

property

This is a martensite-hardenable high performance steel for series tooling. It is processed by using the laser melting method. This kind of steel is characterized by having excellent strength combined with high toughness. It can be heat treated, so a good hardness can be achieved.

application

The typical application is the manufacturing of tooling elements such as cores and inserts of die casting and injection moulding tools. This material is also ideal for functional metal prototypes, small series products, individualised products or spare parts with high tensile strength.

mechanical properties

property	unit	as built	heat treated
tensile strength	MPa	1100 ± 100	1950 ± 100
yield stress (Rp 0,2%)	MPa	1000 ± 100	1900 ± 100
elongation at break	%	8 ± 3	2 ± 1
E modulus	GPa	180 ± 20	
charpy-notched flexural impact	J	45 ± 10	11 ± 4
hardness (DIN EN ISO 6508-1)	HRC	33 - 37	50 - 54

thermal properties

property	unit	as built	heat treated
thermal conductance	W/m°C	15 ± 0,8	20 ± 1
specific thermal capacity	J/kg °C	450 ± 20	450 ± 20
maximum operating temperature	°C	400	

The given values are guideline values. They are affected through part-geometry, material-additives or environmental influences. They are compiled on the base of present experiences and knowledge. A legitimate obligatory assurance of certain properties or the appropriateness for a precise application on the basis of our information is not construable.