

Thermodur® 2383 Supercool

Technical Datasheet

Chemistry

Typical	C	Mn	Ni	Mo	V
Analysis %	0.43	0.90	0.90	1.50	1.30

Description

Thermodur® 2383 Supercool combines excellent mechanical properties and high wear resistance with very high thermal conductivity. Tools made of Thermodur® 2383 Supercool lower the cycle times in molding/forming applications due to improved heat conductivity.

Characteristics

Outstanding thermal conductivity High wear resistance
 Good through hardenability Excellent polishability
 Outstanding tempering resistance Good weldability
 Good high tempering strength
 Excellent thermal shock resistance

Applications

Indirect press hardening
 Die casting
 Injection molding tools

Physical Properties

At 45 HRc

Coefficient of thermal expansion in 10 ⁻⁶ /K at 20°C	<u>100</u> 12.0	<u>200</u> 12.3	<u>300</u> 12.7	<u>400</u> 13.1
Thermal conductivity in W/(m • K) °C	<u>100</u> 44	<u>200</u> 43	<u>300</u> 41	<u>400</u> 39

General Note

All statements regarding the properties or utilization of the materials or products mentioned are for the purpose of description only. Guarantees regarding the existence of certain properties or a certain utilization are only valid if agreed upon in writing.

Heat Treatment

Soft Annealing

Temperature	Cooling	Hardness
860°C	Furnace	220 HB Max.

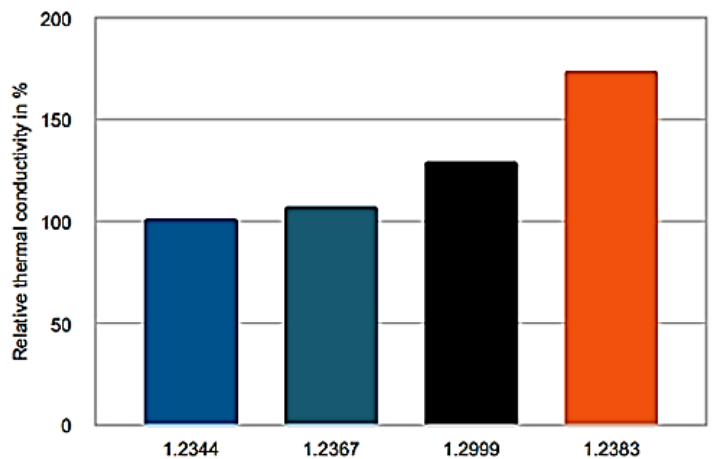
Hardening

Temperature	Quenching	Hardness
1080°C - 1120°C	Oil or hot bath 500°C – 550°C	52 after quenching in HRc

Tempering

Temperature °C	400	500	550	600	650
Hardness HRc	48	48	52	51	48

Thermal Conductivity



Relative thermal conductivity (Thermodur® 2344 / H13 as a reference) in quenched and tempered condition (45±1 HRc), measured at 100°C.

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NORTH AMERICAN DISTRIBUTION

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