



Thermodur 2383 Supercool

For lowest cycle times

Thermodur 2383 Supercool

Extended tool life and shorter cycle times in production: This is of particular interest for the molding industry. The demands on tool steels are constantly increasing. Deutsche Edelstahlwerke has the special steel solution.

Thermodur 2383 Supercool is the tool steel that combines excellent mechanical properties and high wear resistance with very high thermal conductivity.

This makes this special steel ideally suitable for application in indirect press hardening, die casting, and injection molding tools.

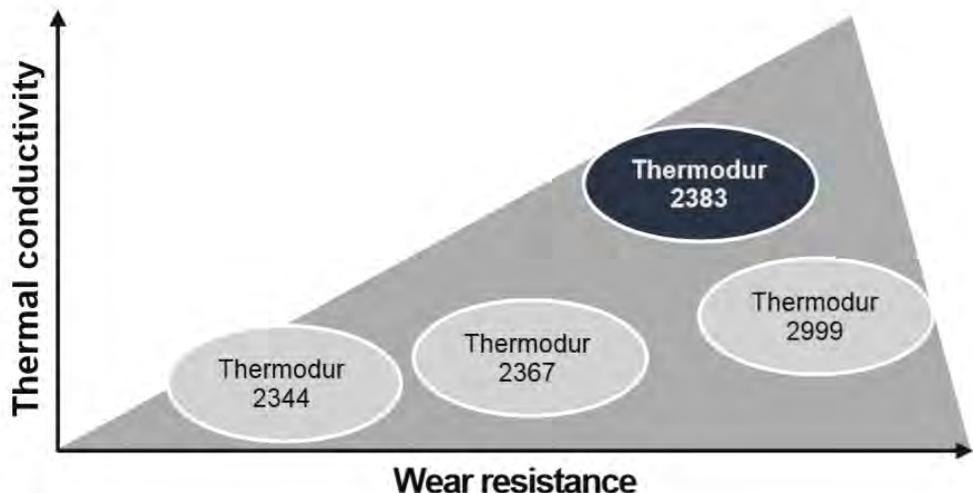
Thermodur 2383 Supercool, quenched and tempered to 45 HRC, features a significantly higher thermal conductivity compared to conventional hot work tool steels like 1.2343 (H11), 1.2344 (H13), and 1.2367 at similar hardness level. A maximum value of 44 W/(m K) is reached at 100 °C.

A mold insert made of this special steel thus can dissipate heat in a controlled manner within a very short time.

The result: a tool made of Thermodur 2383 Supercool noticeably lowers the cycle times in molding/forming applications thanks to improved heat conductivity.

Top quality, individualized services and direct proximity to the customer are just some of our strengths. Our experts are happy to assist you.

You are interested in other special steel solutions? Learn more on www.dew-stahl.com



CHEMICAL COMPOSITION
(standard values in weight-%)

	C	Mn	Ni	Mo	V
	0.43	0.90	0.90	1.50	1.30

PHYSICAL PROPERTIES AT 45 HRC

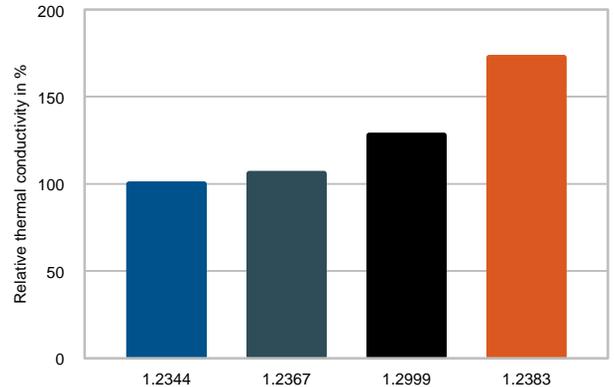
Thermal conductivity in W/(m K) at	100 °C	44	200 °C	43	300 °C	41	400 °C	39
Coefficient of thermal expansion in 10⁻⁶/K at 20 °C -	100 °C	12.0	200 °C	12.3	300 °C	12.7	400 °C	13.1

PROPERTIES

- Outstanding thermal conductivity
- High wear resistance
- Good through hardenability
- Outstanding tempering resistance
- Good high temperature strength
- Excellent thermal shock resistance
- Excellent polishability
- Good weldability
- Corrosion behavior comp. to 1.2343 ESR

THERMAL CONDUCTIVITY

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



HEAT TREATMENT

Soft annealing temperature in °C	Cooling	Hardness in HB	Hardening temperature in °C	Quenching	Hardness after quenching in HRC	
860	Furnace	Max. 220	1080 - 1120	Oil or hot bath 500 - 550°C	52	
Tempering temperature in °C		400	500	550	600	650
Hardness in HRC		48	48	52	51	48

General note (liability)

Not liable for printing errors, omissions and/or changes. All statements regarding the properties and/or utilization of the materials or products mentioned are for purpose of description only. Product specific data sheet have priority over the information provided in this brochure. The desired performance characteristics are binding only if exclusively agreed upon in writing at the conclusion of the contract.



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