

Material Title: DSM 1.2.61 / 1.4034

Teamcenter Reference ID:								
Mat-001415/01								
Material Short Name:								
X46Cr13								
Material Group:								
Steel DSM								
Characteristics:								
Machinable, Resistance To Fresh Water, Hardenable, Resistant To Corrosion, Suitable For Polishing, Suitable For Quenching And Tempering, Magnetic, Martensitic, High Hardening Capacity, Magnetic, Resistance To Organic Acids								
Applications:								
Drills, Brake Discs, Dental Instruments, Files, Cutters, Hand Chisels, Mechanical Engineering, Medical Engineering, Chisels, Knives, Press Plates, Pumps, Pump Components, Slide Calipers, Cutleries, Cutting Tools, Screwdrivers, Valves, Surgical Instruments, Stainless Steel, Pharmaceutical Industrie								
Chemical Composition:								
Si_min [%]	Si_max [%]	Fe_min [%]	Fe_max [%]	Mn_min [%]	Mn_max [%]	C_min [%]	C_max [%]	P_min [%]
0	1	83	83	0	1	0.43	0.5	0
P_max [%]	S_min [%]	S_max [%]	Cr_min [%]	Cr_max [%]				
0.04	0	0.03	12.5	14.5				
Properties:								
Typical Density (g/cm3)	Typical Young's modulus (MPa)	Yield Stress YS Min (MPa)	Tensile Strength TS Min (MPa)	Min Elongation (%)				
7.71	222000	650	850	10				
Shear Modulus (GPa)	Poissons Ratio	Typical Specific Heat Capacity (J/kg°C)	Typical Thermal Conductivity (W/(mK))	Typical Thermal Expansion (10 ⁻⁶ /K)				
85	0.29	439	24.60	10.20				
Material Safety:								
Reach - No Hazardous element declared RoHS - No Hazardous element declared								
Temper Types:	Preferred Temper Types are in:							
None	None heat treated material							
Note:	The temper condition must appear on the drawing: - DSM 1.2.61							
	HRC 47-52							
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Issue	01	02	03	04	05	06	07	08
Date	05/04/2024							

Material Number	Country	Material Name	Product	Standard's Name	Edition
1.4034	DE	X46Cr13	Strip, Plate, Bar, Wire, Tube, Forging	z DIN 17440	1972-12
1.4034	DE	X46Cr13	Strip, Plate, Bar, Wire, Forging	z DIN 17440	1985-07
1.4034	DE	X46Cr13	Strip, Slit Strip And Sheet / Plate	z DIN 17441	1985-07
1.4034	EU	X46Cr13	Stainless Steel, List	DIN EN 1088-1	2014-12
1.4034	EU	X46Cr13	Strip And Sheet / Plate	DIN EN 1088-2	2014-12
1.4034	EU	X46Cr13	Bar, Rod, Section, General	DIN EN 1088-3	2014-12
1.4034	ISO	Type 6	Steel, Martensitic	z ISO 683-13	1974-04
1.4034	ISO	Type 6a	Steel, Martensitic	z ISO 683-13	1974-04
1.4034	ISO	D	Stainless Steel For Surgical Instruments	ISO 7153-1	1991-04
1.4034	ISO	X46Cr13	Steel, Stainless	ISO 15510	2014-05
1.4034	ISO	X46Cr13	Flat Product, Stainless	ISO 16143-1	2014-05
1.4034	JP	SUS420J2	Bar, Stainless	JIS G 4318	1998-02
1.4034	US	Type 420	Plate/Sheet, Strip, Stainless Heat Resisting	ASTM A 176	1999-01
1.4034	US	Type 420	Bar And Shape, Stainless	ASTM A 276	2013-11
1.4034	US	Type 420	Billet And Bar Forging	ASTM A 314	2013-10
1.4034	US	Type 420	Forging, Stainless	ASTM A 473	2013-11
1.4034	US	Type 420	Wire, Stainless	ASTM A 580	2014-10
1.4034	US	Type 420	Chromium Steel, Martensitic	ASTM A 959	2011-06

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