EN 31 | SAE 52100 | EN 31 Round Bar & Flats

VEL STEEL TRADERS

Alloy Steel EN 31 Round Bars, forging, flat steel, steel wire have all specifications. With production experience, strict control EN 31 Alloy Steel chemical composition and EN 31 Alloy Steel mechanical properties. From casting, forging, steel to hot and cold rolling process, heat treatment, etc. we have the control of professional engineers. ASTM A295 is specification which covers 52100 high carbon bearing quality steel to be used in the manufacture of anti-friction bearings. And 52100 bearing steel is the most common steel grade in ASTM A295 standard for high-carbon anti-friction bearing steel. We have advanced precision machining equipment, according to the requirements of users machining. in order to achieve the most satisfied with the user requirements.

EN 31 Alloy Steel

Standard	Grade	C	Mn	P	S	Si	Ni	Cr	Cu	Mo
ASTM A295	52100	0.93-1.05	0.25-0.45	0.025	0.015	0.15-0.35	0.25	1.35-1.60	0.30	0.10
DIN 17230	100Cr6/ 1.3505	0.90-1.05	0.25-0.45	0.030	0.025	0.15-0.35	0.30	1.35-1.65	0.30	–
JIS G4805	SUJ2	0.95-1.10	0.50	0.025	0.025	0.15-0.35	–	1.30-1.60	–	–
BS 970	535A99/ EN31	0.95-1.10	0.40-0.70	–	–	0.10-0.35	–	1.20-1.60	–	–

Forging

Forge at 1000°/1050°C. Heat slowly, allowing sufficient time at the forging temperature for the steel to be thoroughly soaked through. Re-heat as often as necessary to keep the temperature above 850°C. After forging cool very slowly, preferably in a furnace.

Annealing

Heat uniformly to 800°C equalize then furnace cool. (Hardness about 229 Brinell).

Stress Relieving

If machining operations have been heavy or if the tool has an unbalanced section, remove stresses before hardening by heating up to 700°C, equalize then cool slowly.

Hardening

Heat uniformly to 800/820°C until heated through. Allow 30 minutes per inch of ruling section and quench immediately in oil.

Tempering

Heat uniformly and thoroughly at the selected tempering temperatures and hold for at least one hour per inch of total thickness.

Tempering °C	100	150	200	250	300	350
HRC	64/63	63/62	62/61	60/59	57/56	54/53

Mechanical properties

EN 31 Alloy Steel Mechanical properties, Our production completely according to the EN 31 Alloy Steel standards to meet the EN 31 Alloy Steel mechanical performance, can also according to the customer request, to meet the requirements of customers of EN 31 Alloy Steel mechanical properties.

Heat treatment

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Machining

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