

Material specification sheet

Saarstahl - 37Cr4 - 37CrS4

Material No.:	Former brand name:	International steel grades:
1.7034		BS: 530M36, 530A36, 530H36
1.7038		AFNOR: 38C4
		SAE: 5135

Material group: Steel for quenching and tempering according to DIN EN 10083

Chemical composition: (Typical analysis in %)	Steel	C	Si	Mn	Cr	S
	37Cr4	0,37	0,25	0,70	1,05	<0,035
	37CrS4	0,37	0,25	0,70	1,05	0,020 0,040

Application: Heat treatable steel for driving elements as crankshafts, front vehicle axles, axle journals, steering components.

Hot forming and heat treatment:	Forging or hot rolling:	1100 - 850°C
	Normalising:	-
	Soft annealing:	680 - 720°C/furnace
	Hardening:	825 - 865°C/oil, water
	Tempering:	540 - 680°C/air

Mechanical Properties:	Treated for cold shearability +S:	max. 255 HB
	Soft annealed +A:	max. 235 HB

Quenched and tempered, +QT:

	< 16	>16 – 40	>40 – 100	>100 – 160	>160 – 250
Diameter d [mm]	< 16	>16 – 40	>40 – 100	>100 – 160	>160 – 250
Thickness t [mm]	< 8	8<t<20	20<t<60	60<t<100	100<t<160
0,2% proof stress R_{p0,2} [N/mm²]	min. 750	min. 630	min. 510	-	-
Tensile strength R_m [N/mm²]	950 - 1150	850 - 1000	750 - 900	-	-
Fracture elongation A₅ [%]	min. 11	min. 13	min. 14	-	-
Reduction of area Z [%]	min. 35	min. 40	min. 40	-	-
Notch impact energy ISO-V [J]	min. 30	min. 35	min. 35	-	-