SIHARD 2419 Steel

Designation by Standards

Brand Name	Ravne	Mat. No.	DIN	EN	AISI/SAE
SIHARD 2419	MERILOEX	1.2419	105WCr6	-	-

Chemical Composition (in weight %)

C	Si	Mn	Cr	Mo	Ni	V	W	Others
1.05	0.25	0.96	1.00	-	-	-	1.15	-

Description
Medium alloy cold work steel, oil hardening type. Good dimensional and cutting stability; slightly lower hardenability and wear resistance, compared with highly chromium alloyed steels, but better toughness.

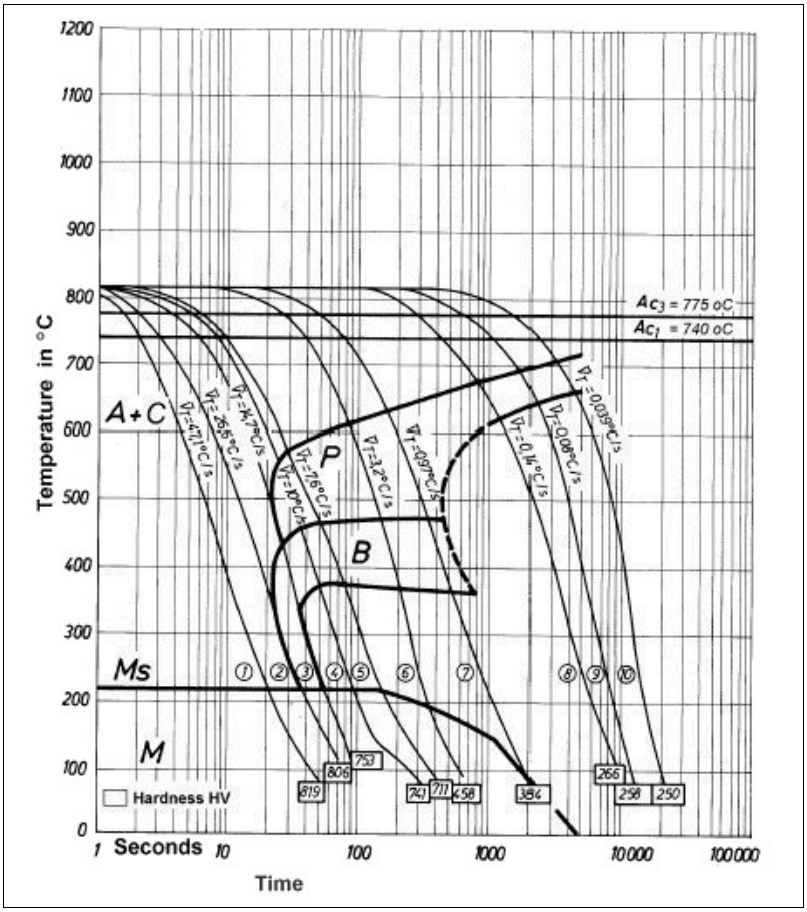
Applications
Cutting and punching tools for sheet thickness up to 6 mm, also for paper and plastics, roll shear blades for sheet thickness up to 6 mm, small bending and drawing tools, thread cutting tools, reamers, woodworking tools, gauges and other measuring tools, small inserts and plastic moulds.

Physical properties (average values) at ambient temperature
Modulus of elasticity [10^3 x N/mm^2]: 210
Density [g/cm^3]: 7.85
Thermal conductivity [W/m.K]: 30.0
Electric resistivity [Ohm mm^2/m]: 0.35
Specific heat capacity[J/g.K]: 0.46

Coefficient of Linear Thermal Expansion 10^{-6} $^oC^{-1}$

20-100^{o}C	20-200^{o}C	20-300^{o}C	20-400^{o}C	20-500^{o}C	20-600^{o}C	20-700^{o}C
12.6	13.3	13.8	14.2	14.6	15.0	15.3

Continuous Cooling Transformation (CCT) Diagram



Soft Annealing

Heat to 720-750^{O}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 approx. 650^{O}C, holding for 1-2 hours at heat, followed by air cooling. This operation is performed to reduce distortion during heat treatment.

Hardening

Harden from a temperature of 800-830^{O}C followed by oil quenching or warm bath quenching approx. 200^{O}C. Hardness after quenching is 63-65 HRC.

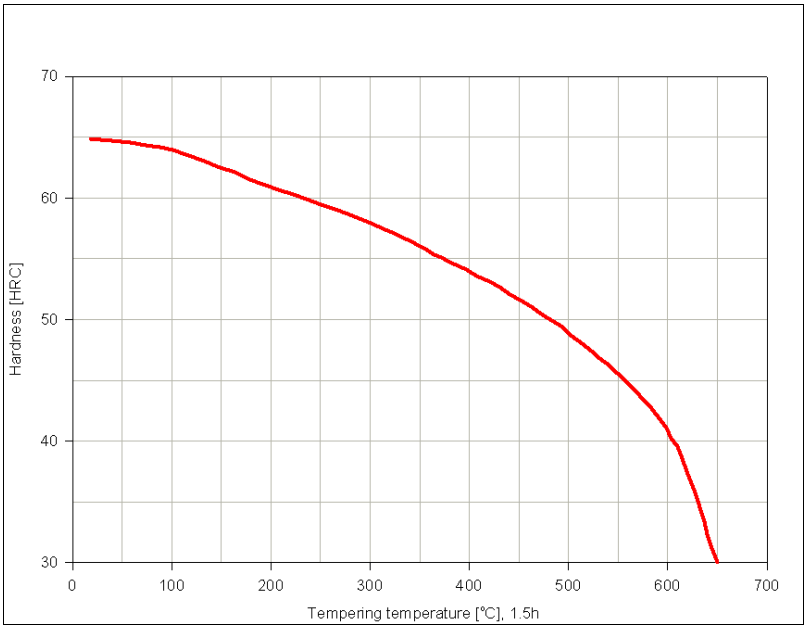
Tempering

Tempering temperature: See the data bellow.

Tempering Temperature (^{O}C) vs. Hardness (HRC)

100^{O}C	200^{O}C	300^{O}C	400^{O}C	500^{O}C	600^{O}C	650^{O}C
64	61	58	54	49	41	30

Tempering Diagram



Forging

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

Machinability

No data.

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.