



# AEROSPACE MATERIAL

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## SPECIFICATION

### AMS 4004

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Revised

#### ALUMINUM ALLOY FOIL 2.5Mg - 0.25Cr (5052-H191)

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. APPLICATION: Primarily for corrugated or expanded honeycomb core material for use in sandwich construction.
3. COMPOSITION:

	min	max
Magnesium	2.2	- 2.8
Chromium	0.15	- 0.35
Iron + Silicon	--	0.45
Zinc	--	0.10
Manganese	--	0.10
Copper	--	0.10
Other Impurities, each	--	0.05
Other Impurities, total	--	0.15
Aluminum	remainder	

4. CONDITION: Strain hardened, mill finish, as free from oil as is commercially practicable.
5. TECHNICAL REQUIREMENTS: When ASTM methods are specified for determining conformance to the following requirements, tests shall be conducted in accordance with the issue of the ASTM method listed in the latest issue of AMS 2350.

- 5.1 Tensile Properties: Tensile tests shall be conducted in accordance with ASTM E345 to determine conformance to the following requirements. Test specimens shall be cut parallel to the direction of rolling. The following requirement applies to material less than 0.006 in. in thickness:

Tensile Strength, psi      42,000 min

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 the following:
  - 7.1 Thickness: The thickness, determined by instrument measurement or by the weighing method specified for thin foil in ASTM E252, on two specimens for each nominal thickness shall not deviate from the specified thickness by more than  $\pm 10\%$ .
    - 7.1.1 When a dispute occurs between purchaser and vendor over the thickness values, thickness determined by the weighing method in ASTM E252 shall apply. For such calculations, density shall be taken as 0.0976 lb per cu inch.
  - 7.2 Width: The width of the foil shall be within  $\pm 1/32$  in. of that specified.

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