



## SIQUAL 5752 Steel

### Designation by Standards

Brand Name	Ravne	Mat. No.	DIN	EN	AISI/SAE
SIQUAL 5752	ECN35	1.5752	14NiCr14 †	15NiCr13	3310, 3415

### Chemical Composition (in weight %)

C	Si	Mn	Cr	Mo	Ni	V	W	Others
0.17	max. 0.40	0.55	0.75	-	3.25	-	-	-

### Description

Alloyed carbon steel.

### Applications

Components with large cross section requiring high toughness and core strength, e.g., gears, gear shafts, crankshafts.

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

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

Density [ $\text{g/cm}^3$ ]: 7.83

Thermal conductivity [ $\text{W/m.K}$ ]: 34.0

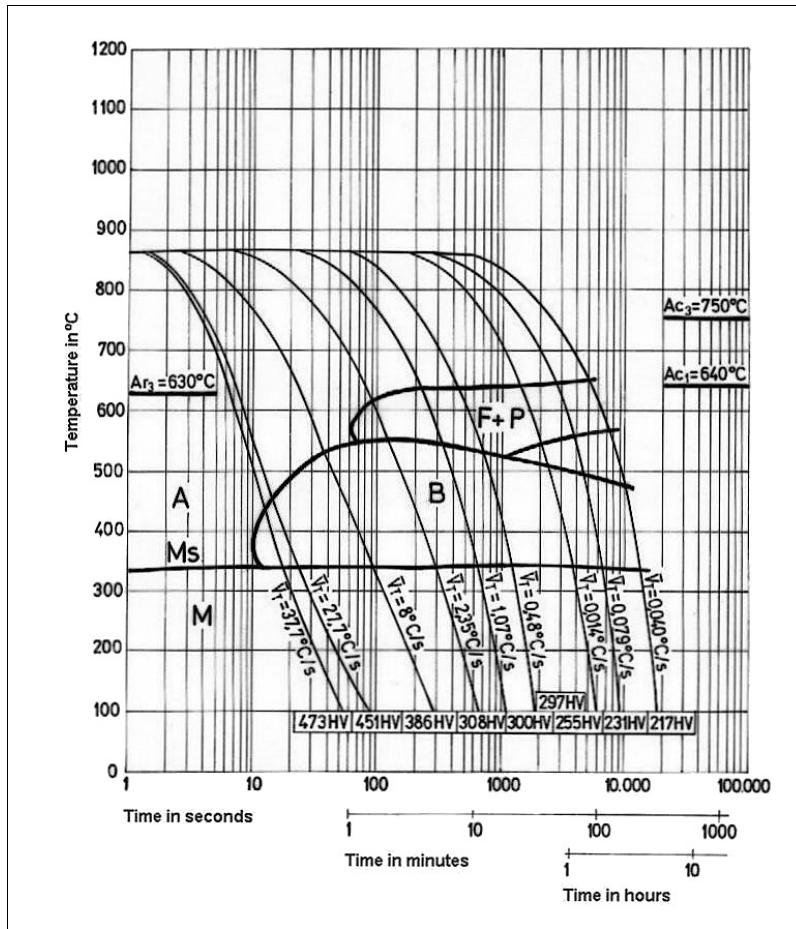
Electric resistivity [ $\text{Ohm mm}^2/\text{m}$ ]: 0.20

Specific heat capacity [ $\text{J/g.K}$ ]: 0.46

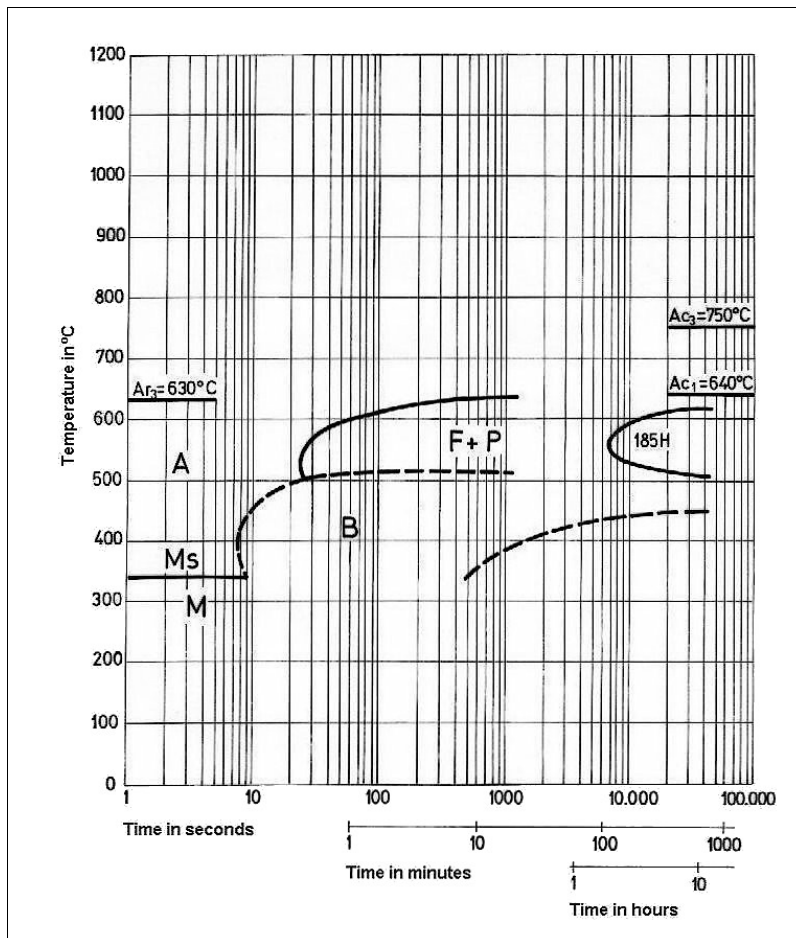
### Coefficient of Linear Thermal Expansion $10^{-6} \text{ }^\circ\text{C}^{-1}$

20-100°C	20-200°C	20-300°C	20-400°C	20-500°C
11.1	12.1	12.9	13.5	13.9

Continuous Cooling Transformation (CCT) Diagram



Time-Temperature Transformation (TTT) Diagram



**Soft Annealing**

Heat to 610-650°C, cool slowly. This will produce a maximum Brinell hardness of 229.

**Hardening**

Case-hardening: 880-980°C, oil (water), warm bath at 160-250°C. Carburising: Salt bath at 580-650°C, case-hardening box, air.

Direct hardening: 880-890°C, oil, hot bath at 160-250°C.

Core refining: 840-880°C, oil, hot bath at 160-250°C.

Case refining: 780-820°C, oil, hot bath at 160-250°C.

**Normalizing**

Normalizing temperature: 850 - 880°C.

**Tempering**

Tempering temperature: 150 - 200°C.

**Hardenability in the end-quench test**

Hardness	1.5	3	5	7	9	11	13	15	20	25	30	35	40
H max.	48	48	48	47	45	44	42	41	38	35	34	34	33
H min.	41	41	41	40	38	36	33	30	24	22	22	21	21
HH max.	48	48	48	47	45	44	42	41	38	35	34	34	33
HH min.	43	43	43	42	40	39	36	34	29	26	26	25	25
HL max.	46	46	46	45	43	41	38	37	33	31	30	30	29
HL min.	41	41	41	40	38	36	33	30	24	22	22	21	21

**Forging**

Hot forming temperature: 1050-850°C.

**Machinability**

No data.

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

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