Material specification sheet

Saarstahl - C60

Material No.:	Former brand name:	International steel grades:
1.0601		**BS:** C60, 60CS, 060A62 **AFNOR:** C60, AF70C55, 1C60 **SAE:** 1060

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

Chemical composition: (Typical analysis in %)

C	Si	Mn	P	S	Cr	Mo	Ni	Cr+Mo+Ni
0,57 0,65	<0,40	0,60 0,90	<0,045	<0,045	<0,40	<0,10	0,40	<0,63

Application: Plain carbon steel for mechanical engineering and automotive components

Hot forming and heat treatment:

Forging or hot rolling:	1100 - 800°C
Normalising:	820 - 860°C/air
Soft annealing:	680 - 710°C/furnace
Hardening:	800 - 840°C/water, oil
Tempering:	550 - 660°C/air

Mechanical Properties:

Treated for cold shearability +S:	max. 255 HB
Soft annealed +A:	max. 241 HB

Quenched and tempered, +QT:

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. 580	min. 520	min. 450	-	-
Tensile strength R_m [N/mm²]	850 - 1000	800 - 950	750 - 900	-	-
Fracture elongation A_5 [%]	Min. 11	min. 13	min. 14	-	-
Reduction of area Z [%]	min. 25	min. 30	min. 35	-	-

Normalised, +N:

Diameter d [mm]	< 16	>16 – 100	>100 – 250		
Thickness t [mm]	< 16	16<t<100	100<t<250		
0,2% proof stress $R_{p0,2}$ [N/mm²]	min. 380	min. 340	min. 310		
Tensile strength R_m [N/mm²]	min. 710	min. 670	min. 650		
Fracture elongation A_5 [%]	min. 10	min. 11	min. 11		