

## Material specification sheet

### Saarstahl - 8MnSi7 - Saarform 800

Material No.:	German standard:	International steel grades:
1.5113	DIN EN 10263-2	SAE: JIS:

**Material group:** Cold heading steel

<b>Chemical composition:</b> (typical analysis at Saarstahl in %)	<b>C</b>	<b>Si</b>	<b>Mn</b>	<b>P</b>	<b>S</b>	<b>V</b>
	0,09	1,00	1,68	<0,015	<0,015	0,019
Deviation in chemical composition on request						

**Application:** Manganese-silicon-alloyed dual-phase steel owing its properties to thermomechanical rolling. This rolling practice results in a ferritic structure with small percentages of pearlite and martensite. Use for high strength screws, bolts, studs and anchor bolts of strength class 800 MPa without final quenching and tempering after cold forging.

**Hot forming and heat treatment:** Forging or hot rolling: 1100 - 850°C

**Mechanical properties:** As rolled

<b>Diameter d [mm]</b>	5 - 22
<b>0,2% proof stress <math>R_{p0,2}</math> [N/mm<sup>2</sup>]</b>	about 400
<b>Tensile strength <math>R_m</math> [N/mm<sup>2</sup>]</b>	520 - 620
<b>Fracture elongation <math>A_5</math> [%]</b>	≥ 25
<b>Reduction of area Z [%]</b>	≥ 60
<b>Microstructure:</b>	up to about 20 % martensite, balance ferrite