



739A VIP® – Stainless mold steel

Standards:

AISI	Werkstoff	
AISI 420	1.2083	S136

General information

739A VIP®, manufactured by Scana Steel Björneborg A,B is a premium quality stainless steel which is supplied in annealed (EFS) or pre hardened 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. 739A VIP is the obvious choice when it comes to saving time, money and risks.

Chemical Composition (%):

C	Si	Mn	Cr	Ni	Mo	others
0,35	0,80	0,70	13,3	0,40	0,20	+

Non metallic inclusion (cleanliness)

Specification according to ASTM E45-97, A

Grade	Class A		Class B		Class C		Class D	
	thin	thick	thin	thick	thin	thick	thin	thick
AS136	Max		Max		Max		Max	
	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0

Delivery condition: EAF, VAD, 3D-forged, EFS treated (extra fine micro structure)

Hardness / Strength: Annealed max 220 HB or pre-hardened 30 – 34 HRC

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

Sizes: Width max 1500 mm; Thickness max 600 mm

Characteristics: Corrosion resistant plastic mould steel with high cleanliness, extra fine annealed structure overall the cross section, good machinability and good surface properties, high polishability (A-1), hardenable under vacuum to 52 - 54 HRC

Application: Plastic injection mould for corrosive conditions (not for PVC), moulds for plastic injection when processing of corrosive plastics, rust resistant moulds, transparent plastics, high electronics, steam cooled moulds, etc.

Physical properties:

Temp °C	20	100	200	300
Modulus of Elasticity				
GPa	222	216	209	201
Coefficient of linear Expansion				
10 ⁻⁶ m/mK	10,2	10,5	10,9	11,3
Thermal Conductivity				
W/(mK)	23,2	24,5	24,8	25,0

Mechanical properties:

Yield Strength, Rp	➤ 1150 N/mm ²
Tensile Strength, RM	➤ 1250 N/mm ²
Elongation, A	➤ 15 %
Charpy-V Impact test, RT, transvers, Av	➤ 20 J

Hot forming

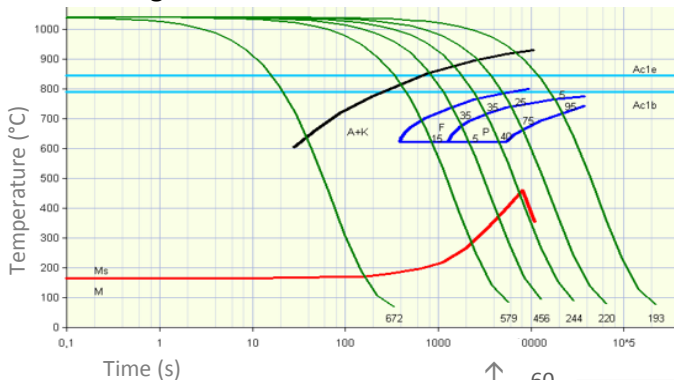
Forging; 1270°C to 900°C / Air cooling

Heat treatment

Note: 739A 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 - 700	air
Hardening	830 - 870	Oil or water (down to 130°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



Tempering - diagram

