

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/mm² for mechanical engineering, gearing and automotive components.

Hot forming and heat treatment:	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

Mechanical Properties: 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
0,2% proof stress R _{p0,2} [N/mm ²]	min. 1100	min. 1000	min. 900	min. 750	min. 750
Tensile strength R _m [N/mm ²]	1350 - 1600	1200 - 1400	1100 - 1300	1000 - 1200	1000 - 1200
Fracture elongation A ₅ [%]	min. 7	min. 8	min. 10	min. 12	min. 12
Reduction of area Z [%]	min. 40	min. 45	min. 50	min. 55	min. 55
Notch impact energy ISO-V [J]	min. 13	min. 13	min. 13	min. 13	min. 13