

## Material specification sheet

### Saarstahl - 30MnVS6 (27MnSiVS6) - Saarform 900

Material No.:	German standard:	International steel grades:
1.1302 (1.5232)	DIN EN 10267	BS: AFNOR: SAE:

**Material group:** Dispersion hardening ferritic-pearlitic cold heading steel

Chemical composition: (typical analysis at Saarstahl in %)	C	Si	Mn	P	S	Cr	Ti	V	N
	0,30	0,65	1,50	<0,020	<0,025	0,15	0,02	0,12	0,015
Deviation in chemical composition on request									

**Application:** Micro-alloyed ferritic-pearlitic cold heading steel owing its properties to temperature-controlled rolling and the addition of micro-alloying elements. The mechanical properties required in the finished part are obtained by a specifically matched combination of as-rolled strength and the strain hardening effects of the drawing reduction and the strain-hardening operation.

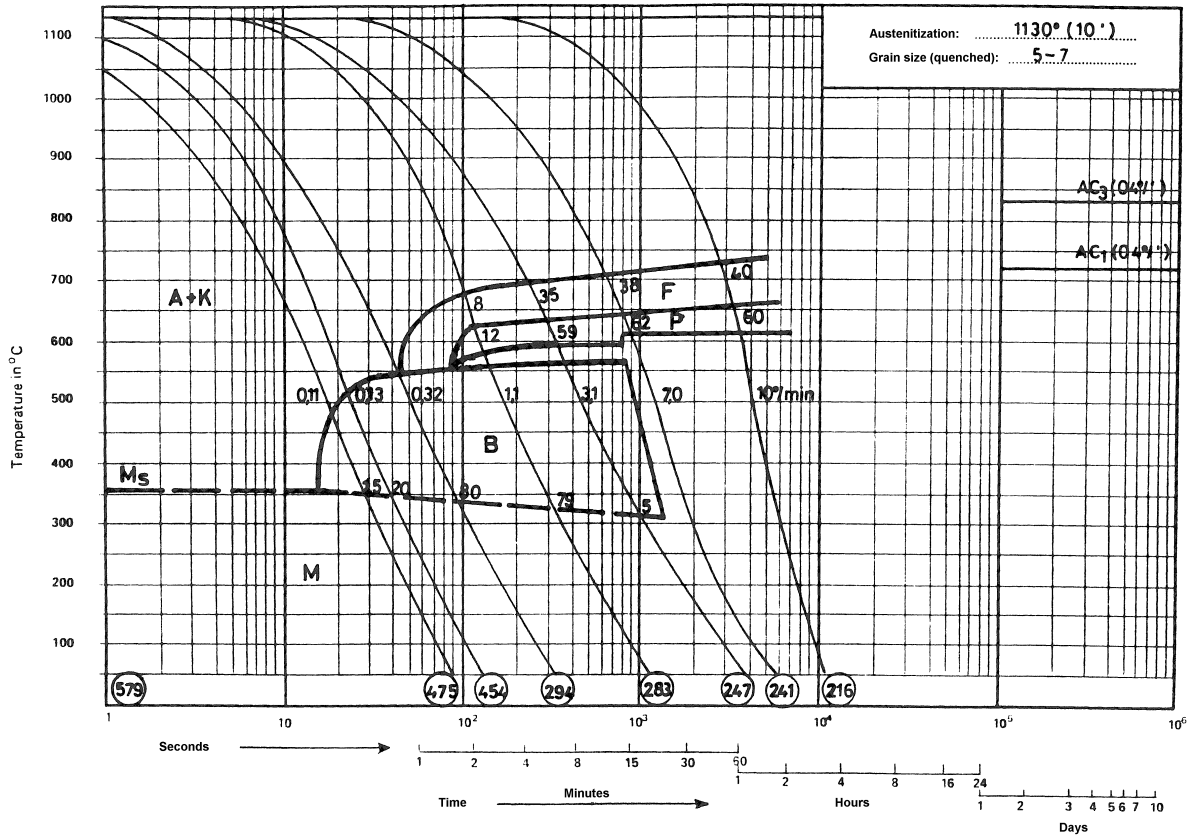
Use for short and long-shaft ball points, threaded and heavy duty anchor bolts of strength class 800 to 1000 MPa without final quenching and tempering after cold forging.

**Hot forming and heat treatment:** Furnace temperature before hot forming: 1220 - 1280°C

**Mechanical properties:** As rolled

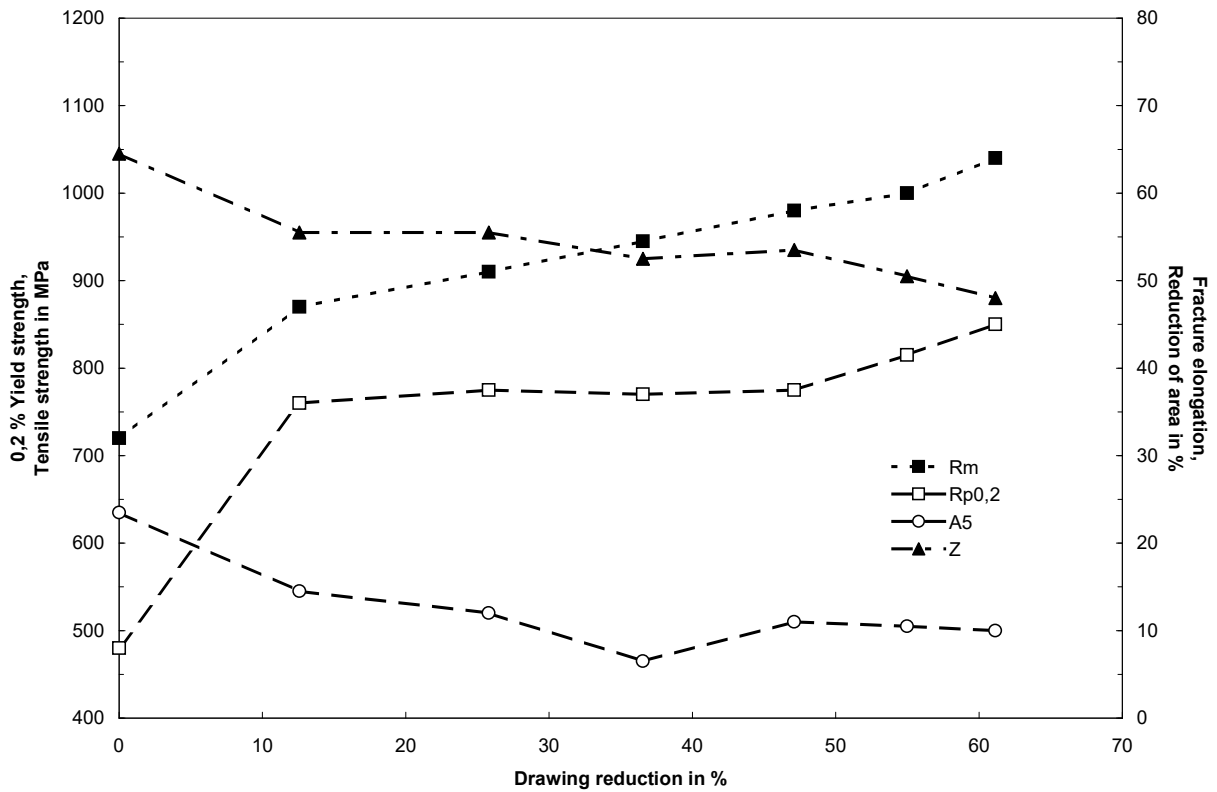
Diameter d [mm]	5 - 30
0,2% proof stress $R_{p0,2}$ [N/mm <sup>2</sup> ]	min. 400
Tensile strength $R_m$ [N/mm <sup>2</sup> ]	720 - 840
Fracture elongation $A_5$ [%]	≥ 20
Reduction of area Z [%]	≥ 50
<b>Microstructure:</b>	about 50 % ferrite, balance pearlite

### Time-temperature-transformation diagram for continuous cooling



Hardness HV	475	454	294	283	147	241	216
Lambda-Value	0,11	0,13	0,32	1,1	3,1	7,0	10°/min

### Strain hardening curve



### Notched bar impact strength

