

 HILLFOOT METALS SUPPLY CHAIN INNOVATION	MATERIAL DATASHEET	
	300M/ S155/ AMS6257/AMS6419/AMS6417	Page 1 of 2

Material Grade: 300M / S155D/ AMS6257/ AMS6419/ AMS6417 (cross- certified)

Supply condition (s): Normalised and tempered (bars)
Variant S155D – bright stock for machining

Associated standards:¹ AMS6257 Rev G
AMS6419 Rev K
AMS6417 Rev K
BS S155:1976 + A1:2016 + BS 6S 100: 2010

Melting/refining method(s): VAR

Typical tolerance(s): AMS2251, AS1182 or EN10278 (may vary between producers).

1. TYPICAL CHEMICAL COMPOSITION

	%	<u>C</u>	<u>Mn</u>	<u>Si</u>	<u>P</u>	<u>S</u>	<u>S+P</u>	<u>Cr</u>	<u>Ni</u>	<u>Mo</u>	<u>V</u>	<u>Cu</u>
AMS6257	Min	0.4	0.65	1.45	0	0	-	0.7	1.65	0.35	0.05	0
	Max	0.44	0.9	1.8	0.01	0.008	-	0.95	2	0.45	0.1	0.35
AMS6417	Min	0.38	0.6	1.45	0	0	-	0.7	1.65	0.3	0.05	0
	Max	0.43	0.9	1.8	0.01	0.01	-	0.95	2	0.5	0.1	0.35
AMS6419	Min	0.4	0.6	1.45	0	0	-	0.7	1.65	0.3	0.05	0
	Max	0.45	0.9	1.8	0.01	0.01	-	0.95	2	0.5	0.1	0.35
S155	Min	0.39	0.6	1.5	0	0	-	0.7	1.65	0.3	0.05	0
	Max	0.44	0.9	1.8	0.015	0.015	0.025	0.95	2	0.45	0.1	0.3

Variance(s) between the specifications are highlighted in grey.

2. TYPICAL MECHANICAL PROPERTIES

Test type				Tensile and hardness test (at room temperature)							Impact test (KCV)
				Yield (Re)	0.2 % proof	UTS (Rm)	Elong (4D) (A)	R of A (Z) individual	R of A (Z) average	Hardness	Room Temp
Condition	Solid bar nominal diameter <i>d</i>	Direction	Unit	N/mm2	N/mm2 (KSI)	N/mm2 (KSI)	%	%	%	-	J
BS S155	Normalised and tempered	-	-	Min	-	-	-	-	-	-	-
				Max	-	-	-	-	-	302	-
AMS6417	Normalised and tempered	-	-	Min	-	-	-	-	-	-	-
				Max	-	-	-	-	-	311	-
AMS6419	Normalised and tempered	-	-	Min	-	-	-	-	-	-	-
				Max	-	-	-	-	-	311	-
AMS6257	Normalised and tempered	-	-	Min	-	-	-	-	-	-	-
				Max	-	-	-	-	-	341	-

Test type				Tensile and hardness test (at room temperature)							Impact test (KCV)
				Yield (Re)	0.2 % proof	UTS (Rm)	Elong (4D) (A)	R of A (Z) individual	R of A (Z) average	Hardness	Room Temp
Condition	Solid bar nominal diameter <i>d</i>	Direction	Unit	N/mm ²	N/mm ² (KSI)	N/mm ² (KSI)	%	%	%	-	/
AMS6417	Heat treated as per spec TEST SAMPLE ONLY	all	L	Min	-	1517 (220)	1862 (270)	8	30	-	-
				Max	-	-	-	-	-	-	-
AMS6417	Heat treated as per spec TEST SAMPLE ONLY	≤285mm (11.25")	T	Min	-	1517 (220)	1862 (270)	-	25	30	-
				Max	-	-	-	-	-	-	-
AMS6417	Heat treated as per spec TEST SAMPLE ONLY	>285mm (11.25") ≤343mm (13.5")	T	Min	-	1517 (220)	1862 (270)	-	20	25	-
				Max	-	-	-	-	-	-	-
AMS6417	Heat treated as per spec TEST SAMPLE ONLY	>343mm (11.25") ≤425mm (16.75")	T	Min	-	1517 (220)	1862 (270)	-	15	20	-
				Max	-	-	-	-	-	-	-
AMS6417	Heat treated as per spec TEST SAMPLE ONLY	>425 (16.75")	T	Min	-	1517 (220)	1862 (270)	-	10	15	-
				Max	-	-	-	-	-	-	-
AMS6419	Heat treated as per spec TEST SAMPLE ONLY	all	L	Min	-	1586 (230)	1931 (280)	7	25	-	-
				Max	-	-	-	-	-	-	-
AMS6419	Heat treated as per spec TEST SAMPLE ONLY	≤285mm (11.25")	T	Min	-	1586 (230)	1931 (280)	-	25	30	-
				Max	-	-	-	-	-	-	-
AMS6419	Heat treated as per spec TEST SAMPLE ONLY	>285mm (11.25") ≤343mm (13.5")	T	Min	-	1586 (230)	1931 (280)	-	20	25	-
				Max	-	-	-	-	-	-	-
AMS6419	Heat treated as per spec TEST SAMPLE ONLY	>343mm (11.25") ≤425mm (16.75")	T	Min	-	1586 (230)	1931 (280)	-	15	20	-
				Max	-	-	-	-	-	-	-
AMS6419	Heat treated as per spec TEST SAMPLE ONLY	>425 (16.75")	T	Min	-	1586 (230)	1931 (280)	-	10	15	-
				Max	-	-	-	-	-	-	-
AMS6257	Heat treated as per spec TEST SAMPLE ONLY	all	L	Min	-	1586 (230)	1931 (280)	8	30	-	-
				Max	-	-	-	-	-	-	-
AMS6257	Heat treated as per spec TEST SAMPLE ONLY	≤285mm (11.25")	T	Min	-	1586 (230)	1931 (280)	-	25	30	-
				Max	-	-	2103 (305)	-	-	-	-
AMS6257	Heat treated as per spec TEST SAMPLE ONLY	>285mm (11.25") ≤343mm (13.5")	T	Min	-	1586 (230)	1931 (280)	-	20	25	-
				Max	-	-	2103 (305)	-	-	-	-
AMS6257	Heat treated as per spec TEST SAMPLE ONLY	>343mm (13.5")	T	Min	-	1586 (230)	1931 (280)	-	15	20	-
				Max	-	-	2103 (305)	-	-	-	-
BS S155	Heat treated as per spec TEST SAMPLE ONLY	all	L	Min	-	1550	1900	8	30	-	534
				Max	-	-	2100	-	-	-	601
BS S155	Heat treated as per spec TEST SAMPLE ONLY	≤285mm (11.25")	T	Min	-	1550	1900	5	20	-	534
				Max	-	-	2100	-	-	-	601

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.