

UNITIZATION PROCEDURES FOR ARMORED MULTI-PURPOSE VEHICLE (AMPV) M19 ARMOR TILES UNITIZED IN PALLET BOXES

TILE, ARMOR, ABRAMS, M19, OR TILE, ARMOR, ABRAMS, INERT, XM53 PACKED ONE PER FIBERBOARD BOX, UNITIZED 32 BOXES PER PALLET BOX

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U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, COMBAT CAPABILITIES DEVELOPMENT COMMAND ARMAMENTS CENTER HANSSEN.JO Digitally signed by HANSSEN.JOSEPH.W. SEPH.W.1376 1376495538 495538 Date: 2020.12.10 07:52:53 -06'00'		CAUTION: VERIFY PRIOR TO USE AT https://www.dau.edu/cop/ammo/Pages/Default.aspx THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 6.	
APPROVED, U.S. ARMY JOINT MUNITIONS COMMAND WARD.GINA. Digitally signed by WARD.GINA.M.1369379808 M.1369379808 Date: 2020.12.16 15:02:05 -06'00'		DO NOT SCALE	
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND SMITH.THERESA. Digitally signed by SMITH.THERESA.ANN.1009147 ANN.1009147639 639 Date: 2020.12.21 10:22:46 -06'00'		NOVEMBER 2020	
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ENGINEERING DIVISON		FIEFFER.LAUR Digitally signed by FIEFFER.LAURA.A.1230375727 A.A.1230375727 Date: 2020.11.12 10:06:51 -06'00'	
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EXPLOSIVE SAFETY DIRECTORATE		FAIRHURST.ROBER Digitally signed by FAIRHURST.ROBERT.JOHN.1015 T.JOHN.1015766880 766880 Date: 2020.11.19 10:48:17 -06'00'	
U.S. ARMY DEFENSE AMMUNITION CENTER			

GENERAL NOTES

A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1, AND AUGMENTS TM 743-200-1 (CHAPTER 5) AND CONFORMS TO MIL-STD-1660.

B. THE PROCEDURES SPECIFIED HEREIN ARE APPLICABLE TO A PORTION OF THE FOLLOWING ARMOR TILE SETS: THE AMPV LOW BACK XM1217 SET, WHICH IS COMPOSED OF THREE PALLET BOXES, TWO OF THE CONFIGURATION DEPICTED ON PAGE 3, AND ONE OF THE M3A1 AND M4A1 CONFIGURATION; THE AMPV HIGH BACK XM1218 SET, WHICH IS COMPOSED OF THREE PALLET BOXES, TWO OF THE CONFIGURATION DEPICTED ON PAGE 3, AND ONE OF THE M3A1, M4A1, AND M19 CONFIGURATION; THE AMPV LOW BACK INERT XM1205 SET, WHICH IS COMPOSED OF THREE PALLET BOXES, TWO OF THE CONFIGURATION DEPICTED ON PAGE 3, AND ONE OF THE XM51 AND XM52 CONFIGURATION; AND THE AMPV HIGH BACK INERT XM1206 SET, WHICH IS COMPOSED OF THREE PALLET BOXES, TWO OF THE CONFIGURATION DEPICTED ON PAGE 3, AND ONE OF THE XM51, XM52, AND XM53 CONFIGURATION. THE M3A1 AND M4A1 OR XM51 AND XM52 CONFIGURATIONS ARE DEPICTED IN AMC DRAWING 19-48-4221/31-20PA1009, AND THE M3A1, M4A1 AND M19 OR XM51, XM52 AND XM53 CONFIGURATIONS ARE DEPICTED IN AMC DRAWING 19-48-4221/32-20 PA1009.

C. FOR DETAILS OF THE FIBERBOARD BOX, SEE CCDC DRAWING 13075291.

BOX DIMENSIONS: 16.88" LONG X 13.88" WIDE X 8.38" HIGH
 BOX CUBE: 1.1 CUBIC FEET
 BOX WEIGHT: 71 POUNDS

D. THE FOLLOWING AMC DRAWINGS ARE APPLICABLE FOR UNLOADING AND STORAGE OF THE ITEMS COVERED BY THIS APPENDIX.

CARLOADING - - - - 19-48-4115-5PA1002
 TRUCKLOADING - - - - 19-48-4117-11PA1003
 STORAGE - - - - - 19-48-4118-1-2-3-4-14-22PA1002
 END OPENING ISO
 CONTAINER - - - - - 19-48-4153-15PA1002
 MILVAN - - - - - 19-48-4166-15PA1003
 SIDE OPENING ISO
 CONTAINER - - - - - 19-48-4267-15PA1009

E. UNLESS OTHERWISE SPECIFIED, A MANUFACTURING TOLERANCE OF PLUS-OR-MINUS 1/4" IS ALLOWED ON ALL DIMENSIONS. HOWEVER, SIMILAR PIECES IN AN ASSEMBLY MUST BE WITHIN 1/8" OF THE SAME DIMENSION.

F. INSTALL EACH HORIZONTAL, LOAD OR TIEDOWN STRAP TO BE LOCATED AS SHOWN. HORIZONTAL STRAPS MUST BE TENSIONED AND SEALED PRIOR TO THE APPLICATION OF TIEDOWN AND LOAD STRAPS. LOAD STRAPS MUST BE TENSIONED AND SEALED AFTER THE HORIZONTAL STRAPS AND PRIOR TO THE TIEDOWN STRAPS.

G. WHEN APPLYING ANY STRAP, CARE MUST BE EXERCISED TO ASSURE THAT THE END OF THE STRAP ON THE UNDERSIDE OF THE JOINT EXTENDS AT LEAST 6" BEYOND THE SEAL. THIS EXTRA MINIMUM LENGTH OF STRAP IS REQUIRED TO PERMIT SUBSEQUENT TIGHTENING OF LOOSENED STRAPPING. RETENSIONING CAN BE ACCOMPLISHED WITHOUT REPLACING STRAPPING OR SPLICING STRAPPING THROUGH THE USE OF A MANUAL OR PNEUMATIC FEEDWHEEL TYPE TENSIONING TOOL AND THE APPLICATION OF ONE ADDITIONAL SEAL.

H. IN ORDER TO OBTAIN COMPACT AND SOUND UNITS, ALL STRAPS SHALL BE LOCATED IN PROPER ALIGNMENT AND TENSIONED UNTIL THEY CUT INTO THE EDGE OF THE PALLET BOX AND THE PALLET DECK. AFTER TENSIONING, ALL STRAPS WILL BE SECURED USING ONE SEAL AND TWO PAIR OF NOTCHES PER SEAL.

J. CLIP-LOK™ AND G.F. LEAGUE PALLET BOXES, HARDBOARD, FIBERBOARD, AND PLYWOOD ARE MANUFACTURED WOOD AND THEREFORE DO NOT REQUIRE HEAT TREATMENT.

K. UNIT LOAD MARKING MUST BE APPLIED IN ACCORDANCE WITH ARDEC DRAWINGS 13075296 OR 13075299.

L. ARMOR TILE BOXES MUST FIT SNUGLY WITHIN THE PALLET BOX. THE UNBLOCKED SPACE WITHIN THE PALLET BOX MUST NOT EXCEED 1/2" IN ANY DIRECTION. FILLERS SUCH AS PLYWOOD, FIBERBOARD, HONEYCOMB FILLER, FOAM CUSHIONING MATERIAL OR HARDBOARD SHALL BE ADDED AS REQUIRED TO OBTAIN A TIGHT PACK.

M. CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES, AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENTS MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25.4MM AND ONE POUND EQUALS 0.454 KG.

PALLET UNIT DATA				
ITEMS INCLUDED		*HAZARD CLASS AND DIVISION	*COMPATIBILITY GROUP	APPROX WEIGHT (LBS)
PART NUMBER	DODIC			
13009240	MP15	1. 2. 3	D	2, 555
13009240-1	MP60	1. 2. 3	D	2, 555
13017060	MP78	-----INERT-----		2, 555

*HAZARD AND CLASSIFICATION DATA CONTAINED IN THE ABOVE CHART IS FOR GUIDANCE AND INFORMATIONAL PURPOSES ONLY. VERIFICATION OF THE SPECIFIED DATA SHOULD BE MADE BY CONSULTING THE MOST RECENT JOINT HAZARD CLASSIFICATION SYSTEM LISTING OR OTHER APPROVED LISTING(S).

MATERIAL SPECIFICATIONS

PALLET BOX - - - - -: CLIP-LOK™ PART NUMBER 13009490-1; CLIP-LOK™ SIMPAK USA, INC. ALTERNATIVE: G.F. LEAGUE CO. INC. PALLET BOX PART NUMBER PIC-1109-A.

PLYWOOD - - - - -: COMMERCIAL ITEM DESCRIPTION A-A-55057, INDUSTRIAL PLYWOOD, INTERIOR WITH EXTERIOR GLUE, GRADE C-D. IF SPECIFIED GRADE IS NOT AVAILABLE, A BETTER INTERIOR OR AN EXTERIOR GRADE MAY BE SUBSTITUTED.

STRAPPING, STEEL - - -: ASTM D3953; FLAT STRAPPING, TYPE 1, HEAVY DUTY, FINISH B (GRADE 2), SIZE 3/4" X .035" OR .031" OR .029", OR 1-1/4" X .035" OR .031". NOTE: BRITTE OR SLIT EDGES SHALL HAVE FINISH A OVERLAY.

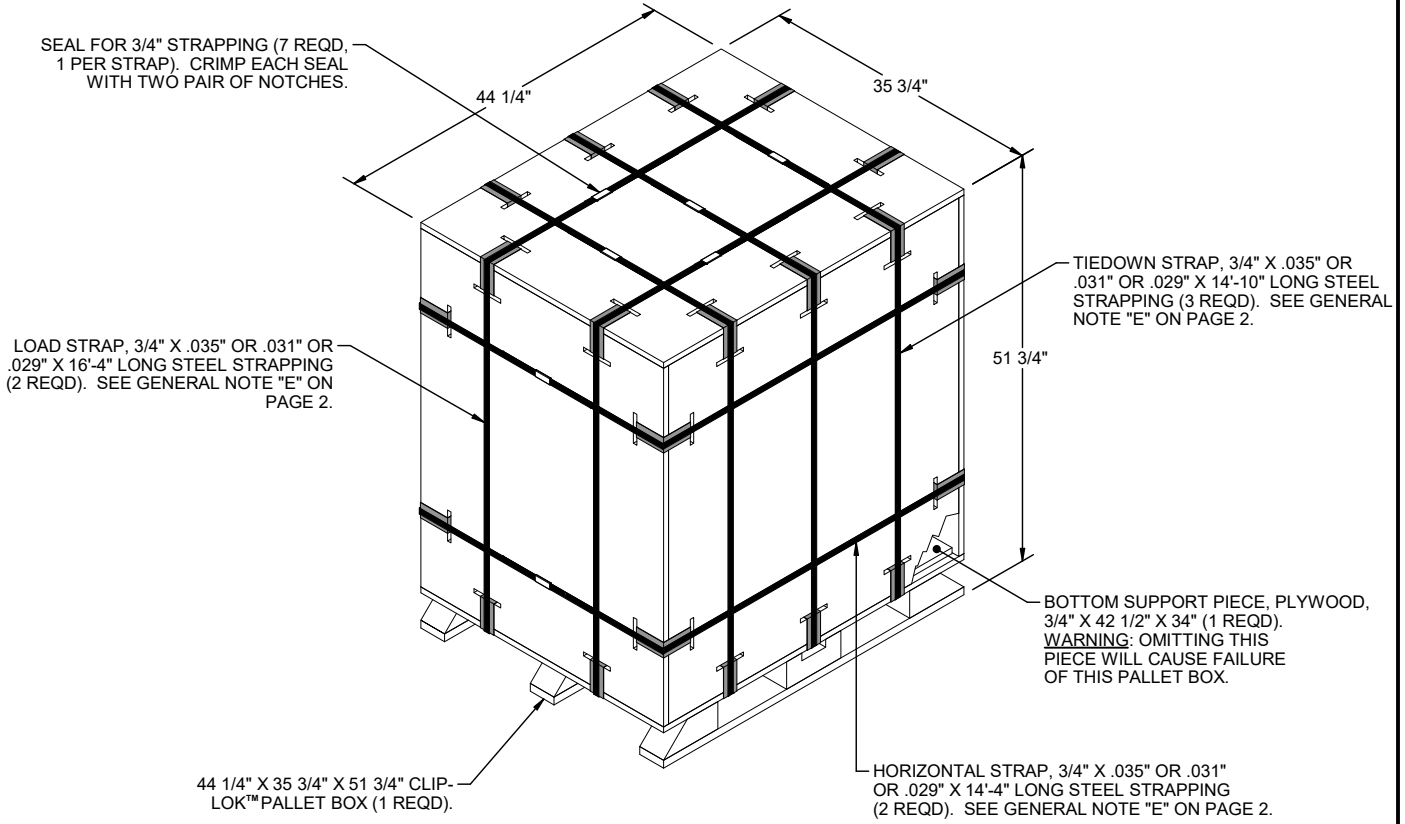
SEAL, STRAP - - - -: ASTM D3953; CLASS H, FINISH B (GRADE 2), DOUBLE NOTCH TYPE, STYLE I, II, III, OR IV. ALTERNATIVE SEAL FINISH: SIGNODE OR DELTA PAINTED SEALS MAY BE USED AS AN ALTERNATIVE IF ALL SURFACES ARE PAINTED. GRITTED BACKING IS NOT PERMITTED.

HARDBOARD - - - - -: ANSI/AHA A135.4, CLASS 1.

FIBERBOARD - - - - -: ASTM D4727.

HONEYCOMB FILLER - - -: FIBERBOARD, FACING PAPER WEIGHT 69 POUNDS/1,000 SQUARE FEET, CORE PAPER WEIGHT 33 POUNDS/1,000 SQUARE FEET, 1/2" CORE CELL CENTERS, PACTIVE CORPORATION (OR EQUAL).

FOAM CUSHIONING MATERIAL - - - - -: COMMERCIAL ITEM DESCRIPTION A-A-59136, CLASS 1, TYPE III, GRADE A, OR COMMERCIAL EQUIVALENT.



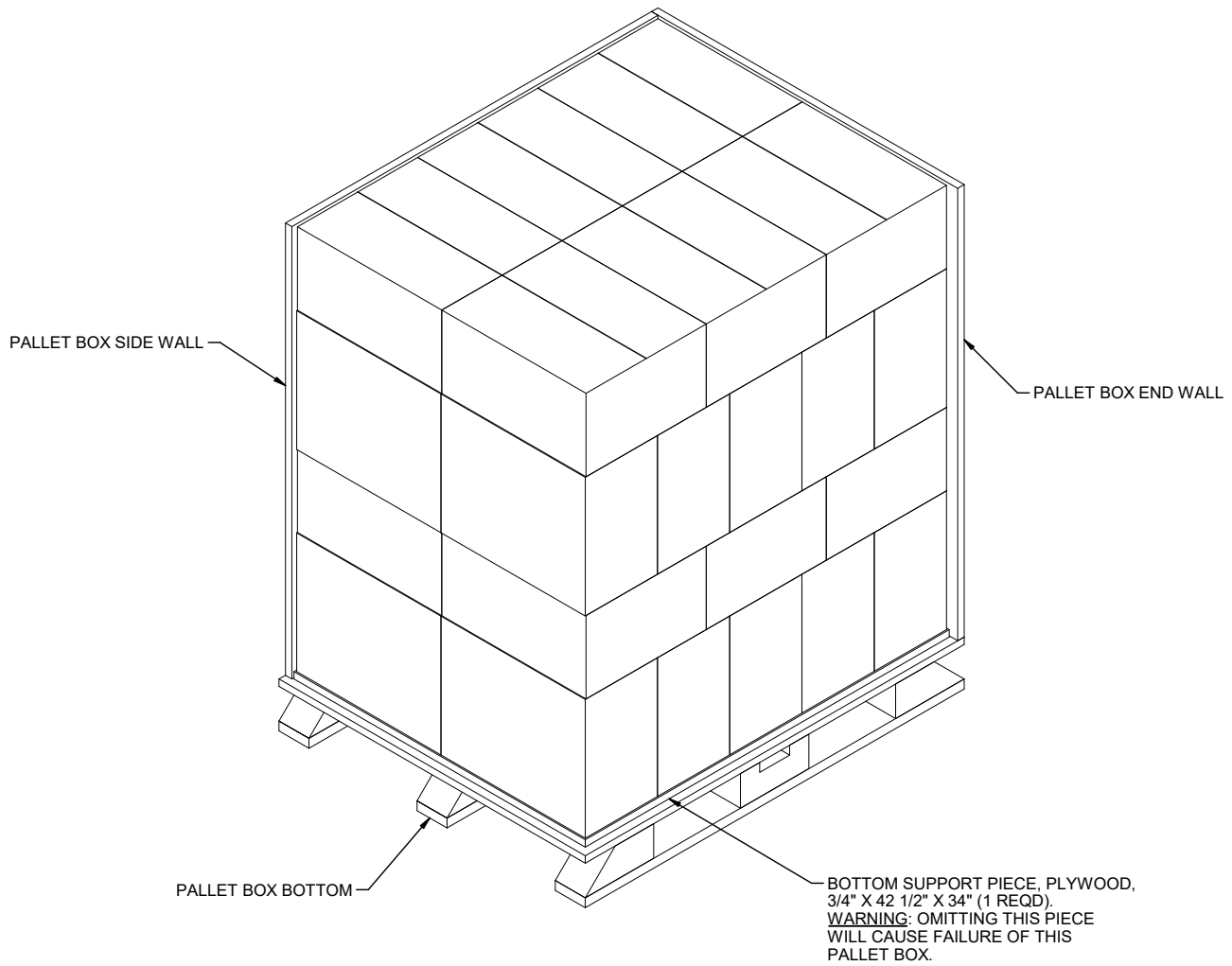
PALLET UNIT

32 BOXES OF ARMOR TILES, ONE PER BOX @ 71 LBS	-----	2,272 LBS (APPROX)
DUNNAGE	-----	10 LBS
PALLET BOX	-----	273 LBS
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TOTAL WEIGHT	-----	2,555 LBS (APPROX)
CUBE	-----	47.4 CU FT (APPROX)

BILL OF MATERIAL		
PALLET BOX, CLIP-LOK™	----- 1 REQD	----- 273 LBS
STEEL STRAPPING, 3/4"	----- 105.83' REQD	----- 9.45 LBS
SEAL FOR 3/4" STRAPPING	----- 7 REQD	----- NIL

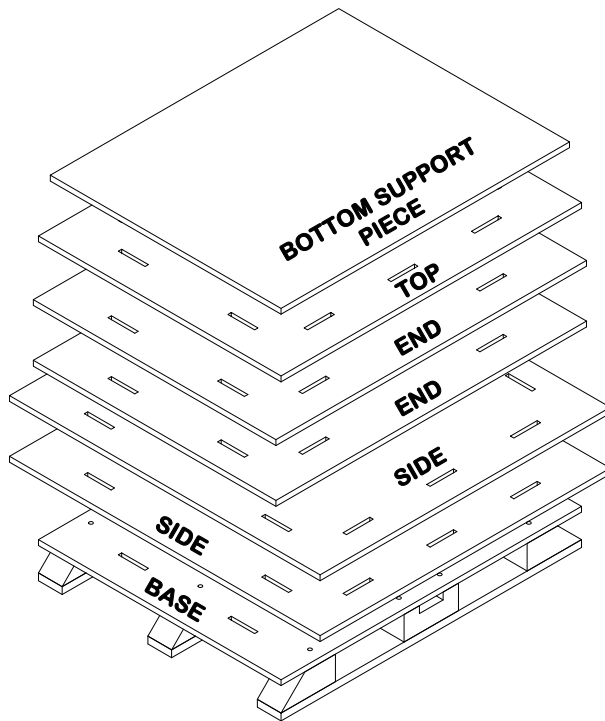
SPECIAL NOTES:

- SOURCES OF SUPPLY: THE CLIP-LOK™ PALLET BOX, PART NUMBER 13009490-1, IS APPROVED FOR USE. THIS PALLET BOX CAN BE OBTAINED FROM CLIP-LOK SIMPAK™ USA, INC., 1-800-448-CLIP. THE G.F. LEAGUE CO. INC. PALLET BOX, PART NUMBER PIC-1109-A, IS ALSO APPROVED FOR USE AND CAN BE OBTAINED FROM G.F. LEAGUE CO. INC., PO BOX 3626, GREENVILLE, SC, 29608, 1-800-362-4569.
- OTHER VENDORS' PALLET BOXES MAY BE QUALIFIED FOR USE BY SUBMITTING SAMPLE BOXES TO THE DEFENSE AMMUNITION CENTER, 1 C TREE ROAD, MCALESTER, OK 74501-9053. CONTACT THE DAC EXPLOSIVES SAFETY ENGINEERING DIVISION, ATCL-ACE, E-MAIL USARMY.MCALESTER.USAMC.MBX.DAC-DET@MAIL.MIL.

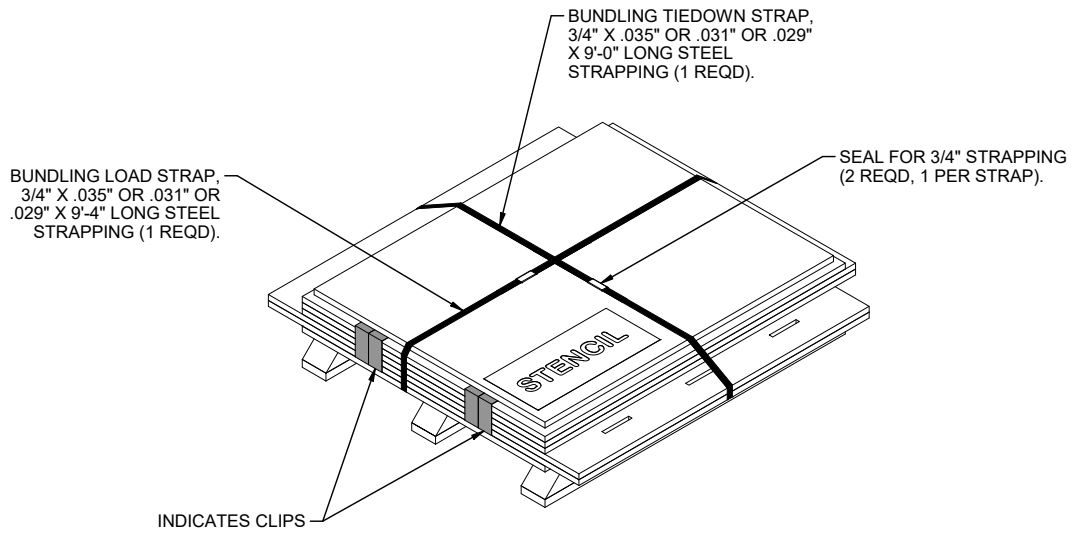


PALLET UNIT INTERNAL DUNNAGE

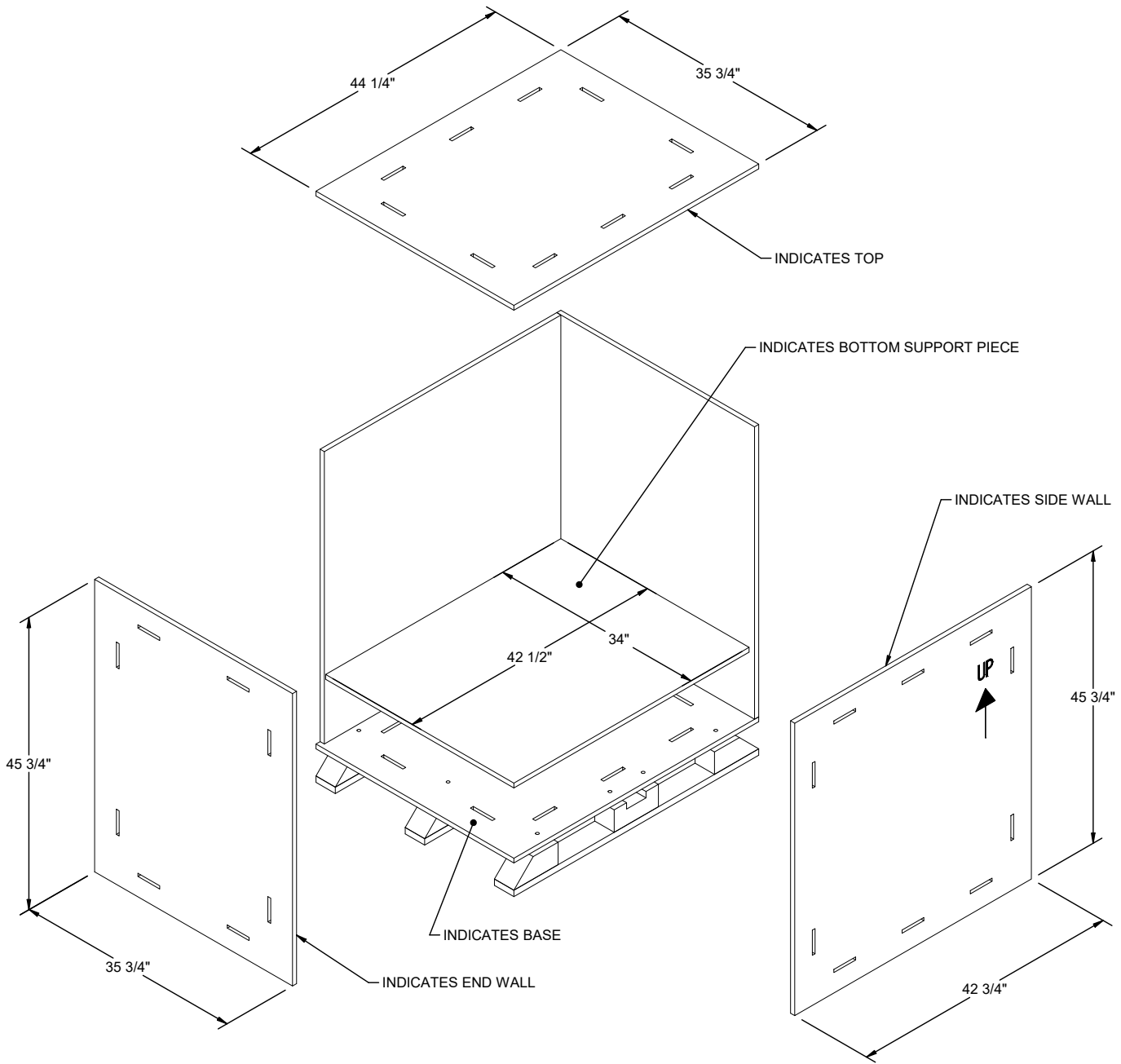
SEE GENERAL NOTE "L" ON PAGE 2.



STACKING FOR COLLAPSED CLIP-LOK™ BOX



COLLAPSED BOX
SEE THE STENCIL DETAIL ON PAGE 6.



STENCIL (FOR APPLICATION TO BOTTOM SUPPORT PIECE)

SPECIAL NOTES:

1. THE DETAIL DEPICTED ABOVE WILL BE STENCILED ON THE BOTTOM SUPPORT PIECE TO SHOW ASSEMBLY INSTRUCTIONS. SEE THE "COLLAPSED BOX" DETAIL ON PAGE 5.
2. AN ARROW WITH "UP" WILL BE STENCILED ON THE SIDE PIECES AS SHOWN TO ENSURE THE STACKING SLOTS ARE ON TOP.