

Tool steel 1.7139 (16MnCrS5)

Chemical composition:

C	Si	Mn	Cr	S	Other
0,16	0,25	1,15	0,95	0,02 0,035	(Pb)

Characteristics:

Case hardening steel for construction of highly stressed and wear resistant parts of all kinds.

It stands out due to its very good workability.

It features form stability as well as high impact strength, and is hardenable (case hardening/nitriding).

Use:

MnCr-alloyed case hardening steel for parts that should have a core strength of 800 – 1100 N/mm² and are mainly stressed by wear, like slides, cogwheels, con-rods, slide rails, base plates, bolts, pints, spindles etc.

Hot forming and heat treatment:

Forging and rolling:	1100 – 850 °C
Normalising:	840 – 870 °C/air
Soft annealing:	650 – 700 °C/furnace
Carburising:	880 – 980 °C
Core hardening:	860 – 900 °C/oil
Intermediate annealing:	650 – 700 °C
Case hardening:	780 – 820 °C/oil
Tempering:	150 – 200 °C

Alternatives to this type of steel:

1.1183, 1.1241, 1.1545, 1.0503, 1.0570, St37, 1.2842