

REV.	DATE	ECO
-	23-MAY-86	
A	03-JUN-86	
B	02-FEB-90	
C	01-SEP-91	
D	15-MAR-02	

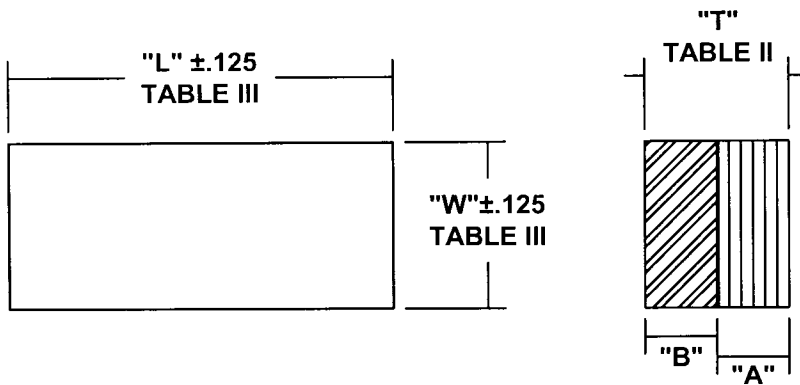
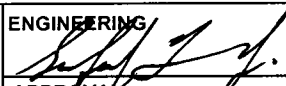
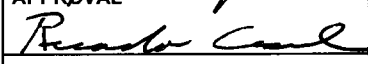


TABLE I MATERIAL

MATERIAL CODE	MATERIAL DESCRIPTION	"W" MAX	"W" MAX
A	ALUMINUM	24	48
AL	LOW OUTGASSING ALUMINUM	24	48
B	BRASS	20	48
C	CORROSION RESISTANT STEEL	24	48
T	TITANIUM	12	48
K	POLYIMIDE FILM	24	48

TABLE II THICKNESS

THICKNESS CODE	OVERALL "T"	TOLERANCE		"A" LAMS	"B" SOLID	LAMINATION THICKNESS
		"+"	"-"			
A	.015	.0015	.001	.015	-	.003±.0003
B	.033	.003	.002	.033	-	
C	.062	.006	.002	.030	.032	
D	.092	.009	.003	.042	.050	
E	.125	.012	.003	.063	.062	

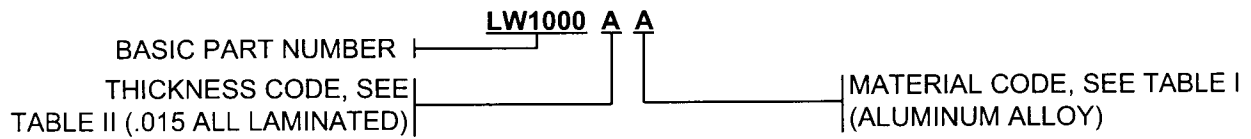
<b>LAMSCO WEST, INC.</b> 24823 ANZA DR. SANTA CLARITA, CA. 91355 FAX (661)295-8626 TEL. (661)295-8620	ENGINEERING 	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.		
	APPROVAL 	TITLE <b>SHIM STOCK, LAMINATED</b>		
		DWG. NO. <b>LW1000</b>	REV. <b>D</b>	SHEET <b>1 OF 4</b>

REV.	DATE	ECO
-	23-MAY-86	
A	03-JUN-86	
B	02-FEB-90	
C	01-SEP-91	
D	15-MAR-02	

**ENGINEERING INFORMATION:**

1. LAMINATED SHIMS TO BE SPECIFIED WHERE MANUFACTURING TOLERANCE CANNOT BE HELD CLOSE ENOUGH TO PRODUCE PROPER FIT.
2. WHEN SHIMMING BETWEEN DISSIMILAR MATERIAL SURFACES, THE SELECTION OF THE SHIM MATERIAL AND OF PROTECTIVE FINISHES MUST INCLUDE CONSIDERATION OF GALVANIC CORROSION.
3. THE THICKNESSES IN TABLE II ARE NORMALLY MANUFACTURED STOCK ITEMS. FOR INTERMEDIATE OR GREATER THICKNESSES, TWO OR MORE OF THE TABLE II CALLOUTS MAY BE COMBINED.
4. SPECIFY THICKNESS CODE AS CLOSE TO THE ACTUAL REQUIRED THICKNESS AS POSSIBLE.
5. IF SPECIAL COMBINATIONS OF SOLIDS AND LAMINATIONS, OR NON-STANDARD THICKNESSES ARE REQUIRED, SPECIFY ON PURCHASE ORDER.

**EXAMPLE OF COMPLETE SHIM STOCK CALLOUT:**



- LW1000BA SAME AS ABOVE EXCEPT .033 THICK
- LW1000CK .062 THICK, HALF-SOLID/HALF-LAMINATED POLYIMIDE FILM
- LW1000EAL .125 THICK, HALF-SOLID/HALF-LAMINATED LOW OUTGASSING ALUMINUM

<b>LAMSCO WEST, INC.</b> 24823 ANZA DR. SANTA CLARITA, CA. 91355 FAX (661)295-8626 TEL. (661)295-8620	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.		
	TITLE <b>SHIM STOCK, LAMINATED</b>		
	DWG. NO.	<b>LW1000</b>	REV. D

REV.	DATE	ECO
-	23-MAY-86	
A	03-JUN-86	
B	02-FEB-90	
C	01-SEP-91	
D	15-MAR-02	

**MATERIALS (LAMINATIONS AND SOLID STOCK):**

**ALUMINUM:** THE LAMINATIONS SHALL BE MANUFACTURED FROM ALUMINUM 1100, CONFORMING TO AMS-QQ-A-250/1 (PROCESSED TO TEMPER H19, WITH A MINIMUM TENSILE STRENGTH OF 24.0 KSI).

**SOLID STOCK:** THE SOLID STOCK SHALL BE MANUFACTURED FROM ALUMINUM ALLOY CONFORMING TO AMS-QQ-A-250/5 (ALCLAD 2024) TEMPER T3.

**BRASS:** THE LAMINATIONS AND SOLID STOCK SHALL BE MANUFACTURED FROM BRASS CONFORMING TO UNS 26000 OF ASTM B 36 OR UNS C33500 OF ASTM B 121, H01 TEMPER OR HARDER (ASTM B 601).

**CORROSION RESISTANT STEEL:** UNLESS OTHERWISE SPECIFIED, THE LAMINATIONS AND SOLID STOCK SHALL BE MANUFACTURED FROM CORROSION RESISTING STEEL TYPE 302, ANNEALED CONDITION OR HARDER, CONFORMING TO AMS 5516 OR AMS 5903. TYPE 304: IF TYPE 302 MATERIAL CANNOT BE PROCURED TO MEET ALL OF THE REQUIREMENTS OF THIS SPECIFICATION, THEN TYPE 304, ANNEALED CONDITION OR HARDER, CONFORMING TO AMS 5513 OR AMS 5910, MAY BE SUBSTITUTED FOR TYPE 302.

**TITANIUM:** THE LAMINATION SHALL BE MANUFACTURED FROM TITANIUM ALLOY CONFORMING TO AMS-T-9046 (CP-1 ANNEALED CONDITION OR HARDER).  
**SOLID STOCK:** THE SOLID STOCK SHALL BE MANUFACTURED FROM TITANIUM ALLOY SHEET CONFORMING TO AMS-T-9046 (AB-1 ANNEALED CONDITION).

**POLYIMIDE:** THE LAMINATION SHALL BE MANUFACTURED FROM THE POLYIMIDE FILM CONFORMING TO MIL-P-46112 (TYPE "H" CONDITION).  
**SOLID STOCK:** THE SOLID STOCK SHALL BE MANUFACTURED FROM PHENOLIC RESIN COTTON FABRIC BASE CONFORMING TO MIL-I-24768/13 OR MIL-I-24768/15 (TYPE FBE OR FBI CONDITION).

<b>LAMSCO WEST, INC.</b> 24823 ANZA DR. SANTA CLARITA, CA. 91355 FAX (661)295-8626 TEL. (661)295-8620	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.		
	<b>TITLE</b> SHIM STOCK, LAMINATED		
	<b>DWG. NO.</b> LW1000	<b>REV.</b> D	<b>SHEET</b> 3 OF 4

REV.	DATE	ECO
-	23-MAY-86	
A	03-JUN-86	
B	02-FEB-90	
C	01-SEP-91	
D	15-MAR-02	

**NOTES:**

- THIS SPECIFICATION IS PROVIDED AS A COURTESY TO CUSTOMERS OF LAMSCO WEST, INC. FITNESS OF PURPOSE FOR THE INTENDED USE IS THE SOLE RESPONSIBILITY OF THE CUSTOMER.
- THIS SPECIFICATION CONTAINS INFORMATION PROPRIETARY TO LAMSCO WEST, INC. UNAUTHORIZED USE OF THIS INFORMATION IS NOT ALLOWED.
- ALL SHIM STOCK SHALL BE MARKED FOR SHIPMENT AND STORAGE PER MIL-STD-129. THE SOLID SIDE OF FABRICATED SHIM STOCK SHALL BE DURABLY MARKED ONCE WITH THE COMPLETE APPROVED MATERIAL CALLOUT, LOT NUMBER OR DATE OF MANUFACTURE, AND THE LAMSCO WEST, INC. TRADEMARK. ALL MARKING SHALL BE LEGIBLE. FULLY LAMINATED SHIMS WITH NO SOLID PORTION MAY BE MARKED ON EITHER SURFACE.
- SHIM STOCK TO BE FREE OF IMPERFECTIONS DETRIMENTAL TO FABRICATION OR FUNCTIONAL PERFORMANCE OF MATERIAL.
- SHIM STOCK SHALL NOT SHOW ANY VISIBLE DELAMINATIONS EXCEEDING 0.25 INCHES.
- PEEL STRENGTH: EACH INDIVIDUAL SHIM STOCK LAMINATION FOR MATERIAL CODES A, B, C, AND T (PER TABLE I) SHALL HAVE A PEEL STRENGTH NO LESS THAN 1 POUND PER LINEAR INCH AND NO MORE THAN 5 POUNDS PER LINEAR INCH, EXCEPT AT THE SOLID/LAMINATE BOND LINE WHICH MAY BE HIGHER. FOR MATERIAL CODE K (PER TABLE I) EACH INDIVIDUAL SHIM LAMINATION SHALL HAVE A PEEL STRENGTH NO LESS THAN 1/2 POUND PER LINEAR INCH AND NO MORE THAN 2 1/2 POUNDS PER LINEAR INCH, EXCEPT AT THE SOLID/LAMINATE BOND LINE WHICH MAY BE HIGHER. PEEL STRENGTH OF THE SHIM STOCK SHALL REMAIN WITHIN THESE LIMITS FOR AT LEAST 6 MONTHS FROM THE DATE OF MANUFACTURE. MATERIAL CODE AL IS EXEMPT FROM PEEL STRENGTH REQUIREMENTS.
- REQUIREMENTS CONTAINED IN THIS SPECIFICATION MAY BE CHANGED WITHOUT NOTICE. CUSTOMERS SHOULD CONFIRM THE REVISION LEVEL PRIOR TO ORDERING.
- LAMSCO WEST, INC. IS THE ONLY AUTHORIZED MANUFACTURER OF MATERIAL TO THIS SPECIFICATION.
- "AL" MATERIAL CODE REFERS TO LAMINATED ALUMINUM BONDED WITH LAMSCO WEST, INC. PROPRIETARY "LOW OUTGASSING" ADHESIVE. THIS ADHESIVE EXHIBITS THE FOLLOWING PROPERTIES: TOTAL MASS LOSS 1.0 MAX., COLLECTED VOLATILE CONDENSABLE MATERIAL 0.1 MAX.

<b>LAMSCO WEST, INC.</b> 24823 ANZA DR. SANTA CLARITA, CA. 91355 FAX (661)295-8626 TEL. (661)295-8620	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.		
	<b>TITLE</b> SHIM STOCK, LAMINATED		
	<b>DWG. NO.</b> LW1000	<b>REV.</b> E	<b>SHEET</b> 4 OF 4