Material specification sheet

WixSteel - 41Cr4 - 41CrS4

Material No.:	Former brand name:	International steel grades:	
1.7035	**VC 140**	**BS:**	530M40,530A40,530H40
		AFNOR:	41Cr4,42C4
1.7039		**SAE:**	5140

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

Chemical composition:
(Typical analysis in %)

Steel	C	Si	Mn	Cr	S	other
41Cr4	0,42	0,25	0,70	1,05	<0,035	(Pb)
41CrS4	0,42	0,25	0,70	1,05	0,020 0,035	(Pb)

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:	850 - 880°C/air
Soft annealing:	680 - 720°C/furnace
Hardening:	820 - 860°C/oil, water
Tempering:	540 - 680°C

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. 800	min. 660	min. 560	-	-
Tensile strength R_m [N/mm²]	1000 - 1200	900 - 1100	800 - 950	-	-
Fracture elongation A_5 [%]	min. 11	min. 12	min. 14	-	-
Reduction of area Z [%]	min. 30	min. 35	min. 40	-	-
Notch impact energy ISO-V [J]	min. 30	min. 35	min. 35	-	-

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