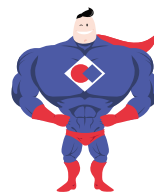


Material data sheet
1.7765 / 33CrMoV12-9
Special high performance steel



HSM[®]
Hochleistungswerkstoffe
Stahl & Metall

PROPERTIES:

- high surface hardness
- fatigue strength
- subjected to high temperatures
- nitriding or without nitriding
- available under 3 melting modes:
single air melted, remelted, VIM/VAR

MATERIAL SPECIFICATIONS

DIN EN	1.7765
	33CrMoV12-9
AIR	32CDV13
UNS	K24340
AMS	6481

CHEMICAL COMPOSITION (% by mass)

	C	Si	Mn	P	S	Cr	Mo	N	Ni
min.	0,29	0,10	0,40	-	-	2,80	0,70	-	-
max	0,36	0,40	0,70	0,015	0,007	3,30	1,20	-	0,30

Mean coefficient of thermal expansion (α)-

TEMPERATURE RANGE	10 ⁻⁶ /m/m/°C	10 ⁻⁶ /in/in/°F
20°C-100°C, 68°F-212°F	11,8	6,55
20°C-300°C, 68°F-572°F	12,7	7,05
20°C-500°C, 68°F-932°F	13,6	7,55
20°C-700°C, 68°F-1292°F	14,2	7,88

Thermal conductivity (K)

TEMPERATURE	W.m/m ² .°C	Btu.in/hr.ft ² .°F
20°C, 68°F	38	263
200°C, 392°F	35	243
500°C, 932°F	33	229
600°C, 1112°F	30	208
700°C, 1292°F	29	201

Specific heat (°C)

TEMPERATURE	J/kg/°C	Btu/lb/°F
20°C, 932°F	460	0,110
100°C, 212°F	500	0,119
200°C, 392°F	540	0,129

[request now >>](#)

Density at 20°C (68°F): 7.84 g/cm³, 0.2832 lb/in³

HSM Stahl- und Metallhandel GmbH
www.hsm-stahl.de
Mail: hsm@hsm-stahl.de
Phone: +49 9172 69 00 - 0
Fax: +49 9172 69 00 - 20

Note:
The declaration on the nature or usability of materials are for information purposes only and do not constitute a contractual obligation. The information correspond only to the experience of the manufacturers and HSM[®].
All information is provided without warranty of any kind. Printing errors, mistakes and changes reserved.