

## Material specification sheet

### Saarstahl - 58CrV4

Material No.:	Former brand name:	International steel grades:
1.8161	F2KH	BS: AFNOR: SAE:

**Material group:** Alloyed heat treatable steel

Chemical composition: (Typical analysis in %)	C	Si	Mn	Cr	V	other
	0,58	0,25	0,95	1,10	0,12	(Pb)

**Application:** Alloyed heat treatable steel with a tensile strength range of 1100 - 1400 N/mm<sup>2</sup> for mechanical engineering, gearing and automotive components.

<b>Hot forming and heat treatment:</b>	Forging or hot rolling:	1050 - 850°C
	Normalising:	850 - 880°C/air
	Soft annealing:	680 - 720°C/furnace
	Hardening:	820 - 850°C/oil
	Tempering:	480 - 650°C/oil

<b>Mechanical Properties:</b>	Treated for cold shearability +S:	max. 255 HB
	Soft annealed +A:	max. 248 HB

Quenched and tempered, +QT:

Diameter d [mm]	< 16	>16 – 40	>40 – 100	>100 – 160	>160 – 250
<b>0,2% proof stress R<sub>p0,2</sub> [N/mm<sup>2</sup>]</b>	min. 1100	min. 1000	min. 900	min. 750	min. 750
<b>Tensile strength R<sub>m</sub> [N/mm<sup>2</sup>]</b>	1350 - 1600	1200 - 1400	1100 - 1300	1000 - 1200	1000 - 1200
<b>Fracture elongation A<sub>5</sub> [%]</b>	min. 7	min. 8	min. 10	min. 12	min. 12
<b>Reduction of area Z [%]</b>	min. 40	min. 45	min. 50	min. 55	min. 55
<b>Notch impact energy ISO-V [J]</b>	min. 13	min. 13	min. 13	min. 13	min. 13