

Maraging Steel MS1

TECHNOLOGY: **DMLS**

APPLICATIONS: Injection Moulding / Die Casting of Light Metal Alloys / Industrial & Engineering Parts / Aerospace and Motor Racing

DESCRIPTION:

MaragingSteel MS1 is a pre-alloyed ultra high strength steel in fine powder form. This kind of steel is characterized by having very good mechanical properties, and being easily heat-treatable using a simple thermal age-hardening process to obtain excellent hardness and strength. MaragingSteel MS1 are easily machinable after the building process and can be easily post-hardened to more than 50 HRC by age-hardening at 490 °C for 6 hours. In both as-built and age-hardened states the parts can be machined, spark-eroded, welded, micro shot-peened, polished and coated if required.

This material is ideal for many tooling applications (DirectTool) such as tools for injection moulding, die casting of light metal alloys, punching, extrusion etc., and also for high performance industrial and engineering parts, for example in aerospace and motor racing applications.

TECHNICAL DATA

PROPERTY	ISO	METRIC UNITS	
		AS BUILT	AFTER AGE HARDENING
Ultimate Tensile Strength	MPIF 10	1100 MPA	1950 MPA
0.2% Yield Strength	MPIF 10	1000 MPA	1900 MPA
Elongation	MPIF 10	8 %	2 %
Ductility	Notched Charpy Test	45J	11J
Modulus of Elasticity	MPIF 10	180 GPa	180 GPa
Hardness, Rockwell C	6508-1	33 - 37	50 - 54