



## 523C VIP® – Polishing mould steel

### Standards

Werkstoff No.	EN	AISI
1.2738 HH	40CrMnNiMo8-6-4 mod.	P20 modified

### General information

**523C VIP®** manufactured by Scana Steel Björneborg AB is a premium quality Cr-Ni-Mo-alloyed steel which is supplied in the hardened and tempered condition. Scana offers a wide dimensional range and even the largest dimensions show high purity, good homogeneity and a very uniform hardness profile all through the cross section. **523C VIP®** is the obvious choice when it comes to saving time, money and risks.

### Chemical Composition (%):

C	Si	Mn	Cr	Ni	Mo	others
0,27	0,25	1,50	1,40	1,10	0,55	+

### Non metallic inclusion (cleanliness)

Specification according to DIN 50 602 K1

K1 < 10

**Delivery condition:** EAF, VAD, 3D-forged, hardened + double tempered

**Hardness / Strength:** 38 - 42 HRC / 355 – 395 HB / TS = 1150 – 1330 N/mm<sup>2</sup>

**Ultrasonic test standard:** acc. to EN 10228-3 class 4

**Sizes:** Width max 1500 mm; Thickness max 700 mm

**Characteristics:** High grade plastic mould steel with 40 HRC hardness, low segregation rate, high cleanliness, good through-hardenability and high toughness, fine bainitic structure overall the cross section, good machinability and excellent surface properties, high polishability and grainability. Better surface quality, higher wear resistance, better weldability and higher thermal conductivity comparing to grade 2738. Good for chromium plating and PVD coating.

### Applications

Moulds for plastic injection moulding, dies for plastic extrusion, general constructional parts - like machine components requiring improved fatigue strength and reliability

### Physical properties

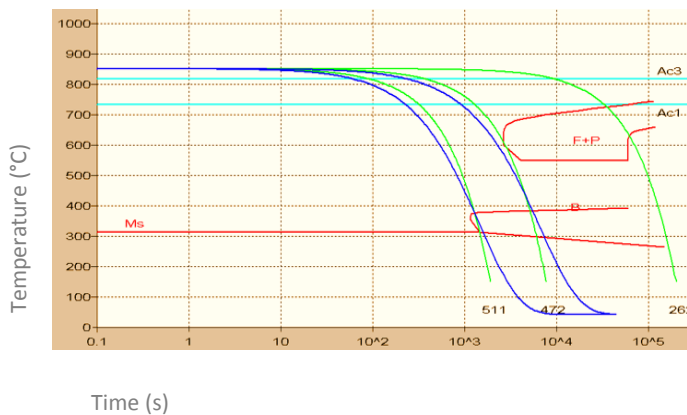
Temp °C	20	100	200	300
<b>Modulus of Elasticity</b>				
GPa	212	207	199	192
<b>Coefficient of linear Expansion</b>				
10 <sup>-6</sup> m/mK	11,1	11,3	12,9	13,4
<b>Thermal Conductivity</b>				
W/(mK)	36	37	38	37

### Heat treatment

Note: **523C VIP®** is finish heat-treated in the delivery condition. Additional Heat-treatment may be necessary for stress relieving after deep milling operation and for volume welding operation.

	Temp. (°C)	Cooling media
Annealing	680 - 720	air
Hardening	840 - 880	Oil (down to 150°C)
Tempering	550 - 580	cooling down on air to 450°C
Stress relieving	500 - 530	cooling down on air to 450°C
Pre-heating for Welding	320 - 350	air

### CCT – diagram Generated from Dr.Sommer Werstofftechnik HT database



### Tempering - diagram

