

Material Grade: 30CrNiMo8 (1.6580)

Associated standards:¹

- BS EN ISO 683-2:2018 (current)
- EN10083-3 (obsolete, but black +QT condition is still in use as it varies from ISO683-2)
- 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)
- +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

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)

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

%	<u>C</u>	<u>Si</u>	<u>Mn</u>	<u>P</u>	<u>S</u>	<u>Cr</u>	<u>Mo</u>	<u>Ni</u>	<u>Cu</u>
Min	0.26	0.1	0.5	0	0	1.8	0.3	1.8	0
Max	0.34	0.4	0.8	0.025	0.035	2.2	0.5	2.2	0.4

2. TYPICAL MECHANICAL PROPERTIES (from the most current version of the standard(s) unless otherwise indicated)

Test type				Tensile and hardness test (at room temperature)						Impact test (KCV)
				Yield (Re)	0.2 % proof	UTS (Rm)	Elong (A)	R of A (Z)	Hardness	Average of 3 / individual value
Condition	Nominal diameter <i>d</i> (mm)	Direction	Unit	N/mm ²	N/mm ²	N/mm ²	%	%	HB	Room Temp
BLACK ROLLED current standard ISO683-2	Untreated (No designation or +U)	-	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
	Soft Annealed +A	-	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	248	-
	Quench and tempered +QT	≤ 16 ⌀	Min	-	850	1030	12	40	-	-
			Max	-	-	1230	-	-	-	-
	Quench and tempered +QT	16<d≤ 40 ⌀	Min	-	850	1030	12	40	-	30/21
			Max	-	-	1230	-	-	-	-
	Quench and tempered +QT	40<d≤ 100 ⌀	Min	-	800	980	12	45	-	35/24.5
			Max	-	-	1180	-	-	-	-
	Quench and tempered +QT	100<d≤ 160 ⌀	Min	-	800	980	12	50	-	45/31.5
			Max	-	-	1180	-	-	-	-
BLACK ROLLED obsolete standard EN10083-3	Quench and tempered +QT	≤ 16 ⌀	Min	-	1050	1250	9	40	-	-
			Max	-	-	1450	-	-	-	-
	Quench and tempered +QT	16<d≤ 40 ⌀	Min	-	1050	1250	9	40	-	30/21
			Max	-	-	1450	-	-	-	-
	Quench and tempered +QT	40<d≤ 100 ⌀	Min	-	900	1000	10	45	-	35/24.5
			Max	-	-	1300	-	-	-	-
	Quench and tempered +QT	100<d≤ 160 ⌀	Min	-	800	1000	11	50	-	45/31.5
			Max	-	-	1200	-	-	-	-
	Quench and tempered +QT	160<d≤ 250 ⌀	Min	-	700	900	12	50	-	45/31.5
			Max	-	-	1100	-	-	-	-
BRIGHT ROLLED	Annealed, then peeled/turned +A+SH	16<d≤ 100	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	248	-
	Quench and tempered, then peeled/turned +QT+SH	16<d≤ 40	Min	-	850	1030	12	-	-	30/21
			Max	-	-	1230	-	-	-	-
	Quench and tempered, then peeled/turned +QT+SH	40<d≤ 100	Min	-	800	980	12	-	-	35/24.5
			Max	-	-	1180	-	-	-	-
FORGED	Quench and tempered +QT	d<160 ⌀	Min	700	-	900	12	-	-	45/31.5
			Max	-	-	-	-	-	-	-
	Quench and tempered +QT	160≤d≤ 240 ⌀	Min	700	-	900	8	-	-	22/15.4
			Max	-	-	-	-	-	-	-
	Quench and tempered +QT	240<d≤ 495 ⌀	Min	630	-	850	8	-	-	22/15.4
			Max	-	-	-	-	-	-	-
	Quench and tempered +QT	495<d≤ 990 ⌀	Min	590	-	800	8	-	-	20/14
			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.