Industeel

Superplast® stainless (≈ W 1.2099)

ArcelorMittal

Superplast® Stainless: A patented prehardened and corrosion resistant steel that meets or exceeds standards for grade W 1.2085.

Material properties

Corrosion resistant mould steel with excellent machinability, high dimensional stability, consistent hardness and improved thermal conductivity.

For which tools

Mould holders, support plates, hot runners, mould components.

For which plastics

Chemically aggressive plastics but not suitable for halogen releasing plastics. Injection moulding, rubber injection moulding, extrusion, etc.

Properties

Chemical Analysis (*% Weight*).

C	Si	Mn	S	Ni	Cr	N
0.07	0.15	1.40	0.12	0.50	12.0	+

Mechanical Properties (*typical values*).

Superplast® stainless is delivered **quenched and tempered to 280 – 325 HB (29 – 33 HrC).**

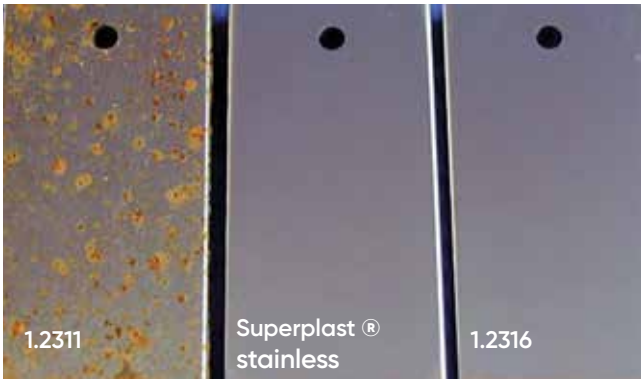
Hardness	Rp 0.2 Yield Strength		Rm Tensile strength		Elongation	Reduction of area
HB	MPa	ksi	MPa	ksi	%	Z%
310	890	129	1000	145	12	23

Physical Properties (*typical values*).

Thermal conductivity $W.m^{-1}.K^{-1}$	Thermal expansion Coefficient ($10^{-6}.K^{-1}$)			
20°C	20/100°C	20/200°C	20/300°C	Specificheat J/kg.°C
27.4	10.6	10.7	10.9	460

Corrosion resistance

Thanks to both high chromium and low carbon contents, **Superplast® Stainless** exhibits a good corrosion resistance against soft aggressive moulding conditions or humid environments.



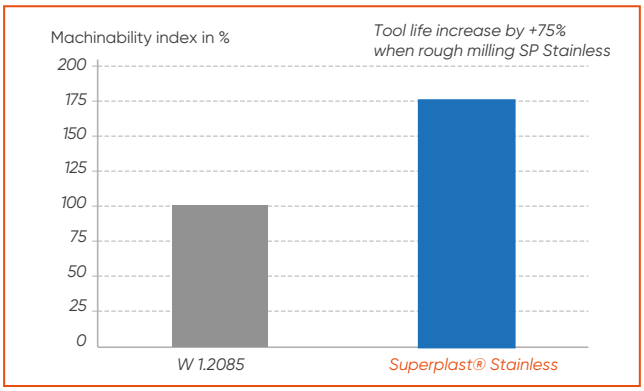
Humid - dry alternated atmosphere test

Plate processing

Machinability

Superplast® Stainless has been developed to provide better machinability than standard W1.2085.
Milling tests were performed to compare tool life of **Superplast® Stainless** versus W 1.2085.

Milling Cutter	Insert	Width of cut	Depth of cut	Feed per tooth	Cutting speed
AJX502 Mitsubishi	Coated insert	13 mm (0.51")	1 mm (0.04")	2.5 mm (0.1")	100 m/ min



Dimensions

Typical delivery sizes

Manufacturing process	Thickness	Width
Hot rolling	15- 150 mm	2000 mm
Hot forging	150 -350 mm	2000 mm

Your contact

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