



SIHARD S150 Steel

Designation by Standards

Brand Name	Ravne	Mat. No.	DIN	EN	AISI/SAE
SIHARD S150	OH239V	1.2767	X45NiCrMo4 †	45NiCrMo16	-

Chemical Composition (in weight %)

C	Si	Mn	Cr	Mo	Ni	V	W	Others
0.45	0.25	0.35	1.35	0.25	4.05	-	-	-

Description

Nickel cold work tool steel. Good hardenability and toughness. Ability for polishing, photoetching and erosion treatment.

Applications

Forging tools, dies of all sort, shapes and sizes, hot forging and pressing tools for steel and metal. Moulds, bushings, piercers, etc.

Physical properties (average values) at ambient temperature

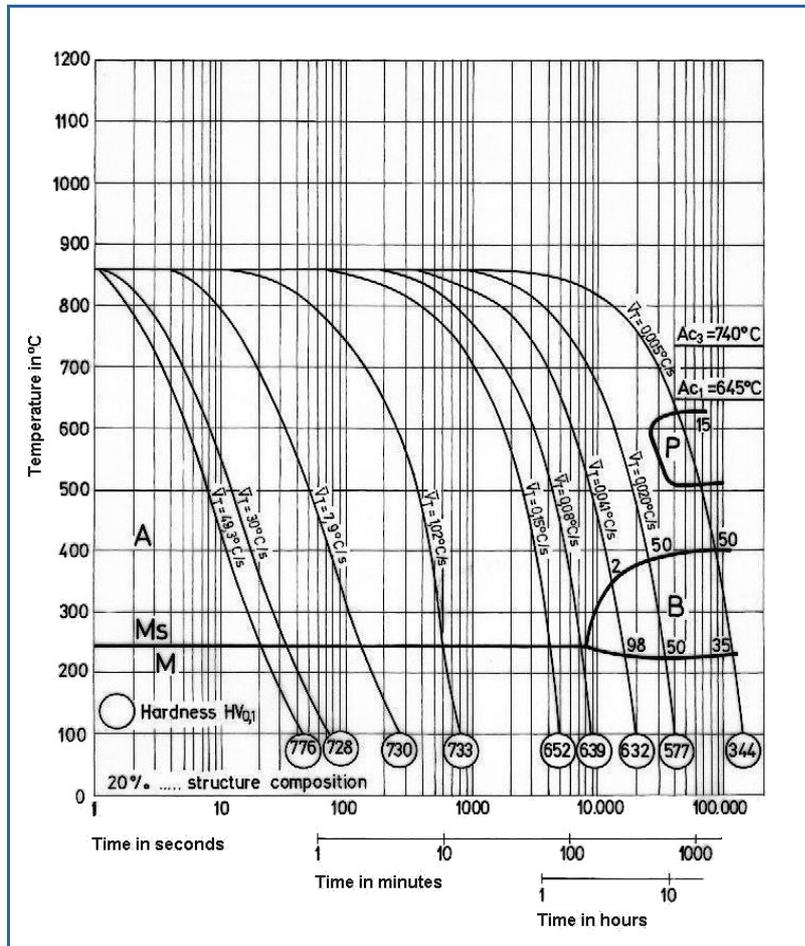
Density [g/cm³]: 7.84

Thermal conductivity [W/m.K]: 28.0

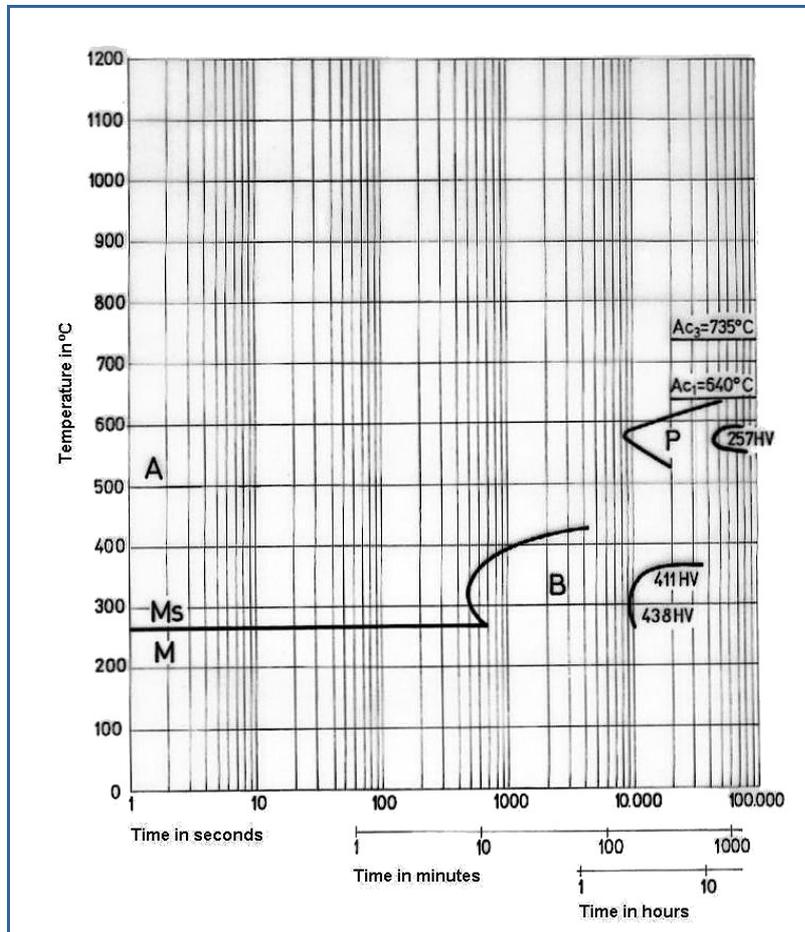
Coefficient of Linear Thermal Expansion 10⁻⁶ °C⁻¹

20-100°C	20-200°C	20-300°C	20-400°C	20-500°C	20-600°C
11.7	12.5	13.0	13.4	13.7	13.8

Continuous Cooling Transformation (CCT) Diagram



Time-Temperature Transformation (TTT) Diagram



Soft Annealing

Heat to 610-850°C, cool slowly in furnace. This will produce a maximum Brinell hardness of 262.

Stress Relieving

Stress relieving to remove machining stresses should be carried out by heating to 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 840-870°C followed by oil, air or warm bath (180-220°C) quenching. Hardness after quenching is 56 HRC.

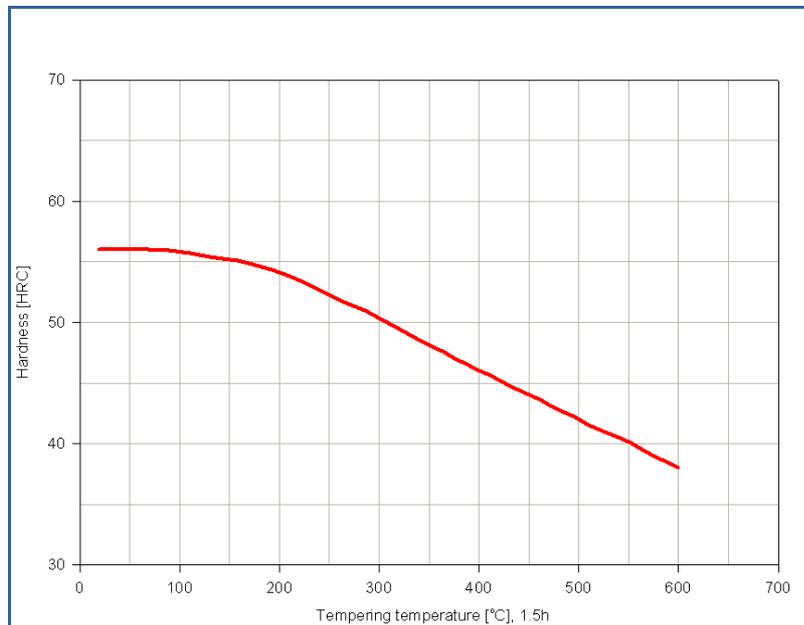
Tempering

Tempering temperature: 150-400°C.

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

100°C	200°C	300°C	400°C	500°C	600°C
56	54	50	46	42	38

Tempering Diagram



Forging

Hot forming temperature: No data.

Machinability

No data.

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

Disclaimer

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