 HILLFOOT METALS SUPPLY CHAIN INNOVATION	MATERIAL DATASHEET
	Title: 25CrMo4

Material Grade:	25CrMo4 (1.7218)
Other Variant(s):	25CrMo S 4 (1.7213) – identical to 25CrMo4, except for S% 0.020-0.040 <i>This variant is only applicable to rolled bar standards.</i>

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)
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Material Condition(s):	No designation or +U – Untreated (as rolled) +S – With improved shearability +A – Soft annealed +QT – Quench and tempered
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Surface Finish:	No designation or +HW – Black rolled +RM – Rough machined – rough machined rolled or forged +SH – Untreated and peeled/ turned (rolled bar) +C – Cold drawn +G - Ground
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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, +C, +G	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	0.2 2	0. 1	0. 6	0	0	0. 9	0.1 5	0	0
Max	0.2 9	0. 4	0. 9	0.02 5	0.03 5	1. 2	0.3	0	0. 4

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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/mm ²	N/mm ²	N/mm ²	%	%	HB	J
BLACKROLLED	Untreated (No designation or +U)	-	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
	With improved shearability +S	-	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	255	-
	Soft Annealed +A	-	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	212	-
	Quench and tempered +Q T	≤ 16 _{mm}	L	Min	-	700	900	12	50	-
			Max	-	-	1100	-	-	-	-
	Quench and tempered +Q T	16< d ≤ 40 _{mm}	L	Min	-	600	800	14	55	-
			Max	-	-	950	-	-	-	50/35
	Quench and tempered +Q T	40< d ≤ 100 _{mm}	L	Min	-	450	700	15	60	-
			Max	-	-	850	-	-	-	50/35
BRIGHTROLLED	Quench and tempered +Q T	100< d ≤ 160 _{mm}	L	Min	-	400	650	16	60	-
			Max	-	-	800	-	-	-	45/31.5
	Annealed, then peeled/turned +A+SH	16< d ≤ 100	-	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	212	-
	Annealed, then cold drawn +A+C	5< d ≤ 10	-	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	270	-
	Annealed, then cold drawn +A+C	10< d ≤ 16	-	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	260	-
	Annealed, then cold drawn +A+C	16< d ≤ 40	-	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	255	-
	Annealed, then cold drawn +A+C	40< d ≤ 100	-	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	250	-
FORGED	Quench and tempered +Q T	d < 160 _{mm}	L	Min	450	-	700	15	-	50/35
			Max	-	-	-	-	-	-	-
	Quench and tempered +Q T	160 ≤ d ≤ 240 _{mm}	T	Min	450	-	700	-	-	-
			Max	-	-	-	-	-	-	-
	Quench and tempered +Q T	240< d ≤ 495 _{mm}	T	Min	400	-	650	13	-	27/18.9
			Max	-	-	-	-	-	-	-
	Quench and tempered +Q T	495< d ≤ 990 _{mm}	T	Min	380	-	600	14	-	22/15.4
			Max	-	-	-	-	-	-	-

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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.