



SIHARD 2842 Steel

Designation by Standards

Brand Name	Ravne	Mat. No.	DIN	EN	AISI/SAE
SIHARD 2842	MERILO	1.2842	-	90MnCrV8	O2

Chemical Composition (in weight %)

C	Si	Mn	Cr	Mo	Ni	V	W	Others
0.90	0.25	2.00	0.35	-	-	0.13	-	-

Description

Cold work tool steel with high dimensional stability at heat treatment. Very high resistance to cracking. High machinability, medium toughness and resistance to wear.

Applications

Measuring tools, machine knives for the wood, paper and metal industry, cold cutting shear blades, thread cutting tools.

Physical properties (average values) at ambient temperature

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

Density [g/cm^3]: 7.85

Thermal conductivity [W/m.K]: 30.0

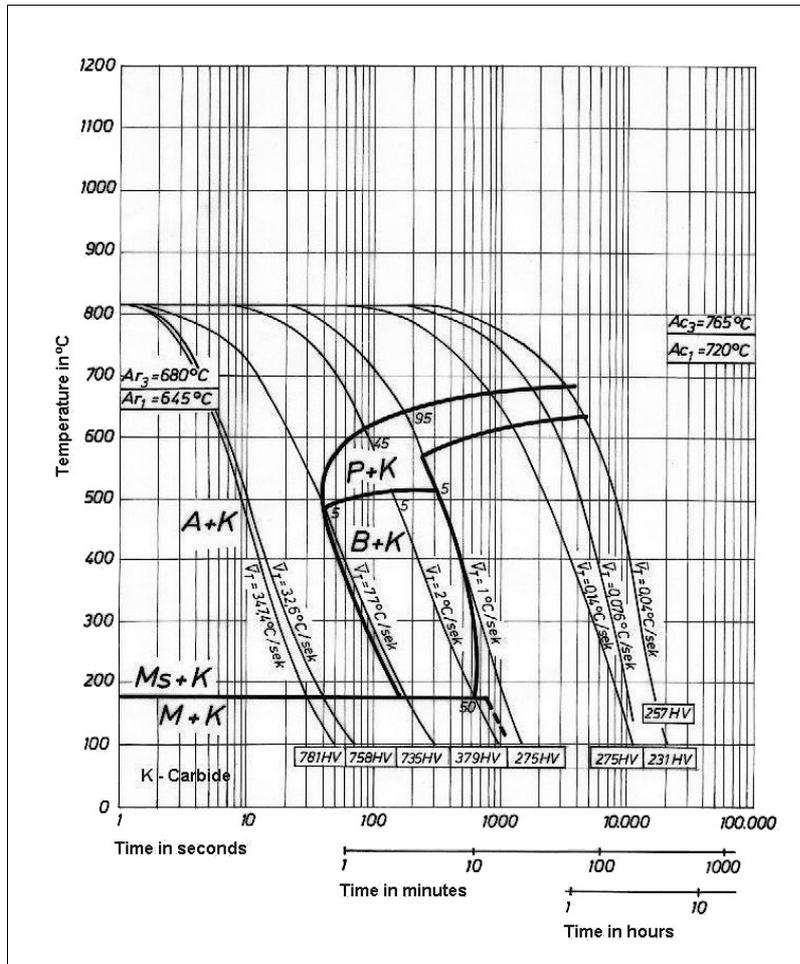
Electric resistivity [$\text{Ohm mm}^2/\text{m}$]: 0.35

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

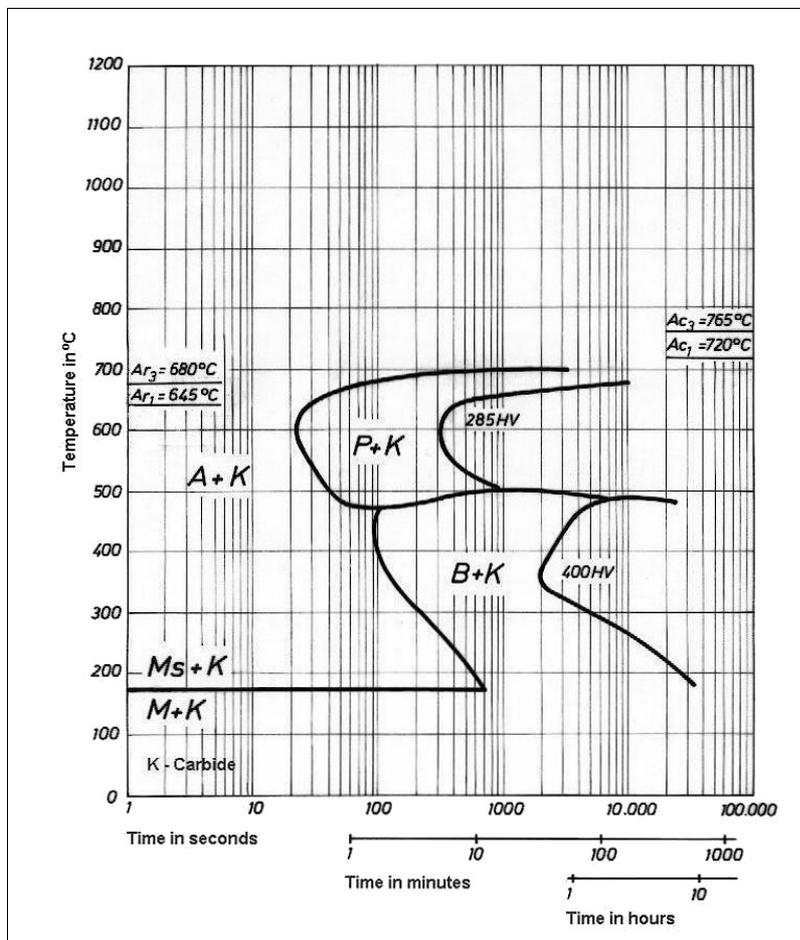
Coefficient of Linear Thermal Expansion $10^{-6} \text{ }^\circ\text{C}^{-1}$

20-100°C	20-200°C	20-300°C	20-400°C	20-500°C	20-600°C	20-700°C
12.1	13.3	13.8	14.3	14.1	14.2	14.6

Continuous Cooling Transformation (CCT) Diagram



Time-Temperature Transformation (TTT) Diagram



Soft Annealing

Heat to 690-720°C, cool slowly in furnace. This will produce a maximum Brinell hardness of 229.

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

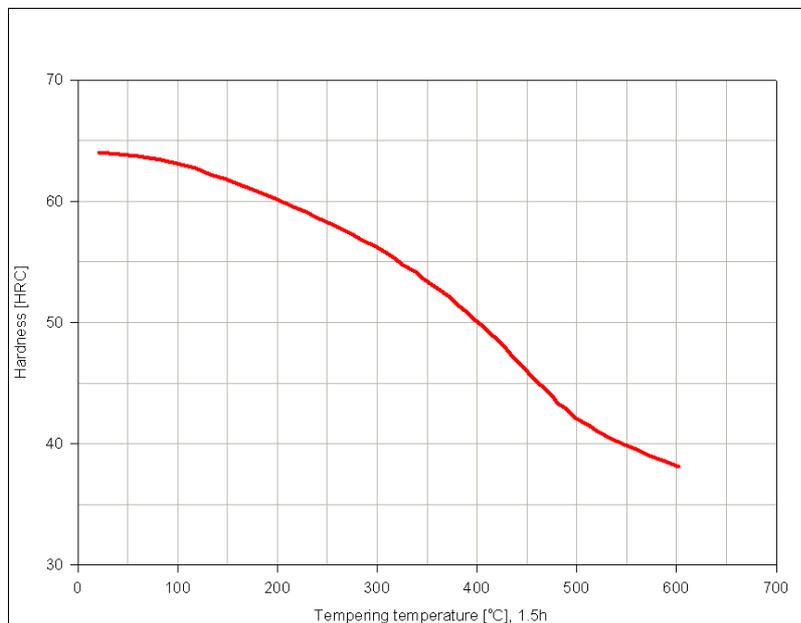
Harden from a temperature of 790-820°C followed by oil or warm bath (180-220°C) quenching. Hardness after quenching is 63-65 HRC.

Tempering

Tempering temperature: See the data below.

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

100°C	200°C	300°C	400°C	500°C	600°C
63	60	56	50	42	38

Tempering Diagram**Forging**

Hot forming temperature: 1050-850°C.

Machinability

No data.

Corrosion Resistance

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

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

Disclaimer

The information and data presented herein are typical or average values and are not a guarantee of maximum or minimum values. Applications specifically suggested for material described herein are made solely for the purpose of illustration to enable the reader to make his own evaluation and are not intended as warranties, either express or implied, of fitness for these or other purposes. There is no representation that the recipient of this literature will receive updated editions as the become available.

Unless otherwise specified, registered trademarks are property of SIJ Metal Ravne company. Copyright 2016 by SIJ Metal Ravne d.o.o. All rights reserved. Contact our [Sales Office](#) for more information.