



SIHARD 2631 Steel

Designation by Standards

Brand Name	Ravne	Mat. No.	DIN	EN	AISI/SAE
SIHARD 2631	CRV2	1.2631	X50CrMoW9-1-1	-	-

Chemical Composition (in weight %)

C	Si	Mn	Cr	Mo	Ni	V	W	Others
0.50	0.90	0.50	8.50	1.20	-	-	1.20	-

Description

Cold work tool steel. High toughness and resistance to dynamic loading.

Applications

Severely stressed machine blades for the cellulose, paper and fiberboard industries, flat-blade and circular blades for cutting 5 to 15 mm thick sheet/plate.

Physical properties (average values) at ambient temperature

Modulus of elasticity [$10^3 \times \text{N/mm}^2$]: 210

Density [g/cm^3]: 7.80

Thermal conductivity [W/m.K]: 26.0

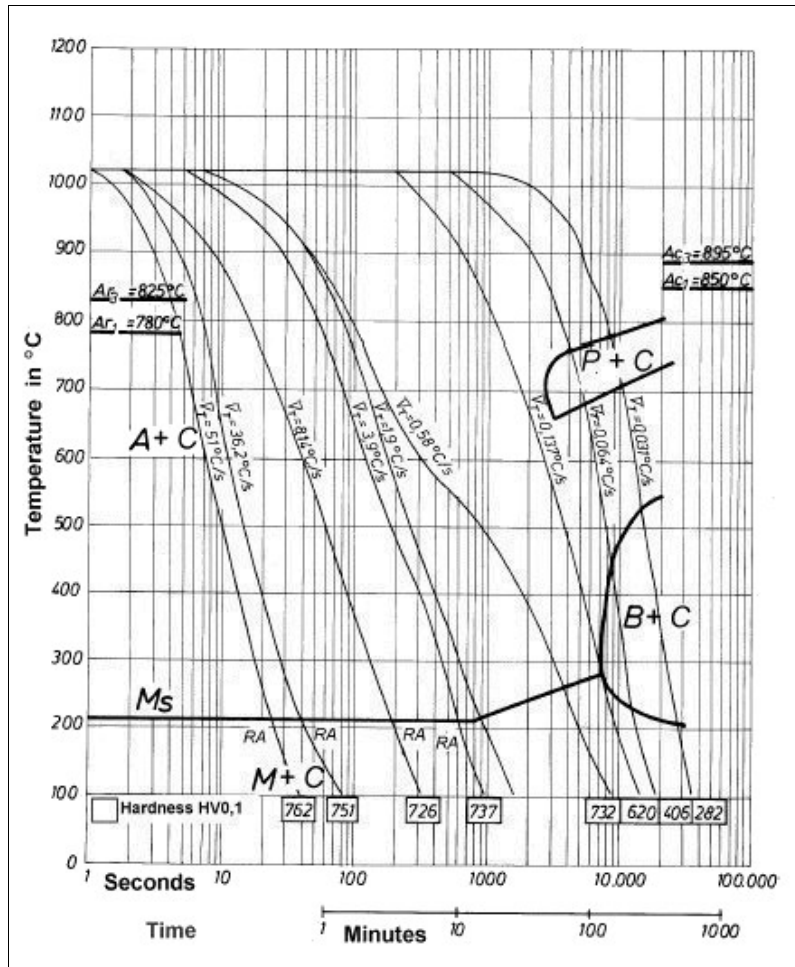
Electric resistivity [$\text{Ohm mm}^2/\text{m}$]: 0.60

Specific heat capacity [J/g.K]: 0.46

Coefficient of Linear Thermal Expansion $10^{-6} \text{ } ^\circ\text{C}^{-1}$

20-100°C	20-200°C	20-300°C	20-400°C	20-500°C	20-600°C	20-700°C	20-800°C
9.8	10.2	10.5	11.3	11.9	12.4	12.8	13.0

Continuous Cooling Transformation (CCT) Diagram



Soft Annealing

Heat to 820-870°C, cool slowly in furnace. This will produce a maximum Brinell hardness of 250.

Stress Relieving

Stress relieving to remove machining stresses should be carried out by heating to approx. 650°C, holding for one hour at heat, followed by air cooling. This operation is performed to reduce distortion during heat treatment.

Hardening

Harden from a temperature of 1020-1050°C followed by oil, air or warm bath (approx. 400°C.) quenching. Hardness after quenching is 61 HRC.

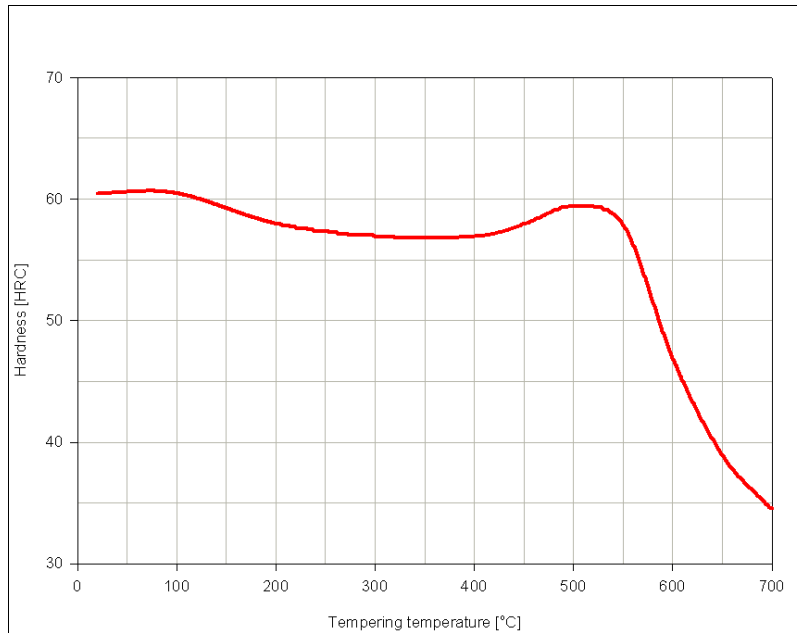
Tempering

Tempering temperature: 150-400°C

Tempering Temperature (°C) vs. Hardness (HRC)

100°C	200°C	300°C	400°C	500°C	525°C	550°C	575°C	600°C	700°C
60	57	56	56	59	59	53	48	43	33

Tempering Diagram



Forging

Hot forming temperature: 1050-900°C.

Machinability

No data.

Forms manufactured: Please see the [Dimensional Sales Program](#).

Disclaimer

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