SIQUAL 6580 Steel

Designation by Standards

Brand Name	Ravne	Mat. No.	DIN	EN	AISI/SAE
SIQUAL 6580	VCNMO200	1.6580	-	30CrNiMo8	4340

Chemical Composition (in weight %)

C	Si	Mn	Cr	Mo	Ni	V	W	Others
0.30	max. 0.40	0.45	2.00	0.40	1.90	-	-	-

Description
SIQUAL 6580 is a heat treatable, low alloy steel containing nickel, chromium and molybdenum. It is known for its toughness and capability of developing high strength in the heat treated condition while retaining good fatigue strength.

Applications
For permanently stressed components with large cross sections for automotive and mechanical engineering. For economic performance under severe dynamic stress, parts must be designed for optimum strength or toughness.

Physical properties (average values) at ambient temperature
Modulus of elasticity [10^3 x N/mm^2]: 210
Density [g/cm^3]: 7.82

Soft Annealing
Heat to 650-700^oC, cool slowly. This will produce a maximum Brinell hardness of 248.

Normalizing
Temperature: 850-880^oC.

Hardening
Harden from a temperature of 830-880^oC followed by oil quenching.

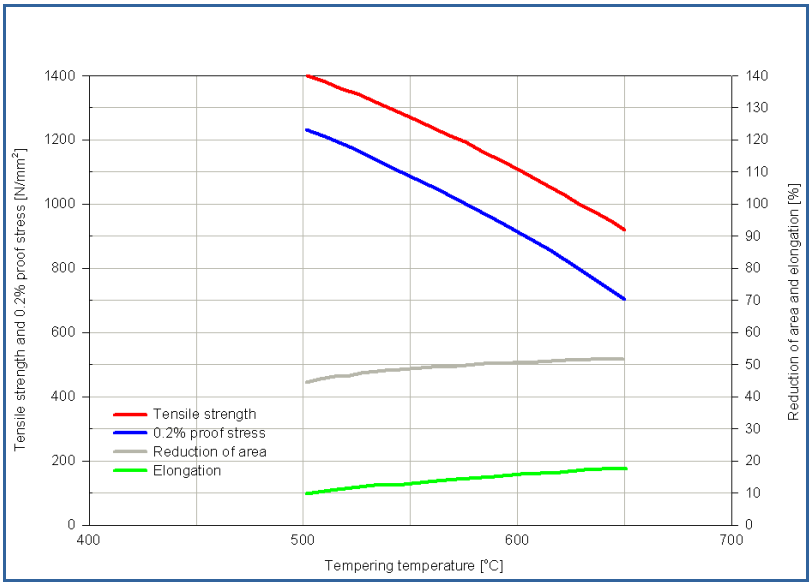
Tempering
Tempering temperature: 540-680^oC.

Mechanical Properties in Hardening and Tempering Condition

Diameter (mm)	0.2 % proof stress (N/mm^2)	Tensile strength (N/mm^2)	Elongation (%)	Reduction of area (%)	Notch impact energy (J)
<16	1050	1250-1450	9	40	35
17-40	1050	1250-1450	9	40	35

41-100	900	1100-1300	10	45	40
101-160	800	1000-1200	11	50	50
161-250	700	900-1100	12	50	50

Diagram Tempering Temperature - Mechanical Properties



Forging
Hot forming temperature: 1050-850^{o}C.

Machinability
Machining is best done with this alloy in the annealed or normalized and tempered condition. It can be machined by all conventional methods.

Corrosion Resistance
This is a low alloy steel and not a corrosion resistant alloy. Protective coating should be used.

Welding
The alloy can be fusion or resistance welded. Preheat and post heat weld procedures should be followed when welding this alloy by established methods.

Cold working
The VCNMO200 alloy may be cold worked, in the annealed condition, by conventional methods and tooling. It has good ductility.

Forms manufactured: Please see the Dimensional Sales Program.

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