



## SIHARD 2363 Steel

### Designation by Standards

Brand Name	Ravne	Mat. No.	DIN	EN	AISI/SAE
SIHARD 2363	OA2	1.2363	X100CrMoV5-1 †	X100CrMoV5	A2

### Chemical Composition (in weight %)

C	Si	Mn	Cr	Mo	Ni	V	W	Others
1.00	0.25	0.60	5.15	1.05	-	0.20	-	-

### Description

This alloy is one of the cold work, medium air hardening type tool steels. It contains chromium and molybdenum with a relatively high (1 %) carbon content and is capable of deep hardening from air quench so as to minimize distortion.

### Applications

Used of die shapes, slitters, cutting, stamping, injection tools and similar applications where wear resistance is important

### Physical properties (average values) at ambient temperature

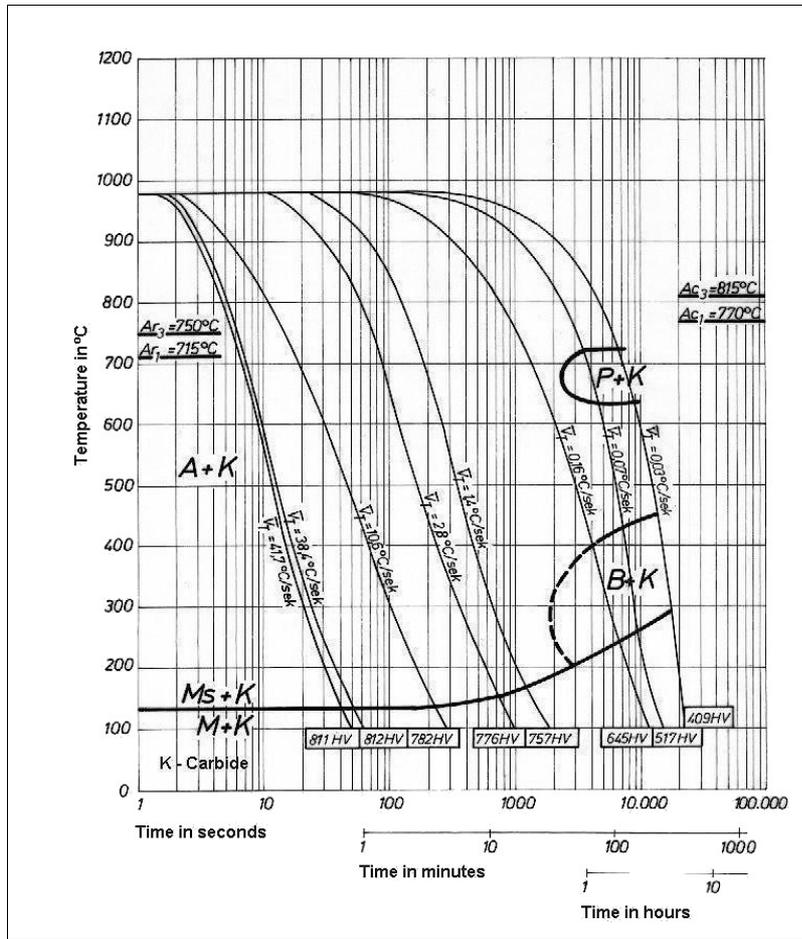
Density [ $\text{g}/\text{cm}^3$ ]: 7.70

Thermal conductivity [ $\text{W}/\text{m.K}$ ]: 26.0

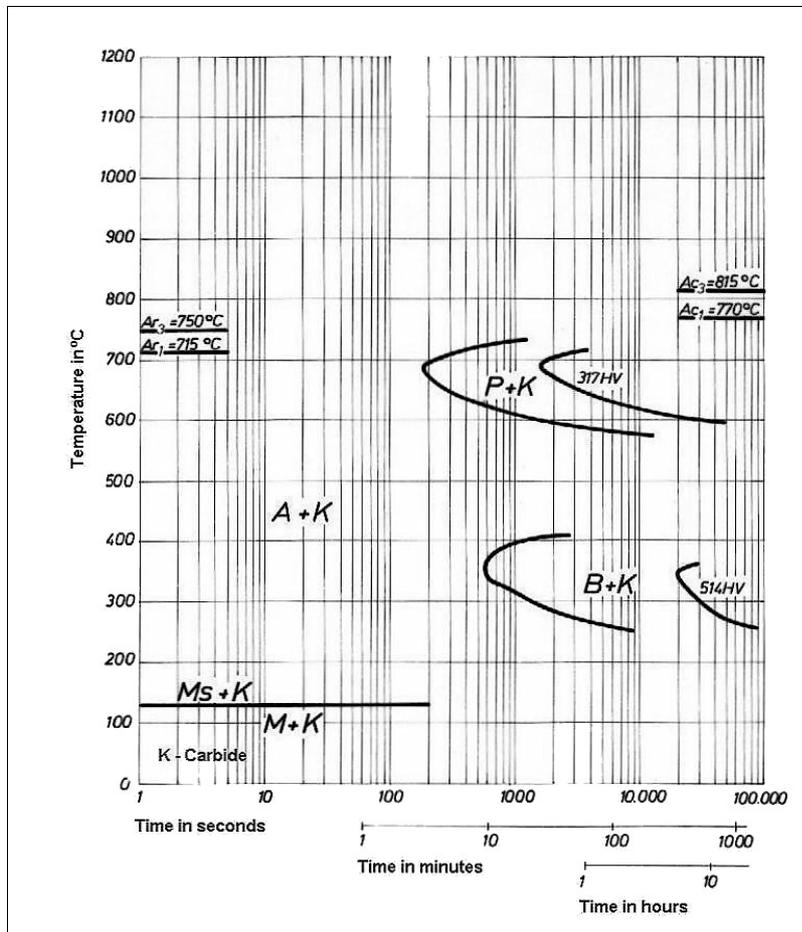
### Coefficient of Linear Thermal Expansion $10^{-6} \text{ }^\circ\text{C}^{-1}$

20-100°C	20-200°C	20-300°C	20-400°C	20-500°C	20-600°C	20-700°C
11.7	12.9	13.3	13.8	14.2	14.6	14.9

### Continuous Cooling Transformation (CCT) Diagram



### Time-Temperature Transformation (TTT) Diagram



### Soft Annealing

Heat to 800-840°C, cool slowly in furnace. This will produce a maximum Brinell hardness of 230.

### 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 930-970°C followed by air, oil, warm bath (500-550°C) quenching. Hardness after quenching is 63 HRC.

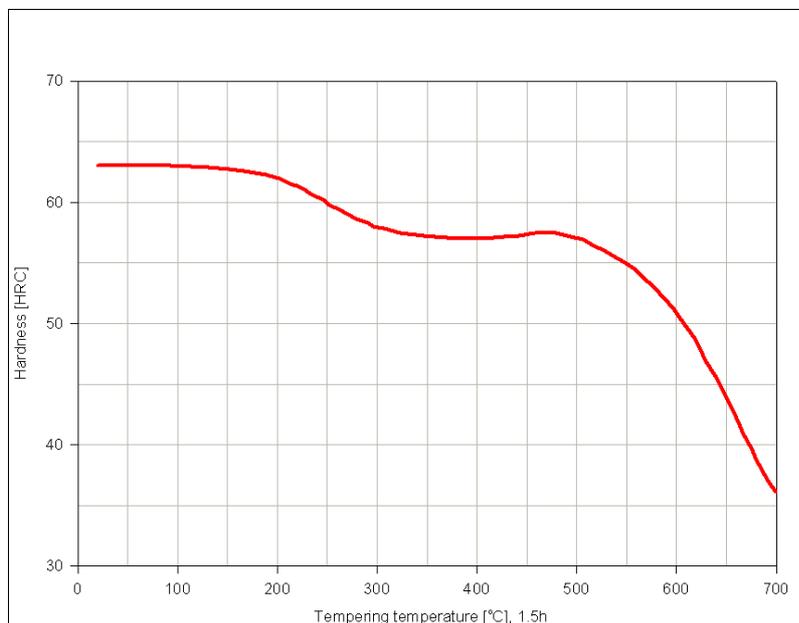
### Tempering

Tempering temperature: 150-550°C

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

100°C	200°C	300°C	400°C	500°C	600°C	700°C
63	62	58	57	57	51	36

### Tempering Diagram



### Forging

Hot forming temperature: 1050-850°C.

### Machinability

Machinability is medium, about 85 % that of the W group of tool steels which are rated at 100% for a baseline.

### Corrosion Resistance

Corrosion resistance of this alloy is better than that of plain carbon steels. However it will rust unless given protective treatment.

### Welding

This is an alloy steel and thus capable of being welded. Consult the alloy supplier for welding procedures.

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

### Disclaimer

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