



## Superplast® 300

### Superplast® 300 : A patented mould steel that meets or exceeds standards for grades W 1.2311 and W 1.2738.

#### Material properties

Prehardened steel for medium and very large - size moulds and tools with good machinability. Consistent texturing and polishing improved by **very low sulphur content and hardness homogeneity**. Reliable repair welding and high thermal conductivity.

#### For which tools

Plastic injection mould cores and cavities, large - size moulds for bumpers, dashboards, television panels, bottle crates, etc.

#### For which plastics

Thermoplastics, thermosetting plastics, (PE, PP, PS), transparent melts. Injection moulding, compression moulding, RIM moulding, etc.

## PROPERTIES

### CHEMICAL ANALYSIS (TYPICAL; IN WEIGHT%)

C	Si	Mn	S	Ni	Cr	Mo	B
0.26	0.10	1.40	0.002	0.30	1.40	0.45	+

### MECHANICAL PROPERTIES

Superplast® 300 is delivered **quenched and tempered to 290 - 330 HB (30 - 35 HRC)**.

Hardness	Rp 0.2 Yield Strength		Rm Tensile strength		Elongation	Reduction of area	K <sub>C</sub> V 20°C	Elastic modulus	
	MPa	ksi	MPa	ksi				GPa	ksi
HB	MPa	ksi	MPa	ksi	%	Z%	J	GPa	ksi
300	895	130	1000	145	16	60	35	205	29733

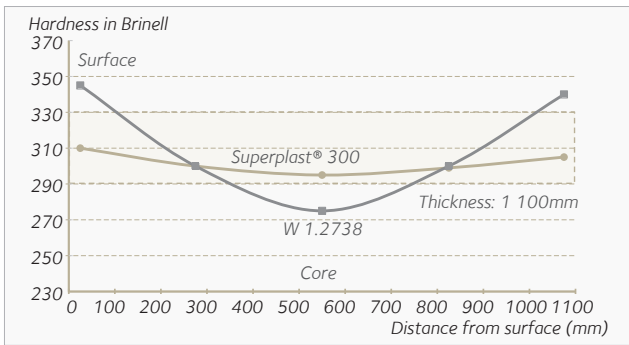
Typical values

### PHYSICAL PROPERTIES

Thermal conductivity W.m-1.K-1	Thermal expansion Coefficient (10-6.K-1)			Specific heat J/kg.°C
20°C	20-100°C	20-200°C	20-300°C	
41.5	11	12.5	12.8	480

Typical values

## PROPERTIES



### THROUGH HARDENABILITY

Thanks to an optimal balance of alloying elements (especially Boron metallurgy) and high quality heat treatment, Superplast® 300 exhibits a **very consistent hardness through large sections**. On the opposite the hardness of standard W 1.2738 is highly heterogeneous from surface to core.

A hardness delta of max 30HB all over the block is guaranteed.

## DELIVERY CONDITIONS

### TYPICAL DELIVERY SIZES

Manufacturing process	Thickness	Width
Hot rolling	15 - 150 mm	1000 - 2000 mm
Hot forging	150 - 1050 mm	1000 - 2000 mm

## PLATE PROCESSING

### WELDING

Cores and cavities can be polished and/or textured on welded areas if the welding data provided below are respected. Please consult the user guide for detailed information.

Process	Filler material	Preheating	Post heating	PWHT
GTAW	SP300 WELD - E DIN 25 CrMo 4	min. 150°C	150°C - 2h	550°C - 2h



## YOUR CONTACTS

**Perrine Lavalley**  
Tel. +33 3 85 80 52 56  
[perrine.lavalley@arcelormittal.com](mailto:perrine.lavalley@arcelormittal.com)

<https://industeel.arcelormittal.com>

**Industeel France**  
Le Creusot Plant  
56 rue Clemenceau  
F - 71 201 Le Creusot Cedex

Technical data and information are to the best of our knowledge at the time of printing. However, they may be subject to some slight variations due to our ongoing research programme on steels. Therefore, we suggest that information be verified at time of enquiry or order. Furthermore, in service, real conditions are specific for each application. The data presented here are only for the purpose of description, and considered as guarantees when written formal approval has been delivered by our company. Further information may be obtained from the address opposite.