60 000 (415)	30 min

Physical Composition

Density (lb / cu. in.)	0.284
Specific Gravity	7.9
Specific Heat (Btu/lb/Deg F -[32-212 Deg F])	0.105
Melting Point (Deg F)	2750
Thermal Conductivity	360
Mean Coeff Thermal Expansion	6.3
Modulus of Elasticity Tension	30
Modulus of Elasticity Torsion	11





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C&N / HONGCHENG PIPE FITTINGS LIMITED
[Tel:+86](#) 021-31267504 | 86 0317 6287569 | Whastapp/Cell: +86 186 1676 2200 +86 156 1278 9688
Web:www.alloysteelfitting.com www.pipelifittingflange.com
Factory Add: Wuliyao Yanshan County,CangZhou City,HeBei Province 061300
Office Add: No. 9, Xiyuan North Street, High tech Zone, Chongqing