

# AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.  
29 West 39th Street  
New York City

## AMS5040 E

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### STEEL SHEET AND STRIP

Low Carbon  
Deep Forming

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

|            |             | Check Analysis |             |
|------------|-------------|----------------|-------------|
|            |             | Under Min      | or Over Max |
| Carbon     | 0.15 max    | --             | 0.03        |
| Manganese  | 0.25 - 0.60 | 0.03           | 0.03        |
| Phosphorus | 0.040 max   | --             | 0.01        |
| Sulphur    | 0.050 max   | --             | 0.01        |

4. CONDITION: Cold rolled and oiled.

5. TECHNICAL REQUIREMENTS:

- 5.1 Hardness: Not higher than Rockwell B 55 or equivalent.

- 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         | Hardness, max                 |
|---------------------------|-------------------------------|
| Inch                      | (Equivalent to Rockwell B 55) |
| 0.009 to 0.014, incl      | Vickers (1 kg, load) 99       |
| Over 0.014 to 0.027, incl | Superficial Rockwell 15-T 79  |
| Over 0.027 to 0.059, incl | Superficial Rockwell 30-T 53  |
| Over 0.059 to 0.089, incl | Rockwell F 88                 |

- 5.2 Bending: Material shall withstand, without cracking or producing an "orange peel" surface, bending at room temperature flat on itself with axis of bend parallel to direction of rolling.
6. QUALITY: Material shall be uniform in quality and condition, clean, sound, smooth, and free from foreign materials and from internal and external defects detrimental to fabrication or to performance of parts.
7. TOLERANCES: Unless otherwise specified, tolerances shall conform to the latest issue of AMS 2232 as applicable.