

Low-Pressure Diecasting

Hot work tool steels
with special suitability
for low-pressure
casting



Deutsche
Edelstahlwerke

The principle of low-pressure casting

The principle of low-pressure casting is mostly used for the production of large-volume and thick-walled castings made of light metals.

Castings produced by low-pressure casting are characterized by thorough density and very good surface quality, as any oxidation in the casting mold is avoided.

Despite the low amount of reworking required, the cost-effectiveness of the process is largely determined by the solidification time of the casting.

High cycle rates require rapid temperature dissipation of the casting, so that the choice of a suitable material for the mold can make a decisive contribution to economic efficiency.



provided by BORBET GmbH

Deutsche Edelstahlwerke has a wide range of suitable hot work tool steels which have traditionally proved their worth in the low-pressure die casting process.

Brandname	Designation	AISI
Thermodur 2343 EFS Superclean	X38CrMoV5-1	H11
Thermodur 2344 EFS Superclean	X40CrMoV5-1	H13
Thermodur 2367 EFS Superclean	X38CrMoV5-3	–
Thermodur E 40 K Superclean	special steel	–
Thermodur 2383 Supercool	special steel	–

Brandname	Chemical composition [weight-%]						
	C	Si	Mn	Cr	Mo	V	Ni
Thermodur 2343 EFS Superclean	0.37	1.00	0.30	5.00	1.30	0.45	–
Thermodur 2344 EFS Superclean	0.40	1.00	0.30	5.30	1.30	1.00	–
Thermodur 2367 EFS Superclean	0.37	0.30	0.40	5.00	3.00	0.60	–
Thermodur E 40 K Superclean	0.35	0.30	0.30	5.00	1.75	0.75	–
Thermodur 2383 Supercool	0.45	0.30	0.90	–	1.50	1.30	0.90

Ideal for high demands

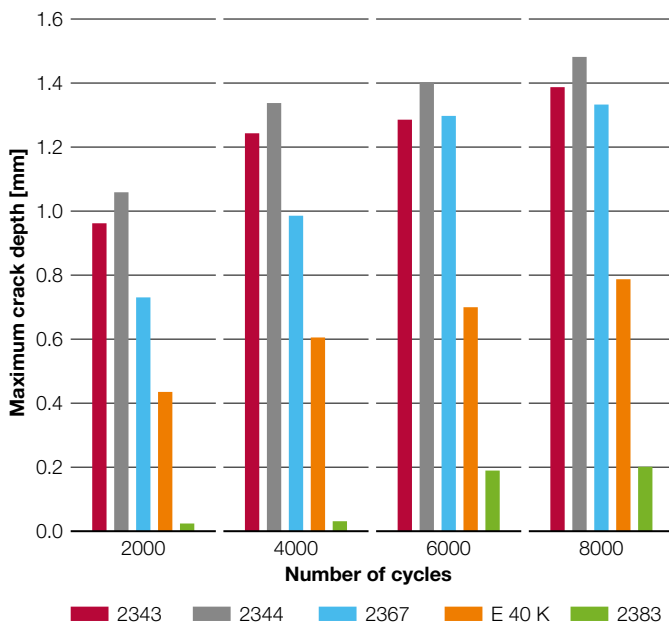
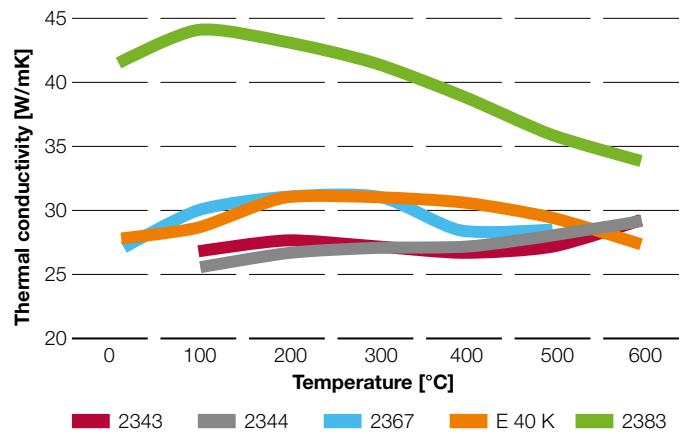
Steel grade	Hot Strength	Hot Toughness	Heat-cracking Resistance	Thermal Conductivity
Thermodur 2343 EFS Superclean	+	+++	+	+
Thermodur 2344 EFS Superclean	++	++	+	+
Thermodur 2367 EFS Superclean	+++	++	++	++
Thermodur E 40 K Superclean	+++	++++	+++	++
Thermodur 2383 Supercool	++++	o	++++	++++

A significantly improved cycle time can be achieved by rapid temperature removal from the casting.

Our premium grade

Thermodur® 2383 Supercool

has been especially developed for best thermal conductivity combined with excellent thermal fatigue resistance.



Thermodur® E 40 K Superclean

offers an excellent combination of hot strength as well as outstanding toughness at elevated temperatures, making it particularly suitable for complex as well as thick-walled castings.

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.



**Deutsche Edelstahlwerke
Specialty Steel GmbH & Co. KG**

info@dew-stahl.com

dew-stahl.com

Member of Swiss Steel Group

swisssteel-group.com