



## SITHERM 2367 Steel

### Designation by Standards

Brand Name	Ravne	Mat. No.	DIN	EN	AISI/SAE
SITHERM 2367	UTOPMO7	1.2367	-	X38CrMoV5-3	-

### Chemical Composition (in weight %)

C	Si	Mn	Cr	Mo	Ni	V	W	Others
0.38	0.40	0.40	5.00	2.95	-	0.50	-	-

### Description

Hot work tool steel. Secondary hardening steel with high strength and wear resistance in hot. Good tempering resistance. High hardenability and toughness. Tools can be water cooled.

### Applications

Wear resisting tools, pressure die casting tools, pressing tools for light and heavy metal. For the highest requirements we recommend UTOPMO7 ESR EFS.

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

Density [g/cm<sup>3</sup>]: 7.83

Thermal conductivity [W/m.K]: 25.0

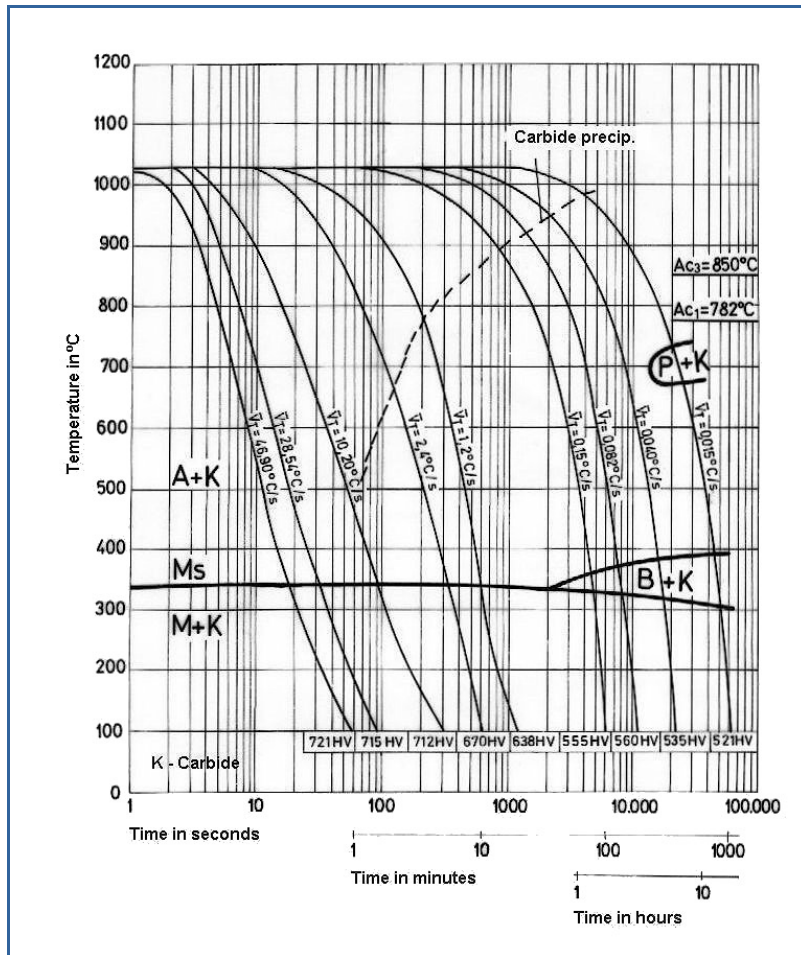
### Thermal conductivity [W/m.K]

20°C	500°C	600°C
25.0	28.5	29.3

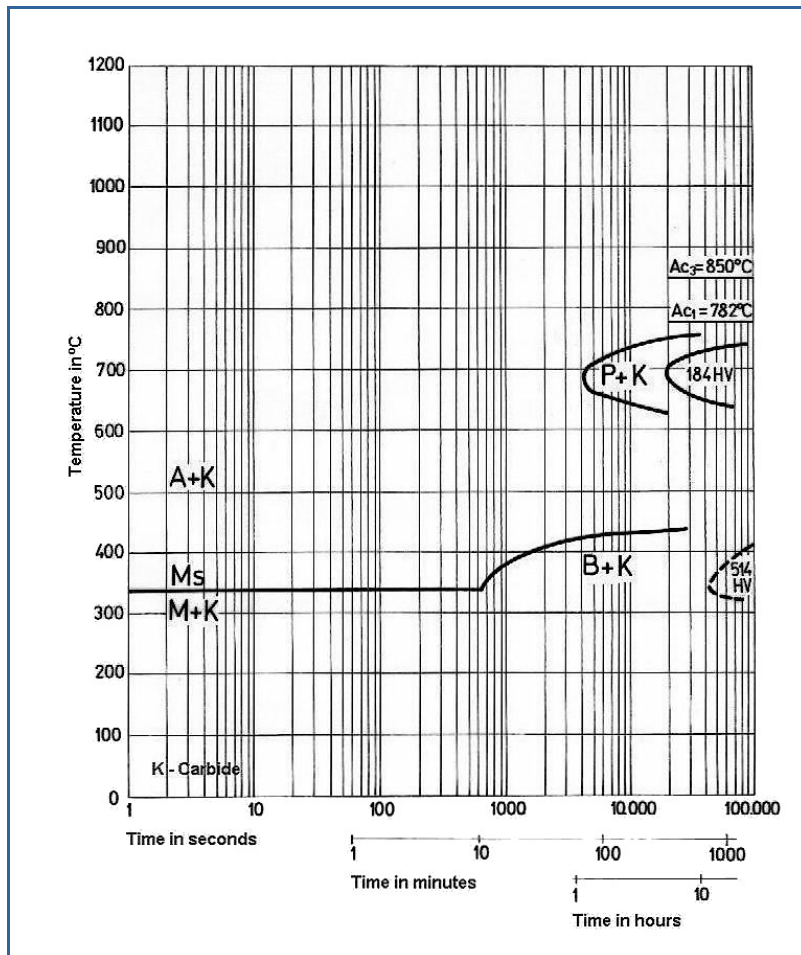
### Coefficient of Linear Thermal Expansion 10<sup>-6</sup> °C<sup>-1</sup>

20-100°C	20-200°C	20-300°C	20-400°C	20-500°C	20-600°C	20-700°C
11.5	12.0	12.2	12.5	12.9	13.0	13.2

### 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 235.

**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 1030-1080°C followed by air, oil or warm bath (500-550°C) quenching. Hardness after quenching is 53-57 HRC.

**Tempering**

Tempering temperature: See the table below.

**Tempering Temperature (°C) vs. Hardness (HRC) vs. Tensile Strength (N/mm<sup>2</sup>)**

100°C	200°C	300°C	400°C	500°C	550°C	600°C	650°C	700°C
57	55	54	53	55.5	56	53	43	31
2140	1980	1910	1845	2010	2050	1845	1360	995

**Tempering Diagram**

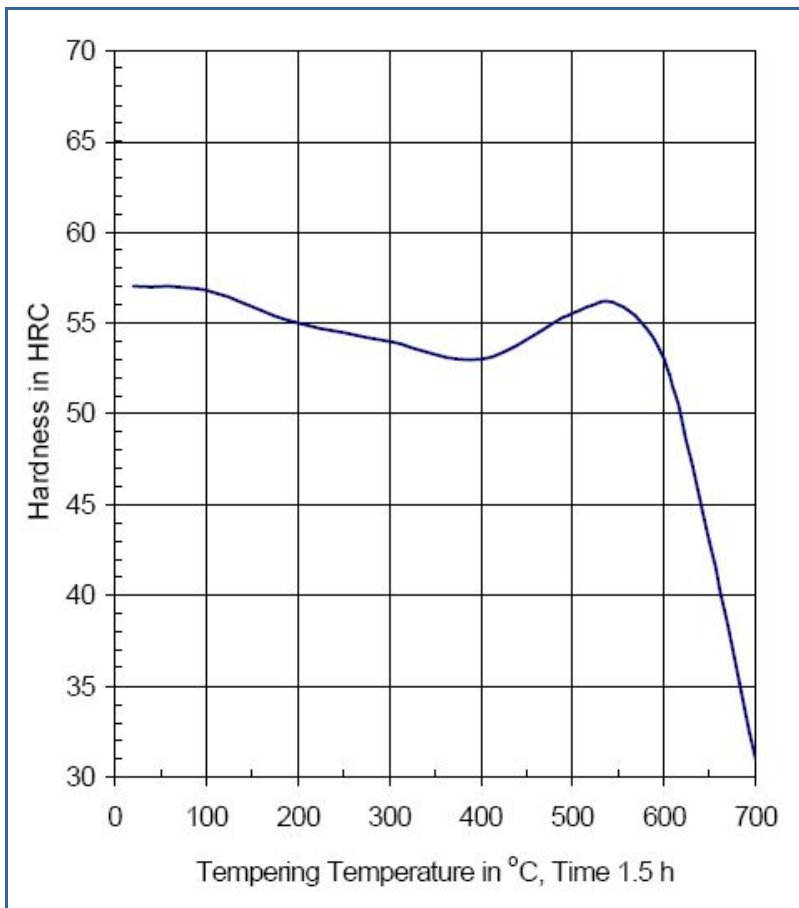


Diagram Tempering Temperature - Mechanical Properties

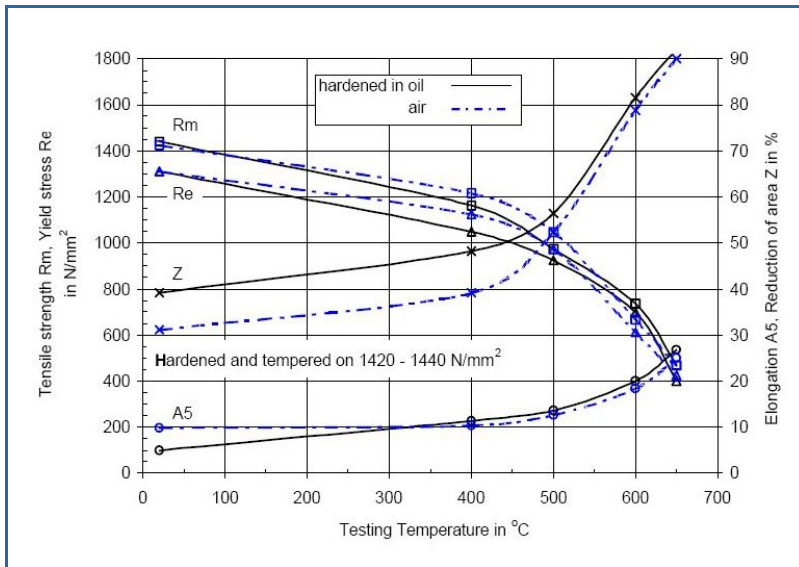


Diagram Tempering Temperature - Mechanical Properties

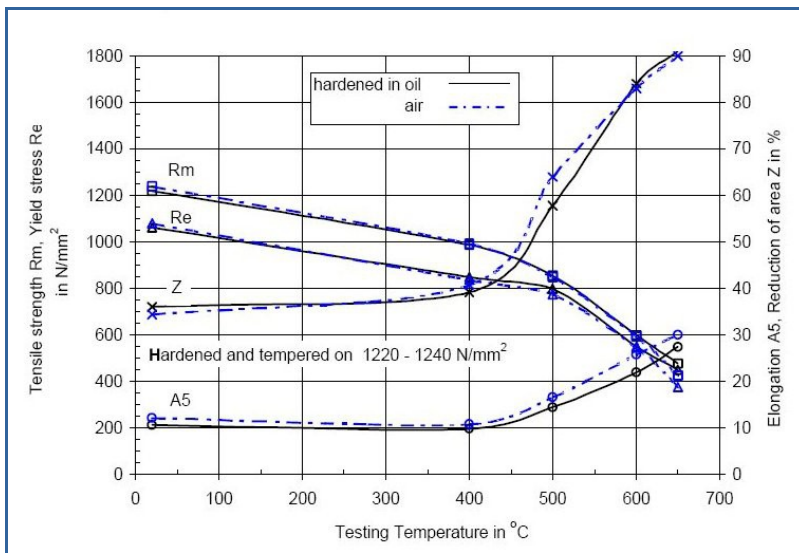
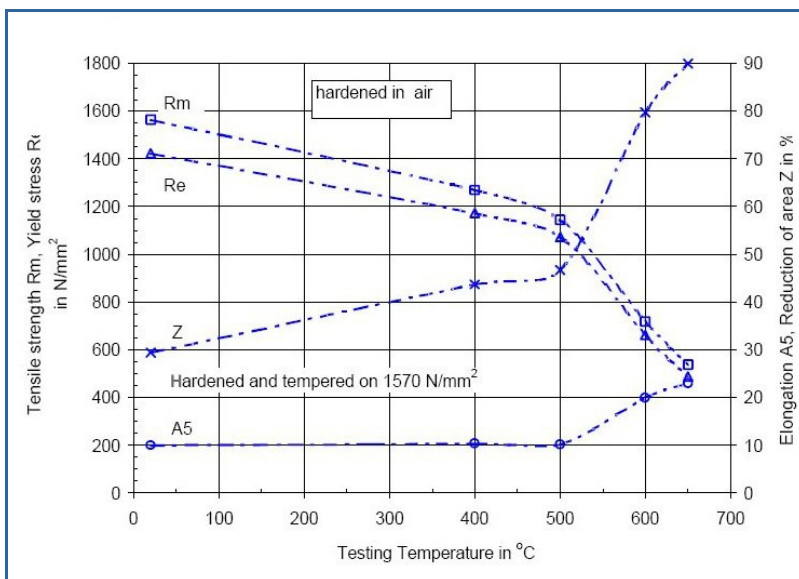


Diagram Tempering Temperature - Mechanical Properties



**Forging**

Hot forming temperature: 1080-900°C.

**Machinability**

No data.

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

**Disclaimer**

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