

# UNITIZATION PROCEDURES FOR STRYKER ARMOR TILE SET UNITIZED IN PALLET BOXES

## ACTIVE TILES - REAR

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### U.S. ARMY MATERIEL COMMAND DRAWING

<p>APPROVED, U.S. ARMY FIELD SUPPORT COMMAND</p> <p><i>David G. Piskoun</i> TPR AMS RD-AAR-AIL-TP</p> <p><i>David [Signature]</i> SFSJM-LIT</p> <p>APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND</p> <p><i>[Signature]</i></p> <p>U.S. ARMY DEFENSE AMMUNITION CENTER</p>	<p><b>CAUTION: VERIFY PRIOR TO USE AT WWW.DAC.ARMY.MIL THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 6.</b></p>			
	<p><b>DO NOT SCALE</b></p>			<p><b>JANUARY 2006</b></p>
	<p>ENGINEER OR TECHNICIAN</p>	<p>BASIC REV.</p>	<p><b>LAURA A. FIEFFER</b></p>	
	<p>TRANSPORTATION ENGINEERING DIVISION</p>	<p><i>Laura A. Fieffer</i></p>		<p>TESTED</p>
<p>VALIDATION ENGINEERING DIVISION</p>	<p><i>[Signature]</i></p>		<p>CLASS</p>	
<p>ENGINEERING DIRECTORATE</p>	<p><i>[Signature]</i></p>		<p>DIVISION</p>	
			<p>DRAWING</p>	
			<p>FILE</p>	
			<p>19</p>	
			<p>48</p>	
			<p>4221/13</p>	
			<p>20PA1009</p>	

**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. FOR DETAILS OF THE FIBERBOARD BOX SEE ARDEC DRAWING 13005866-1. THE LARGE REAR (LOWER), LARGE REAR (UPPER), LARGE SIDEWALL, AND EMPTY FIBERBOARD BOXES, ALL HAVE THE SAME DIMENSIONS.

BOX DIMENSIONS: 18-5/8" LONG X 11-1/2" WIDE X 13-3/4" HIGH  
 BOX CUBE: 1.7 CUBIC FEET  
 BOX WEIGHT (ALL ARMOR TILES): 70 POUNDS  
 BOX WEIGHT (EMPTY BOX): 5 POUNDS

C. THE FOLLOWING AMC DRAWINGS ARE APPLICABLE FOR OUTLOADING 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

D. 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.

E. 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.

F. 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.

G. 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.

H. CLIP-LOK™ BOXES, HARDBOARD, FIBERBOARD, AND PLYWOOD ARE MANUFACTURED WOOD AND THEREFORE DO NOT REQUIRE HEAT TREATMENT.

J. UNIT LOAD MARKING MUST BE APPLIED IN ACCORDANCE WITH ARDEC DRAWING 13005865.

K. 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.

L. THE EMPTY FIBERBOARD BOXES WILL BE REINFORCED BY ADDING FILL MATERIAL, SUCH AS FOAM CUSHIONING, HONEYCOMB FILLER, OR PAPER, PRIOR TO LOADING.

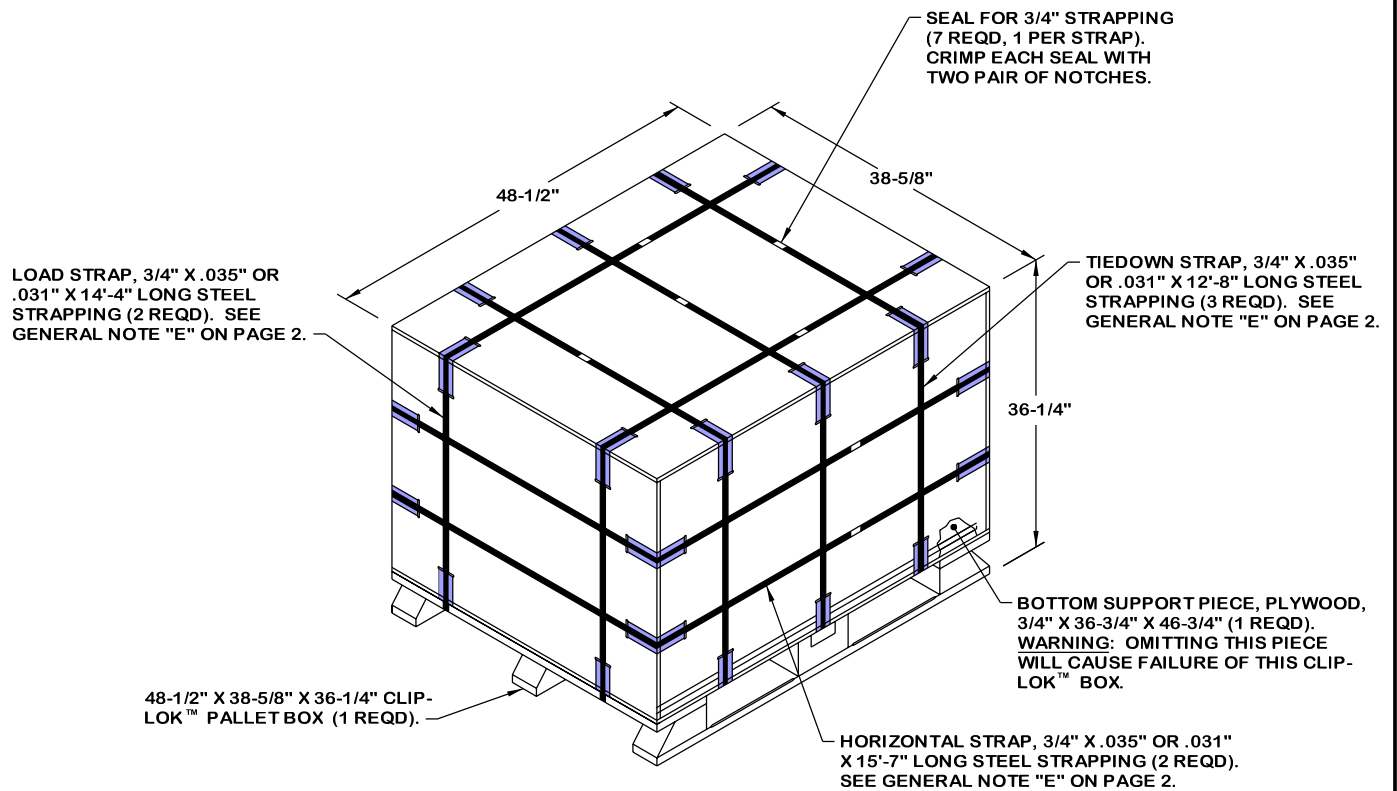
M. CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES, AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENTS MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25.4MM AND ONE POUND EQUALS 0.454 KG.

PALLET UNIT DATA			
ITEMS INCLUDED		HAZARD CLASS AND DIVISION	COMPATIBILITY GROUP
NSN	DODIC		
1375-			
01-528-9600	MP07	1. 1	D
01-528-9604	MP08	1. 1	D
01-528-9607	MP09	1. 1	D

● HAZARD 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™ REFERENCE NUMBER CL-13005863-2; CLIP-LOK SIMPAK™ USA, INC.
- 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" 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, PACTIV CORPORATION (OR EQUAL).
- FOAM CUSHIONING MATERIAL - - - - -: COMMERCIAL ITEM DESCRIPTION A-A-59136, CLASS 1, TYPE III, GRADE A, OR COMMERCIAL EQUIVALENT.
- PAPER - - - - -: COMMERCIAL ITEM DESCRIPTION A-A-203.



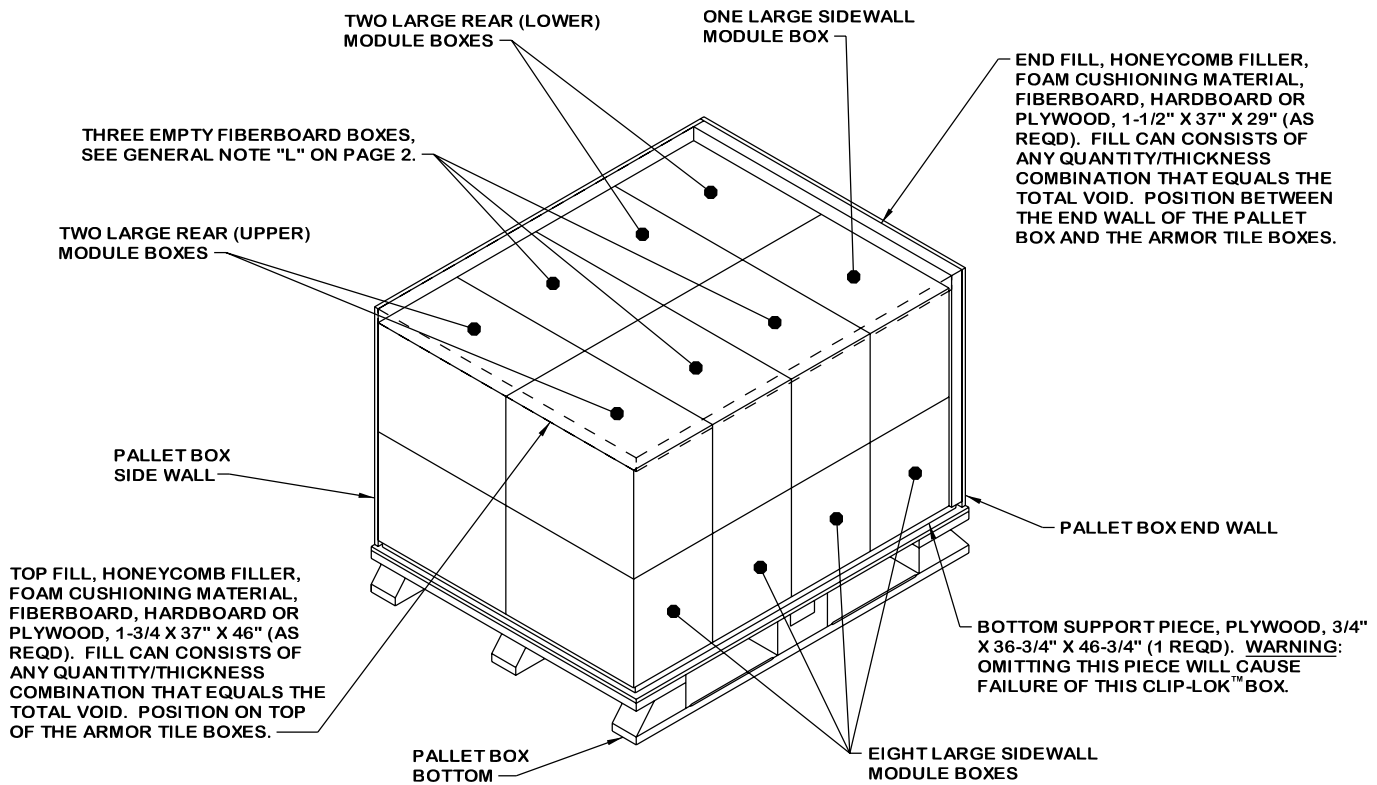
**PALLET UNIT**

9 BOXES OF LARGE SIDEWALL MODULES @ 70 LBS	- - - -	630 LBS (APPROX)
2 BOXES OF LARGE REAR (LOWER) MODULES @ 70 LBS	- -	140 LBS (APPROX)
2 BOXES OF LARGE REAR (UPPER) MODULES @ 70 LBS	- -	140 LBS (APPROX)
3 EMPTY FIBERBOARD BOXES @ 5 LBS	- - - - -	15 LBS (APPROX)
DUNNAGE	- - - - -	15 LBS
PALLET BOX	- - - - -	175 LBS
<hr/>		
TOTAL WEIGHT	- - - - -	1,115 LBS (APPROX)
CUBE	- - - - -	39.3 CU FT (APPROX)

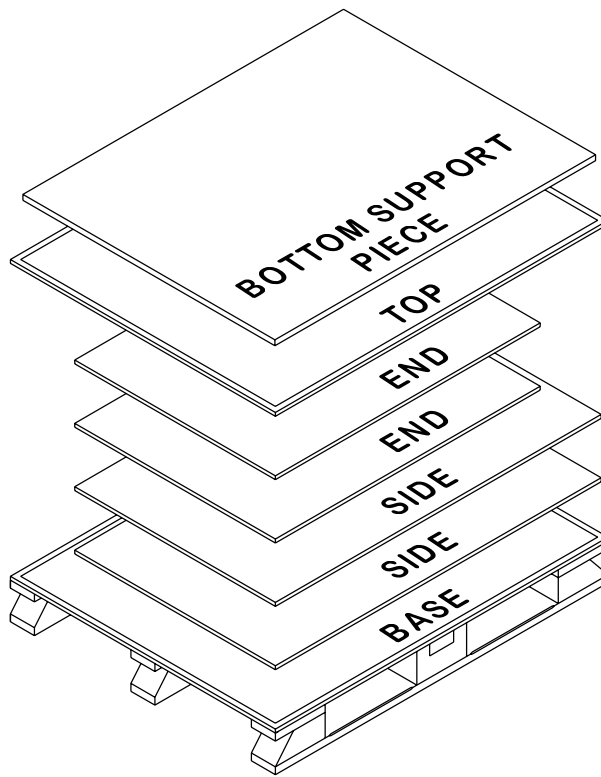
BILL OF MATERIAL			
PALLET BOX, CLIP-LOK™	- - - -	1 REQD	- - - 175 LBS
STEEL STRAPPING, 3/4"	- -	97.83 <sup>1</sup> REQD	- - - 8.74 LBS
SEAL FOR 3/4" STRAPPING	- - - -	7 REQD	- - - NIL
FIBERBOARD, 1/2"	- - -	7.45 SQ FT REQD	- - - 0.62 LBS
FIBERBOARD, 3/4"	- -	11.82 SQ FT REQD	- - - 1.48 LBS
HONEYCOMB, 1"	- - - -	19.27 SQ FT REQD	- - - 4.16 LBS

**SPECIAL NOTES:**

1. SOURCE OF SUPPLY: THE CLIP-LOK™ REFERENCE NUMBER CL-13005863-2 HAS BEEN APPROVED FOR USE. THIS PALLET BOX CAN BE OBTAINED FROM CLIP-LOK SIMPAK™ USA, INC., 1-800-448-CLIP.
2. OTHER VENDERS' 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 TACOM-ARDEC PACKAGING OFFICE, AMSTA-ARWEP-RP, TELEPHONE 309-782-8205, E-MAIL WEP-R@RIA.ARMY.MIL, OR THE DAC TRANSPORTATION ENGINEERING DIVISION, SJMAC-DET, TELEPHONE 918-420-8927, E-MAIL SJMAC-DET@DAC.ARMY.MIL.



**PALLET UNIT INTERNAL DUNNAGE**

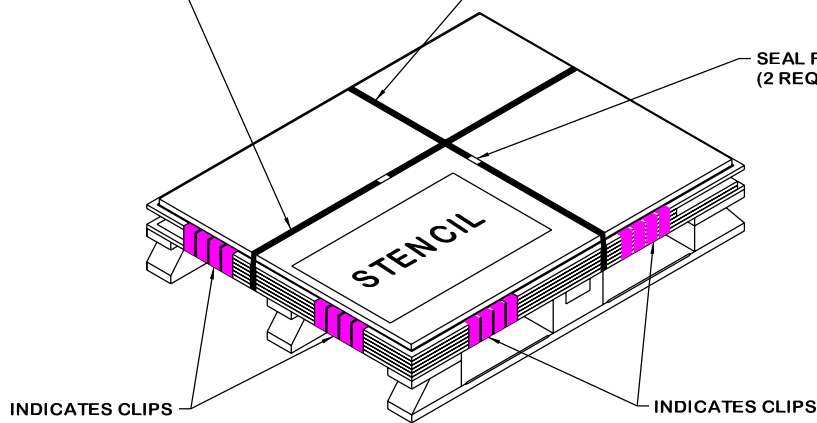


**STACKING FOR COLLAPSED CLIP-LOK™ BOX**

BUNDLING LOAD STRAP, 3/4" X .035" OR .031" X 9'-10" LONG STEEL STRAPPING (1 REQD).

BUNDLING TIEDOWN STRAP, 3/4" X .035" OR .031" X 8'-9" LONG STEEL STRAPPING (1 REQD).

SEAL FOR 3/4" STRAPPING (2 REQD, 1 PER STRAP).

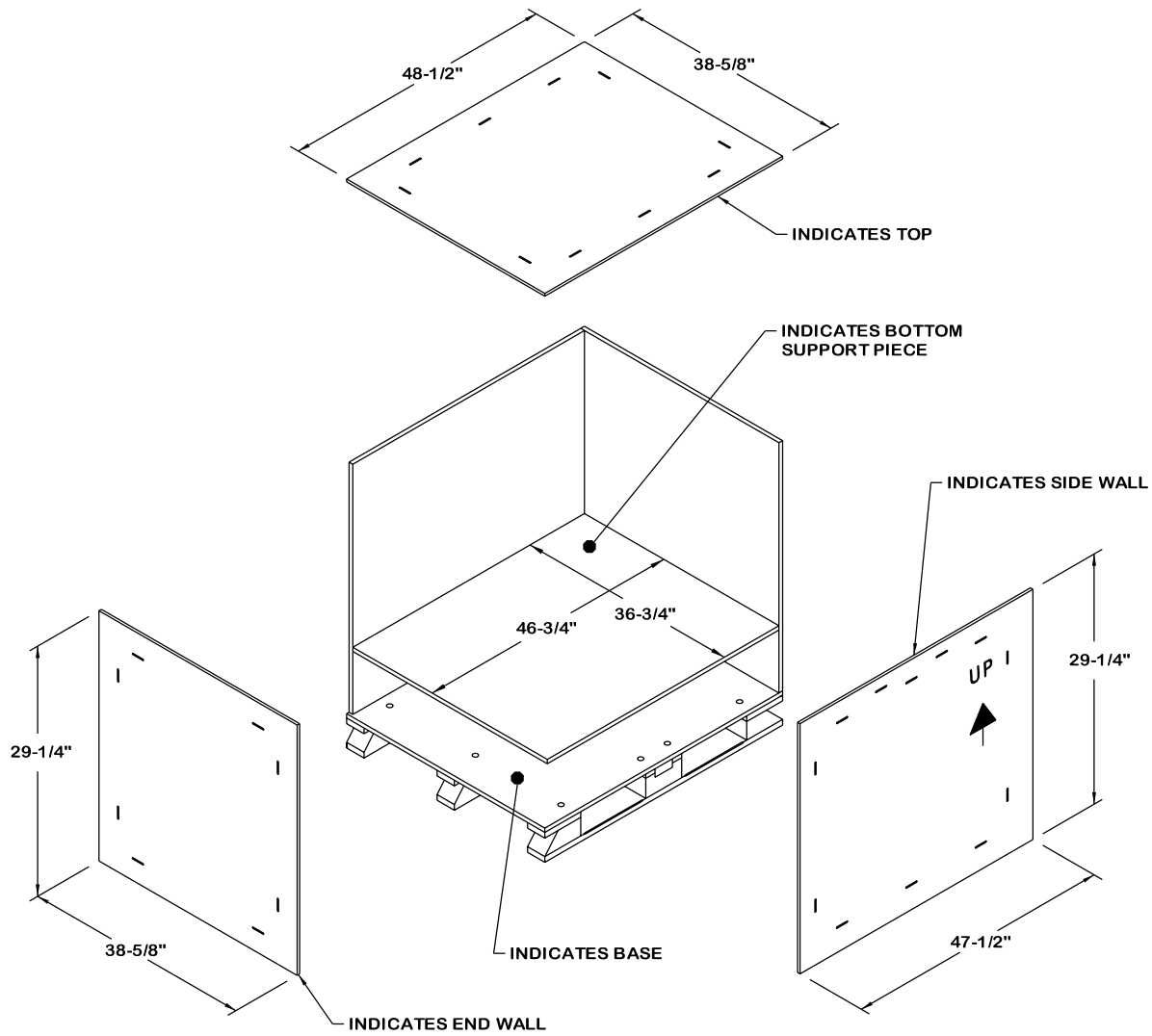


INDICATES CLIPS

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**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.