

## Material specification sheet

### Saarstahl - 11SMn30 (9SMn28)

Material No.:	German standard:	International steel grades:
<b>1.0715</b>	<b>DIN EN 10087</b> <b>DIN EN 10277-3</b>	<b>SAE:</b> ~ SAE 1213, ~ SAE 1215 <b>JIS:</b> ~ SUM 22, ~ SUM 23

**Material group:** Free-cutting 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>
	0,08	<0,05	1,10	0,07	0,30

Deviation in chemical composition on request

**Application:** Free-cutting steel for bulk applications for joining elements in mechanical engineering and automotive components.

### Mechanical properties:

**Condition of delivery:** Rolled and peeled (+SH)

<b>Thickness [mm]</b>	>5 - 10	>10 - 16	>16 - 40	>40 - 63	>63 - 100
<b>Hardness [HB]</b>	-	-	112 - 169	112 - 169	107 - 154
<b>Tensile strength <math>R_m</math> [N/mm<sup>2</sup>]</b>	-	-	380 - 570	370 - 570	360 - 520

**Condition of delivery:** Cold drawn (+C)

<b>Thickness [mm]</b>	>5 - 10	>10 - 16	>16 - 40	>40 - 63	>63 - 100
<b>0,2% proof stress <math>R_{p0,2}</math> [N/mm<sup>2</sup>]</b>	min. 440	min. 410	min. 375	min. 305	min. 245
<b>Tensile strength <math>R_m</math> [N/mm<sup>2</sup>]</b>	510 - 810	490 - 760	460 - 710	400 - 650	360 - 630
<b>Fracture elongation <math>A_5</math> [%]</b>	min. 6	min. 7	min. 8	min. 9	min. 9