



AEROSPACE MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 5042F

Superseding AMS 5042E

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CARBON STEEL SHEET AND STRIP Forming Grade

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. **APPLICATION:** Primarily for drawn and formed parts requiring a material of fair ductility.
3. **COMPOSITION:**

	min	max
Carbon	--	0.15
Manganese	0.25 -	0.60
Phosphorus	--	0.040
Sulphur	--	0.050

- 3.1 **Check Analysis:** Composition variations shall meet the requirements of the latest issue of AMS 2259, paragraph titled "Carbon Steels".

4. **CONDITION:** Unless otherwise ordered, the product shall be supplied cold rolled.

5. **TECHNICAL REQUIREMENTS:**

- 5.1 **Hardness:**

Nominal Thickness Inch	Hardness
Up to 0.187, incl	Rockwell B 52 - 64
Over 0.187	Rockwell B 45 - 64

- 5.1.1 Acceptability of material 0.089 in. and under in thickness shall be based on conformance to one of the following requirements as applicable:

Nominal Thickness Inch	Hardness (Equivalent to Rockwell B 52 - 64)
0.009 to 0.014, incl	Vickers (1 kg load) 95 - 115
Over 0.014 to 0.027, incl	Rockwell Superficial 15-T 77 - 82
Over 0.027 to 0.059, incl	Rockwell Superficial 30-T 51 - 60
Over 0.059 to 0.089, incl	Rockwell F 86 - 94

- 5.2 **Bending:** Sheet and strip shall withstand, without cracking, bending at room temperature flat on itself with axis of bend parallel to the direction of rolling.

6. **QUALITY:** Material shall be uniform in quality and condition, clean, sound, and free from foreign materials and from internal and external imperfections detrimental to fabrication or to performance of parts.

7. **TOLERANCES:** Unless otherwise specified, tolerances shall conform to all applicable requirements of the latest issue of AMS 2232.

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