

# AERONAUTICAL MATERIAL SPECIFICATION

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## ALUMINUM ALLOY SHEET AND STRIP Magnesium Chromium (52S-1/2H)

1. **ACKNOWLEDGMENT:** A vendor must mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

2. **COMPOSITION:**
- |                         |             |
|-------------------------|-------------|
| Magnesium               | 2.2 - 2.8   |
| Chromium                | 0.15 - 0.35 |
| Iron plus Silicon       | 0.45 max    |
| Manganese               | 0.10 max    |
| Copper                  | 0.10 max    |
| Zinc                    | 0.10 max    |
| Other Impurities, each  | 0.05 max    |
| Other Impurities, total | 0.15 max    |
| Aluminum                | remainder   |

3. **CONDITION:** (a) Half-hard conforming to the following minimum physical properties when test specimens are cut parallel to the direction of rolling.

| Thickness<br>inches | Tensile Strength<br>lb per sq in. | Elongation, % in 2 in. |       | Bend<br>Factor |
|---------------------|-----------------------------------|------------------------|-------|----------------|
|                     |                                   | Sheet                  | Strip |                |
| 0.013 - 0.019       | 34,000                            | 4                      | 3     | 1              |
| 0.020 - 0.050       | 34,000                            | 5                      | 4     | 2              |
| 0.051 - 0.085       | 34,000                            | 7                      | 6     | 2              |
| 0.086 - 0.113       | 34,000                            | 7                      |       | 2              |
| 0.114 - 0.249       | 34,000                            | 8                      |       | 3              |

(b) The material shall not crack when cold bent 180° over a diameter equal to the bend factor times the thickness, the axis of the bend being parallel to the direction of rolling.

(c) Unless otherwise specified, flat and coiled sheet and strip shall have a mill finish.

4. **QUALITY:** The material shall be uniform in quality and temper, commercially flat, clean, sound, smooth, and free from buckles, seams, cracks, laminations, blisters, and other injurious defects within the limits of best commercial manufacturing practices. Material revealing defects during fabrication is subject to rejection.