1.2709 TOOL STEEL

GENERAL INFORMATION

THIS KIND OF STEEL IS CHARACTERIZED BY VERY GOOD MECHANICAL PROPERTIES AND TOUGHNESS. AFTER A SIMPLE AGE-HARDENING HEAT TREATMENT IT BECOMES EXTREMELY STRONG AND TOUGH, AND INCREASES ITS HARDNESS. THIS MATERIAL IS USED WHERE HIGH RIGIDITY IS REQUIRED, SUCH AS INJECTION MOULDS AND INSERTS FOR MOULDING, OR HIGH PERFORMANCE AUTOMOTIVE AND AEROSPACE APPLICATIONS.

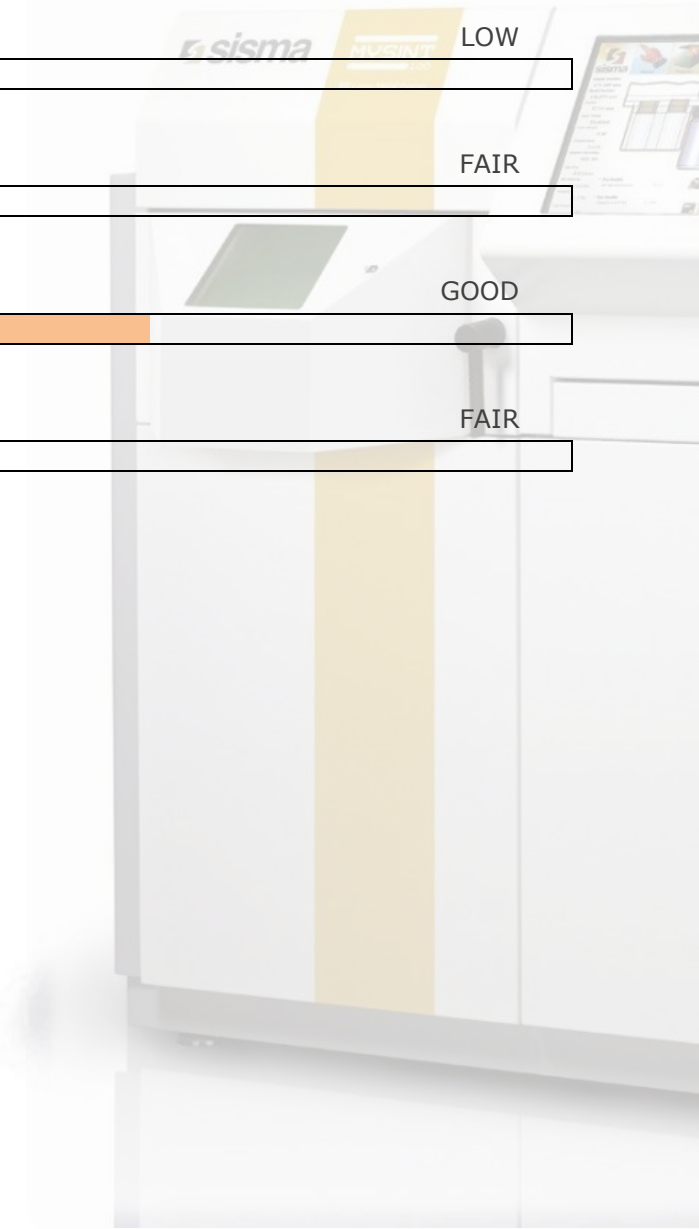
DENSITY 8.12 KG/DM^3

BIO-COMPATIBILITY LOW

MACHINABILITY FAIR

WELDABILITY GOOD

CORROSION RESISTANCE FAIR



1.2709 Tool Steel

Datasheet rev.2 – 19/09/17

Chemical Composition *(according to supplier)*

Fe	Ni	Co	Mo	Ti	Cr	Mn	C	Si	P	S
Balance	17%	9%	5%	1%	<0.25%	<0.15%	<0.03%	<0.1%	<0.1%	<0.1%

Mechanical Properties

	As Built	Age-Hardened
Yield Strength [1]	930 MPa	2050 MPa
Tensile Strength [1]	1050 MPa	2090 MPa
Elongation A [1]	7 %	1%
Young's Modulus [1]	175 GPa	210 GPa
Hardness [2]	35 HRC	57 HRC
Relative Density [3]	over 99.5 %	over 99.5 %

[1] Tested according to EN 6892-1:2009
[2] Measured according to EN ISO 6507-1
[3] Measured according to ASTM E1245

Heat Treatment: Ramp up to 825°C, then plateau @ 825°C for 1 hour, quence in water. Then maintain @ 490°C for 6 hours, cool down to 300°C in 2.5 hours, then furnace cooling.

Surface Quality

Ra	18 µM

Measured in compliance with ISO 4287-1997. Results strongly depend on sample geometrical complexity and orientation.

NOTES

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