



AEROSPACE MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
TWO PENNSYLVANIA PLAZA, NEW YORK, N.Y. 10001

AMS 5500A

Superseding AMS 5500

Issued 5/1/68

Revised 11/1/69

STEEL SHEET, CORROSION RESISTANT, LAMINATED Surface Bonded

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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 shims in which thickness is to be adjusted by removal of laminations as required.
3. **COMPOSITION:**
- 3.1 **Laminations:**

	min	max
Carbon	--	0.15
Manganese	--	2.00
Silicon	--	1.00
Phosphorus	--	0.040
Sulfur	--	0.030
Chromium	17.00 - 19.00	
Nickel	8.00 - 10.00	
Molybdenum	--	0.50
Copper	--	0.50

- 3.1.1 **Check Analysis:** Composition variations shall meet the requirements of the latest issue of AMS 2248.
- 3.2 **Adhesive:** Shall be of a composition which will meet the fabrication and quality requirements of this specification.
4. **FABRICATION:**
- 4.1 **Laminated shim stock** shall be fabricated from corrosion resistant steel laminations in the annealed or 1/4 hard temper. Stock shall consist completely of laminations each 0.002 in. \pm 0.0002 thick or 0.003 in. \pm 0.0003 thick, or partly of such laminations combined with a single thicker lamination, as ordered, bonded together by an adhesive such that individual laminations may be peeled for adjustment of shim thickness.
- 4.2 Unless otherwise specified, the product shall be of the following thicknesses and combinations of laminations and solid base:

Nominal Thickness of Shim Stock, Inch	All Laminated (0.002 in. Lamina-tions)	All Laminated (0.003 in. Lamina-tions)	Half Solid Half Laminated (0.002 in. Lamina-tions)	Half Solid Half Laminated (0.003 in. Lamina-tions)	Three Quarters Solid One Quarter Laminated (0.002 in. Lamina-tions)	Three Quarters Solid One Quarter Laminated (0.003 in. Lamina-tions)
0.006	X					
0.008	X					
0.010	X					
0.016	X	X				
0.020	X	X				
0.032	X	X				
0.047	X	X				
0.062	X	X	X	X		
0.094	X	X	X	X		
0.125	X	X	X	X	X	X

5. QUALITY:

- 5.1 The product 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.
- 5.2 Laminations shall be bonded together in such a manner that any shape can be cut out of the shim stock without causing the laminations in the shape to separate. Normal handling shall not cause separation of laminations.

6. TOLERANCES: Unless otherwise specified, tolerances shall be as specified below:

Ø	Nominal Total Thickness Inch	Tolerance, Inch	
		Plus	Minus
	Up to 0.008, incl	0.001	0.0005
	Over 0.008 to 0.010, incl	0.0015	0.0005
	Over 0.010 to 0.016, incl	0.0015	0.001
	Over 0.016 to 0.021, incl	0.002	0.001
	Over 0.021 to 0.033, incl	0.003	0.002
	Over 0.033 to 0.048, incl	0.005	0.002
	Over 0.048 to 0.063, incl	0.006	0.002
	Over 0.063 to 0.080, incl	0.007	0.002
	Over 0.080 to 0.094, incl	0.009	0.003
	Over 0.094 to 0.109, incl	0.010	0.003
	Over 0.109 to 0.125, incl	0.012	0.003

7. REPORTS:

- 7.1 Unless otherwise specified, the vendor of the product shall furnish with each shipment three copies of a report showing the results of tests for chemical composition or stating that the chemical composition of the shim stock conforms to the requirements specified. This report shall include the purchase order number, material specification number and its revision letter, shim stock thickness, foil thickness, size, and quantity.