

Material	Specifications (Chemical)											Specifications (Physical)						Reference
	C	Mn	Si	Mo	P	S	Nb	V	Boron	Cr	CE	UTS	YS	% El.	Hardness	Bend Test	Charpy Impact (Joules)	
BS En 10025 S275 Jo	0.18 max.	1.50 max.	---	---	0.040 max.	0.040 max.						410-560 Mpa	275 Mpa (min.)	22	---			Google
IS1079 Gr. O	0.15 max.	0.60 max.			0.055 max.	0.055 max.						---	---	---				
IS1079 Gr. D	0.12 max.	0.50 max.			0.040 max.	0.040 max.						---	---	28				
IS1079 Gr. DD	0.10 max.	0.45 max.			0.035 max.	0.035 max.						260-390 Mpa	---	32				
IS1079 Gr. EDD	0.08 max.	0.40 max.			0.030 max.	0.030 max.						260-380 Mpa	---	36				
Sailma 300	0.25 max.	1.50 max.	---	---	0.055 max.	0.055 max.						440-560 Mpa	300 Mpa (min.)	20		3T	0°C to -20°C	Google
Sailma 300 HI	0.20 max.	1.50 max.	---	---	0.04 max.	0.04 max.						440-560 Mpa	300 Mpa (min.)	21		3T	40°C	
BS En 10025 S355	0.24 max.	1.60 max.	0.55 max.	---	0.05 max.	0.050 max.						490-640 Mpa	355 Mpa (min.)	20	---			
Sailma 350	0.25 max.	1.50 max.	0.4 max.	---	0.050 max.	0.050 max.						490-610 Mpa	350 Mpa (min.)	20-21	---	3T		
Sailma 350 HI	0.20 max.	1.50 max.	0.4 max.	---	0.040 max.	0.040 max.						490-610 Mpa	350 Mpa (min.)	21	---	3T		
Essar (SRGES14 / SRGEV51)	0.24 max.	1.60 max.	0.55 max.		0.050 max.	0.050 max.						490-640 Mpa	355 Mpa (min.)	20 min.		3T	27 J min. at 0°C	Steel Hand Book (Pg. 6-4) Steel Hand Book (Pg. 6-2)
BS 970 070 M20 (MS.) (EN3A) (Bright Bar 6<t<13mm HRCD)	0.16-0.24	0.50-0.90	0.10-0.40	0.15 max.	---	0.05 max.						560 Mpa (min.)	440 Mpa (min.)	10	---			
BS 970 070 M20 (Bright Bar)	0.16-0.24	0.50-0.90	0.10-0.40	0.15 max.	---	0.05 max.						400 Mpa (min.)	200 Mpa (min.)	21	126-250 HB			
BS 970 070 M20	0.15-0.25	0.40-0.90	0.35-0.50		0.06 max.	0.06 max.						436 Mpa (min.)		25				
220M07 eq. to En1A	0.15 max.	0.90-1.30			0.07 max.	0.20-0.30												
En1A	0.07-0.15	0.80-1.20	0.10 max.		0.07 max.	0.20-0.30						430 Mpa (min.)		14	160 HB			Google
En3A	0.15-0.25	0.40-0.90	0.05-0.35		0.06 max.	0.06 max.							274 Mpa (min.)	25				
En8A	0.33-0.38	0.50 max.	0.05-0.35		0.06 max.	0.06 max.												
En9 (Eq. 070 M55)	0.50-0.60	0.50-0.80	0.05-0.35		0.06 max.	0.06 max.						850 Mpa (min.)	415 Mpa (min.)	14	201-255 HB			
En43E (Eq. 080 A67)	0.65-0.70	0.70-0.90	0.05-0.35		0.06 max.	0.06 max.						750 Mpa (min.)	440 Mpa (min.)	9	229-285			
20Mn2	0.16-0.24	1.30-1.70	0.10-0.35		0.05 max.	0.05 max.						785 Mpa (min.)	590 Mpa (min.)	10				Steel Hand Book (Pg. 4-33) Steel Hand Book (Pg.)
SAE 1018	0.15-0.20	0.60-0.90			0.04 max.	0.05 max.												
AISI1023 (BAR HR)	0.2 ~ 0.25	0.3 ~ 0.6			0.04 max.	0.05 max.						370 Mpa	210Mpa	25	111Hb			
BS4360 Gr.50B	0.20 max.	1.50 max.	0.5 max.	---	0.05 max.	0.050 max.	0.003-0.10	0.003-0.10				490-640 Mpa	305-355 Mpa	18				
IS2062 Gr. A	0.23 max.	1.50 max.			0.05 max.	0.05 max.					0.42 max.	410 Mpa (min.)	250 Mpa (min.)	23		3T		
IS2062 Gr. B	0.22 max.	1.50 max.			0.045 max.	0.045 max.					0.41 max.	410 Mpa (min.)	250 Mpa (min.)	23		2T / 3T	27 min.	Google
210M15 (Eq. En 32M)	0.12-0.18	0.90-1.30	0.10-0.40		0.05 max.	0.10-0.18						430 Mpa (min.)		18				
20MnCr5	0.17-0.22	1.1-1.4	0.15-0.40		0.035 max.	0.035 max.				1.1-1.3		800-1100 Mpa	550 Mpa (min.)	10	240 BHN max.			
En19C (Rolled) Ø75mm	0.35-0.45	0.50-0.80	0.1-0.35	0.2-0.35	0.05 max.	0.05 max.				0.9-1.20		700-850 Mpa	525 Mpa (min.)	17	201-255 HB			
42CrMoS4 (Bar size Ø16-40mm)	0.38-0.45	0.70-0.90	0.40 max.	0.15-0.30	0.035 max.	0.035 max.				0.90-1.20		1000-1200 Mpa	750 Mpa (min.)	11				
42CrMoS4 (Bar size Ø40-100mm)	0.38-0.45	0.70-0.90	0.40 max.	0.15-0.30	0.035 max.	0.035 max.				0.90-1.20		900-1100 Mpa	650 Mpa (min.)	12				Steel Hand Book (Pg. 6-69) Google Google
Boron Steel (Bucket Tooth_1C0050)	0.22-0.32	1.1-1.5	0.40 max.		0.05 max.	0.05 max.			0.0005-0.003			450-680 Mpa	275-355 Mpa	14-22	480-550 BHN (510-580 HV)		10 - 15 at (-) 20C	
Carbon Steel	0.25 max.	1.00 max.			0.04 max.	0.05 max.									56 HRC (min.)			
BS 3100 A4 Steel Casting	0.18-0.25	1.20-1.60	0.60 max.		0.05 max.	0.05 max.						540-690 Mpa	320 Mpa (min.)	16	152-207 HB		30 Joule at 20°C	
IS513 'D'	0.12 max.	0.50 max.										270-410 Mpa	280 Mpa (min.)	23				
450/12 (S.G. Iron IS 1865)	3.40-3.80	0.20-0.40	1.80-2.80		0.035 max.	0.03 max.						450 Mpa (min.)	310 Mpa (min.)	12	201 HB max.			IS 1865 Google
550/6 (S.G. Iron)												550 Mpa (min.)	350 Mpa (min.)	6				
BS6323 CFS GBK	0.2 max.	0.9 max.	0.35 max.		0.05 max.	0.05 max.						340 Mpa (min.)	170 Mpa (min.)	26				BS6323 Part 4
25C8 (IS:1875)	0.20-0.30 (±0.03)	0.60-0.90 (±0.03)	0.15-0.35 (±0.04)		0.04 max. (+0.005)	0.04 max. (+0.005)						460 Mpa (min.)	250 Mpa (min.)	22	180 HB min.			IS:1875

Microsture
Nodule - 85% min.
Pearlite - 20%
Ferrite - 80%
Microsture
Nodule - 80% min.
Pearlite -
Ferrite -

[illegible]