

 HILLFOOT METALS SUPPLY CHAIN INNOVATION	MATERIAL DATASHEET	
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Material Grade: **E4340**

Supply condition (s): **Annealed (bars)**

Nearest engineering grade: **SAE 4340**

Associated standards:¹ **AMS6414 Rev N**
AMS6415 Rev V

Melting/refining method(s): **VAR (AMS 6514)**
Unspecified (AMS 6515)

Typical tolerance(s): **AMS2251, AS1182**

1. TYPICAL CHEMICAL COMPOSITION

	%	<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>
AMS6414	Min	0.38	0.15	0.65	0	0	0.7	0.2	1.65	-
	Max	0.43	0.35	0.9	0.01	0.01	0.9	0.3	2	0.35
AMS6415	Min	0.38	0.15	0.65	0	0	0.7	0.2	1.65	-
	Max	0.43	0.35	0.85	0.025	0.025	0.9	0.3	2	0.35

Variance between the two grades 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
AMS6414	Annealed (condition of delivered material)	-	-	Min	-	-	-	-	-	-	-	-
AMS6415				Max	-	-	-	-	-	-	235	-
AMS6414	Annealed & cold finished (condition of delivered material)	-	-	Min	-	-	-	-	-	-	-	-
AMS6415				Max	-	-	-	-	-	-	255	-
AMS6414	Heat treated as per spec TEST SAMPLE ONLY	all	L	Min	-	1496 (217)	1793 (260)	10	30	-	-	-
				Max	-	-	-	-	-	-	-	-
AMS6414	Heat treated as per spec TEST SAMPLE ONLY	≤285mm (11.25")	T	Min	-	1496 (217)	1793 (260)	6	25	30	-	-
				Max	-	-	-	-	-	-	-	-
AMS6414	Heat treated as per spec TEST SAMPLE ONLY	>285mm (11.25") ≤343mm (13.5")	T	Min	-	1496 (217)	1793 (260)	5	20	25	-	-
				Max	-	-	-	-	-	-	-	-
AMS6414	Heat treated as per spec TEST SAMPLE ONLY	>343mm (13.5")	T	Min	-	1496 (217)	1793 (260)	4	15	20	-	-
				Max	-	-	-	-	-	-	-	-

No specific requirements for heat treated AMS6415 have been published in the standard.

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.