

### PLASTIC MOULD STEEL

#### CHEMICAL COMPOSITION (IN WEIGHT-%)

C	Mn	Cr	Ni	Mo	additions
0.36	0.9	1.9	0.5	0.5	+

#### STEEL PROPERTIES

- » Prehardened plastic mould steel with approx. 400 HB
- » Excellent throughhardening
- » Excellent polishability (ESR)
- » Easy machinability
- » Good weldability
- » Best texturing properties

#### APPLICATIONS

- » Plastic mould steel for universal use principal for large-sized complex injection and press moulds
- » Moulds for e.g. bumpers, tailgates, fenders, spoilers, instrument panels, TV housings
- » At a supplied hardness of 365 – 410 HB, maximum wear resistance is guaranteed

#### PHYSICAL PROPERTIES

Thermal expansion coefficient in  $10^{-6}/K$

» 20 - 100°C	11.1
» 20 - 200°C	12.9
» 20 - 300°C	13.4
» 20 - 400°C	13.5
» 20 - 500°C	13.8
» 20 - 600°C	14.1
» 20 - 700°C	14.3

Thermal conductivity in W/(m K)

» 20°C	36.0
» 350°C	37.4
» 700°C	33.0

### HEAT TREATMENT

	Temperature	Cooling	Hardness
Soft annealing (+A)	710 – 740°C	furnace	max. 235 HB
Hardening	820 – 850°C	polymer or oil	hardness after quenching 51 HRC

### TEMPERING

Tempering temperature in °C	100	200	300	400	500	600	700
Hardness in HRC	51	50	48	47	42	35	28

### FORMADUR 400

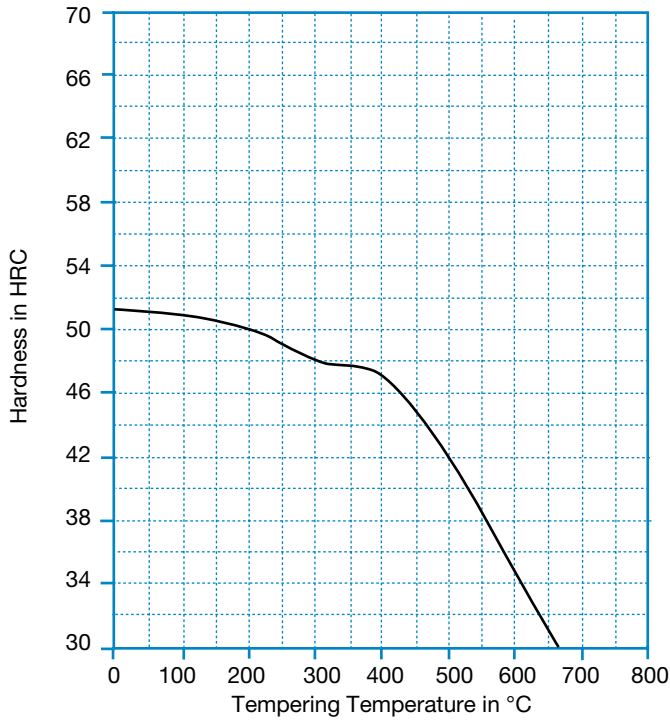
Formadur 400 is a to approx. 400 HB prehardened plastic mould steel with improved quenching and tempering properties in comparison to 1.2738. This steel has excellent polishing properties, good machinability and can easily be welded and textured. Due to the modified heat treatment a special steel with supplied hardness of 365 – 410 HB is available.

Formadur 400 offers substantial improvements regarding polishability due to a very homogeneous hardenability to the core, especially for the production of big moulds with complex cavities. Specific modifications of the grade's chemical composition as well as additional smelting and secondary metallurgy ensure Formadur 400's outstanding properties.

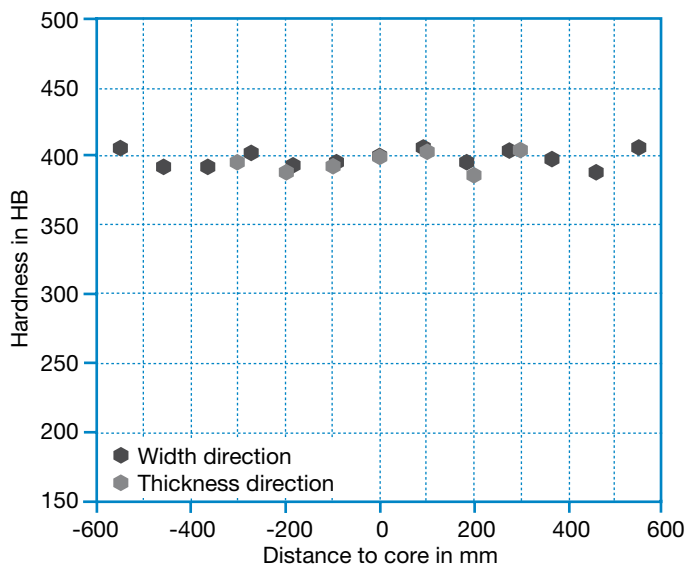
### FORMADUR 400 SUPERCLEAN

We recommend the use of Formadur 400 Superclean (ESR) for highest demands.

### TEMPERING DIAGRAM

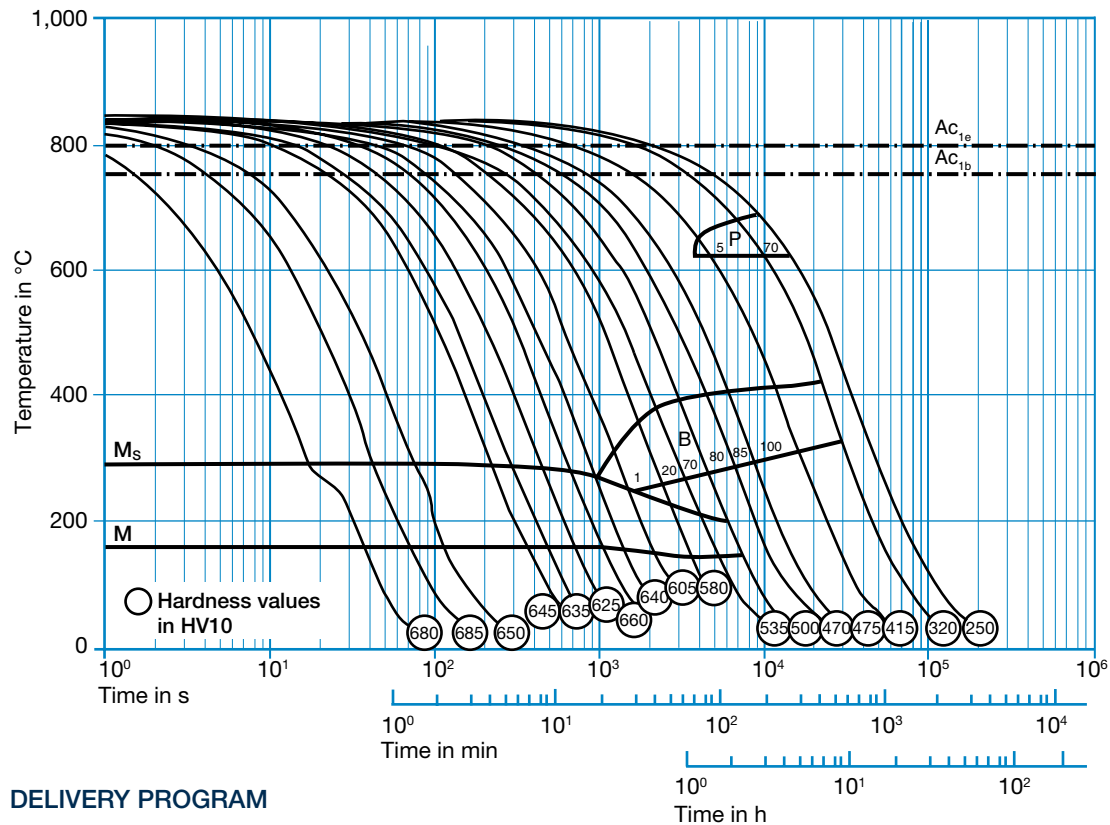


### HARDNESS PROFILE OVER CROSS SECTION



- » tested centred at block dimension 1,150 mm x 615 mm
- » very homogeneous hardness profile of 387 - 407 HB over the whole cross section

### CONTINUOUS TIME-TEMPERATURE-TRANSFORMATION DIAGRAM



### DELIVERY PROGRAM

You can find our complete delivery programme in the brochure „High-tech Steel Solutions for tomorrow’s World (Products and Services)“ on [www.dew-stahl.com](http://www.dew-stahl.com).

We reserve the right to change the content of our technical datasheets without prior notice at any time to remove and/or edit in any way. Errors and misprints reserved.

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