

Material specification sheet

Saarstahl - 46MnVS6 (44MnSiVS6)

Material No.: Former brand name: International steel grades:

1.1304 (1.5233)

BS:
AFNOR:
SAE:

Material group: Dispersion hardening ferritic-pearlitic steel according to DIN EN 10267

Chemical composition: (Typical analysis in %)	C	Si	Mn	P	S	Cr	Mo	V	N
	0,42 0,49	0,15 0,80	1,20 1,60	<0,025	0,020 0,060	<0,30	<0,08	0,08 0,20	0,01 0,02

Application: This high strength Mn-V-based steel is a low alloy high grade steel with good machinability for controlled cooling from working heat (BY-treatment, condition +P according to DIN EN 10267).

Applicable for automotive components as rear axles, piston rods and hubs.

Hot forming and heat treatment: Furnace temperature before hot forming: 1220 - 1280°C
Separate cooling at air: 1000 - 500°C
Stress relieving (if necessary): <= 600°C

Mechanical Properties:

0,2% proof stress $R_{p0,2}$ [N/mm ²]	min. 580
Tensile strength R_m [N/mm ²]	900 - 1050
Fracture elongation A_5 [%]	min. 10
Reduction of area Z [%]	min. 20

Microstructure: Pearlite and 5 - 25 % ferrite