Material Grade: 34CrMo4 (1.7220)

Other Variant(s): 34CrMoS4 (1.7226) – identical to 34CrMo4, except for S% 0.020-0.040
This variant is only applicable to rolled bar standards.

Associated standards:[1] BS EN ISO 683-2:2018 (current)
EN10083-3 (obsolete, all editions)
BS EN ISO683-7: 2024 (current)
ISO 683-18:2014 (current)
BS EN 10277:2018 (current)
BS EN 10250-3: 2022 (current)

Material Condition(s): No designation or +U – Untreated (as rolled)
+S – With improved shearability
+A – Soft annealed
+QT – Quench and tempered

Surface Finish: No designation or +HW – Black rolled
+RM – Rough machined – rough machined rolled or forged
+SH – Untreated and peeled/ turned (rolled bar)

Typical tolerance(s):

Surface finish	Product type	Standard	Dimensional tolerance	Straightness	Clean-up
No designation/ +HW	Rolled bar	BS EN ISO683-2	EN10060	EN10060	ISO9443 Class A
+RM	Rolled bar + rough machined	BS EN ISO683-2	EN10060	EN10060	ISO9443 Class A
+SH	Rolled bright bar	BS EN ISO683-7	Defined in 683-7	Defined in 683-7	Defined in 683-7
Any designation	Forged bar	BS EN10250-3	Per agreement	Per agreement	Per agreement

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Other supply options: (*only applicable to rolled bar standards)*

+H - with an additional hardenability test
+HH - with an additional hardenability test (narrowed upper limit values as per standard)
+HL - with an additional hardenability test (narrowed lower limit values as per standard)

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1. TYPICAL CHEMICAL COMPOSITION *(from the most current version of the standard(s))*

%	C	Si	Mn	P	S	Cr	Mo	Cu
Min	0.3	0.1	0.6	0	0	0.9	0.15	0
Max	0.37	0.4	0.9	0.025	0.035	1.2	0.3	0.4

2. TYPICAL MECHANICAL PROPERTIES *(from the most current version of the standard(s))*

	Test type				Tensile and hardness test (at room temperature)						Impact test (KCV) *Average of 3 / individual value*
					Yield (Re)	0.2 % proof	UTS (Rm)	Elong (A)	R of A (Z)	Hardness	Room Temp
	Condition	Nominal diameter *d* (mm)	Direction	Unit	*N/mm2*	*N/mm2*	*N/mm2*	*%*	*%*	*HB*	*J*
BLACK ROLLED	Untreated (No designation or +U)	-	-	Min	-	-	-	-	-	-	-
				Max	-	-	-	-	-	-	-
	With improved shearability +S	-	-	Min	-	-	-	-	-	-	-
				Max	-	-	-	-	-	255	-
	Soft Annealed +A	-	-	Min	-	-	-	-	-	-	-
				Max	-	-	-	-	-	223	-
	Quench and tempered +QT	≤ 16 ⌀	L	Min		800	1000	11	45	-	
				Max	-	-	1200	-	-	-	-
	Quench and tempered +QT	16<d≤ 40 ⌀	L	Min		650	900	12	50	-	40/28
				Max	-	-	1100	-	-	-	-
	Quench and tempered +QT	40<d≤ 100 ⌀	L	Min		550	800	14	55	-	45/31.5
				Max	-	-	950	-	-	-	-
	Quench and tempered +QT	100<d≤ 160 ⌀	L	Min	-	500	750	15	55	-	45/31.5
				Max	-	-	900	-	-	-	-
	Quench and tempered +QT	160<d≤ 250 ⌀	L	Min	-	450	700	15	60	-	45/31.5
				Max	-	-	850	-	-	-	-
BRIGHT ROLLED	Annealed, then peeled/turned +A+SH	16< d ≤ 100	-	Min	-	-	-	-	-	-	-
				Max	-	-	-	-	-	223	-
	Quench and tempered, then peeled/turned +QT+SH	16< d ≤ 40	L	Min	-	650	900	12	-	-	40/28
				Max	-	-	1100	-	-	-	-
	Quench and tempered, then peeled/turned +QT+SH	40< d ≤ 100	L	Min	-	550	800	14	-	-	45/31.5
				Max	-	-	950	-	-	-	-
FORGED	Quench and tempered +QT	d<160 ⌀	L	Min	550	-	800	14	-	-	45/31.5
				Max	-	-	-	-	-	-	-
	Quench and tempered +QT	160≤d≤ 240 ⌀	T	Min	550	-	800		-	-	-
				Max	-	-	-	-	-	-	-
	Quench and tempered +QT	240<d≤ 495 ⌀	T	Min	450	-	700	10	-	-	22/15.4
				Max	-	-	-	-	-	-	-
	Quench and tempered +QT	495<d≤ 990 ⌀	T	Min	410	-	650	12	-	-	17/15.3
				Max	-	-	-	-	-	-	-

[1] *valid at the time of writing.*
Whilst great care and attention has been paid to compose this datasheet but we will not take the responsibility for any errors.