

# UNITIZATION PROCEDURES FOR BRADLEY ARMOR TILES UNITIZED IN PALLET BOXES

## BRADLEY REACTIVE ARMOR TILE SIDE SKIRT (BRASS), XM33, UNITIZED 14 PER PALLET BOX

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### U.S. ARMY MATERIEL COMMAND DRAWING

<b>APPROVED, U.S. ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND</b> REHMSTEDT.MA RK.J.1230548400 <small>Digitally signed by REHMSTEDT.MARK.J.1230548400                  DN: cn=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, c=US                  Date: 2014.04.03 06:51:32 -05'00'</small>		<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>			
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<b>APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND</b> SHIMP.UPTON .R.1231257183 <small>Digitally signed by SHIMP.UPTON.R.1231257183                  DN: cn=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, c=US                  Date: 2014.04.28 08:36:37 -05'00'</small>		TRANSPORTATION ENGINEERING DIVISION ENGINEER OR TECHNICIAN	BASIC REV.	RICHARD GARSIDE RICHARD GARSIDE	REVISION NO. 2 APRIL 2014
		VALIDATION ENGINEERING DIVISION ENGINEERING DIRECTORATE	FIEFFER.LAUR A.A.1230375727 <small>Digitally signed by FIEFFER.LAURA.A.1230375727                  DN: cn=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, c=US                  Date: 2012.01.31 11:22:59 -05'00'</small>	BARICKMAN.PHILIP PHILIP.W.1230202202 <small>Digitally signed by BARICKMAN.PHILIP.W.1230202202                  DN: cn=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, c=US                  Date: 2012.02.02 13:54:09 -05'00'</small>	TESTED CLASS DIVISION DRAWING FILE
U.S. ARMY DEFENSE AMMUNITION CENTER			BEAVER.JERRY .W.1230949952 <small>Digitally signed by BEAVER.JERRY.W.1230949952                  DN: cn=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, c=US                  Date: 2012.02.03 12:09:33 -05'00'</small>	19 48 4221/28 20PA1009	SEE THE REVISION LISTING ON PAGE 2

**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 13023043.
- BOX DIMENSIONS: 20-1/8" LONG X 13-7/8" WIDE X 11-1/8" HIGH  
 BOX CUBE: 1.8 CUBIC FEET  
 BOX WEIGHT: 98 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. PALLET 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 13023042.
- 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. 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)
NSN	DODIC			
1375-01-570-7596	MP25	1. 2. 3	D	1, 570

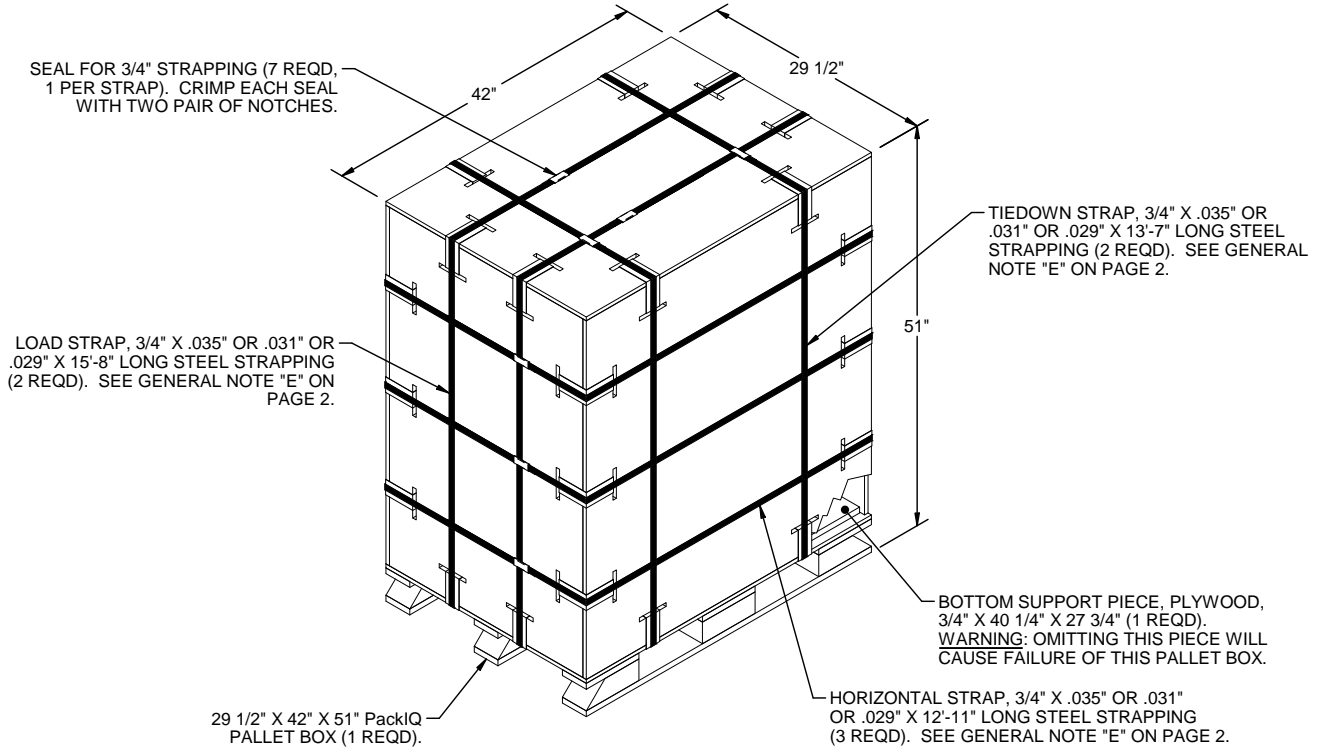
\*HAZARD CLASSIFICATION DATA CONTAINED IN THE ABOVE CHART IS FOR GUIDANCE AND INFORMATIONAL PURPOSES ONLY. VERIFICATION OF THE SPECIFIED DATA SHOULD BE MADE BY CONSULTING THE MOST RECENT JOINT HAZARD CLASSIFICATION SYSTEM LISTING OR OTHER APPROVED LISTING(S).

**REVISIONS**

- REVISION NO. 1, DATED JANUARY 2010, CONSISTS OF CHANGES PER ECP R09L2006, INCLUDING:
1. REMOVED ONE TIEDOWN STRAP, ADDED ONE HORIZONTAL STRAP, AND ADJUSTED STRAP SLOTS.
  2. REPOSITIONED TOP TWO BOXES ON PALLET UNIT AND UPDATED FILL AS NECESSARY.
- REVISION NO. 2, DATED APRIL 2014, CONSISTS OF CHANGES PER ECP R10B2007, INCLUDING:
1. CHANGED PALLET BOX WALL DIMENSIONS AND PALLET BOX HEIGHT.
  2. CHANGED FILL MATERIAL DIMENSIONS.
  3. UPDATED LOAD AND TIEDOWN STRAP LENGTHS.
  4. UPDATED BILL OF MATERIAL, WEIGHT AND CUBE.

**MATERIAL SPECIFICATIONS**

- PALLET BOX - - - - -: PackIQ REFERENCE NUMBER 13023715.
- 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.



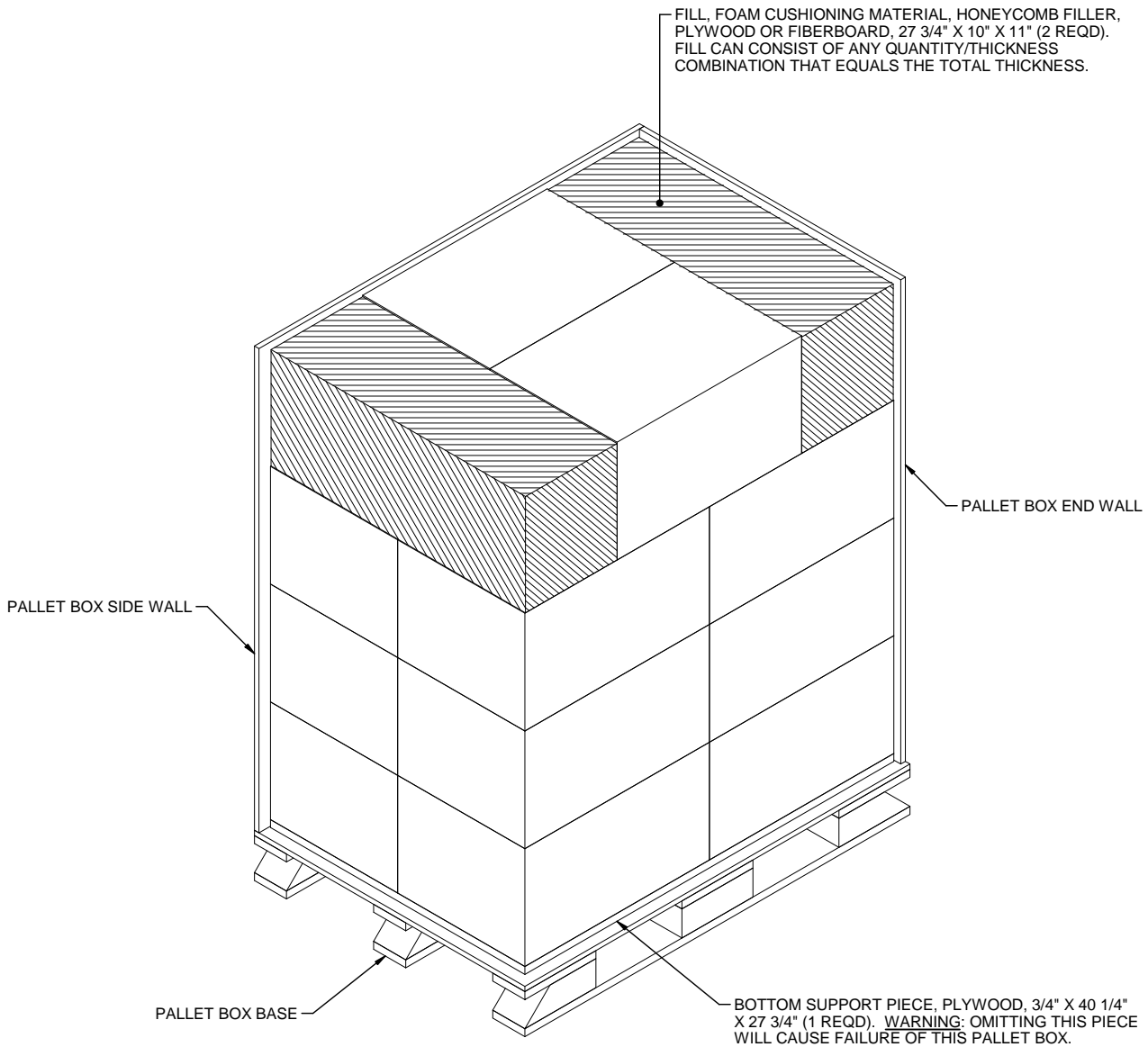
**PALLET UNIT**

14 BOXES OF ARMOR TILES @ 98 LBS	-----	1,372 LBS
DUNNAGE	-----	16 LBS
PALLET BOX	-----	182 LBS
<b>TOTAL WEIGHT</b> -----		<b>1,570 LBS (APPROX)</b>
<b>CUBE</b> -----		<b>36.6 CU FT (APPROX)</b>

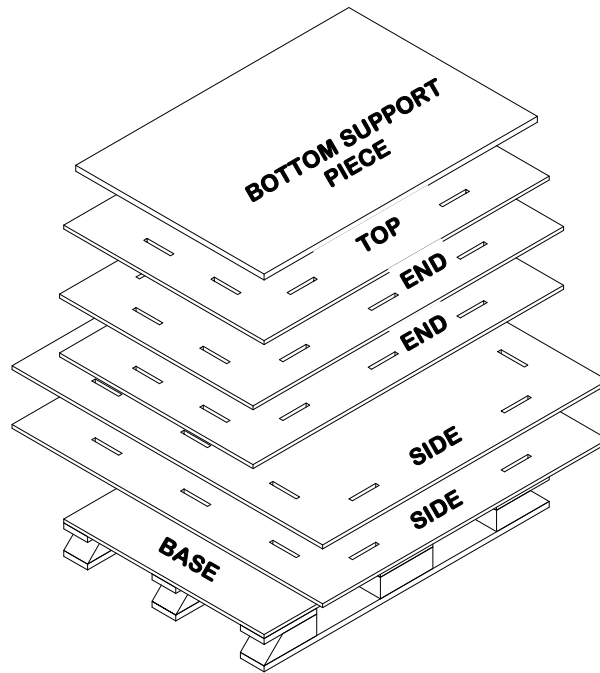
<b>BILL OF MATERIAL</b>		
PALLET BOX, PackIQ	----- 1 REQD	----- 182 LBS
STEEL STRAPPING, 3/4"	----- 97.25' REQD	----- 8.68 LBS
SEAL FOR 3/4" STRAPPING	----- 7 REQD	----- NIL
HONEYCOMB, 2"	----- 3.86 SQ FT REQD	----- 1.28 LBS
HONEYCOMB, 3"	----- 11.56 SQ FT REQD	----- 5.78 LBS

**SPECIAL NOTES:**

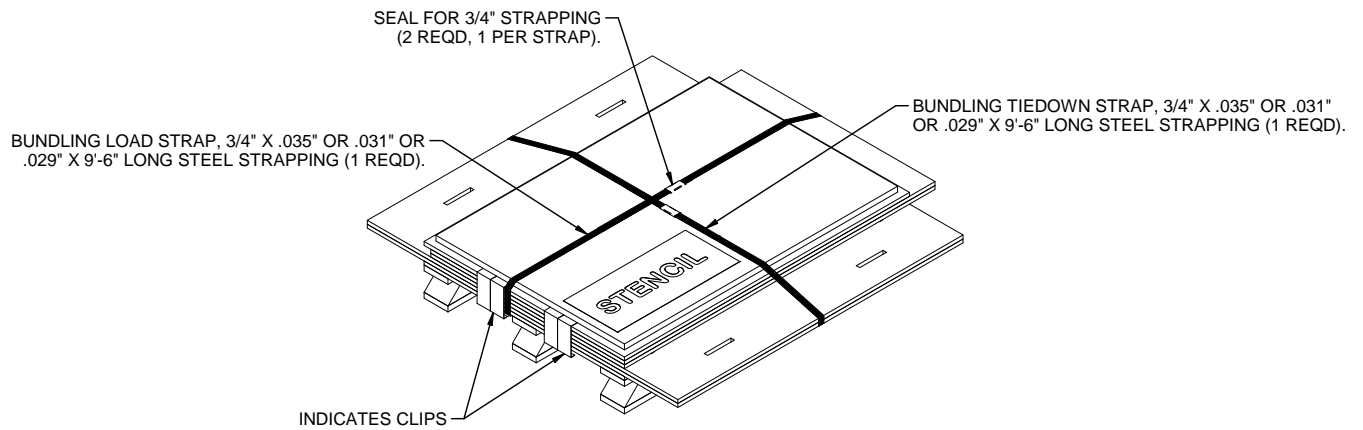
- SOURCE OF SUPPLY: THE PackIQ PALLET BOX, PART NUMBER 13023715, IS APPROVED FOR USE. THIS PALLET BOX CAN BE OBTAINED FROM PackIQ, 1640 POWERS FERRY ROAD, BUILDING 22, SUITE 100, MARIETTA, GA, 30067, 1-404-242-0828, [www.packIQ.com](http://www.packIQ.com).
- OTHER VENDORS' PALLET BOXES MAY BE QUALIFIED FOR USE BY SUBMITTING SAMPLE BOXES TO THE DEFENSE AMMUNITION CENTER, 1 C TREE ROAD, MCALESTER, OK 74501-9053. CONTACT THE DAC TRANSPORTATION ENGINEERING DIVISION, JMAC-DET, TELEPHONE 918-420-8927, E-MAIL [usarmy.mcalester.usamc.mbx.dac-det@mail.mil](mailto:usarmy.mcalester.usamc.mbx.dac-det@mail.mil).



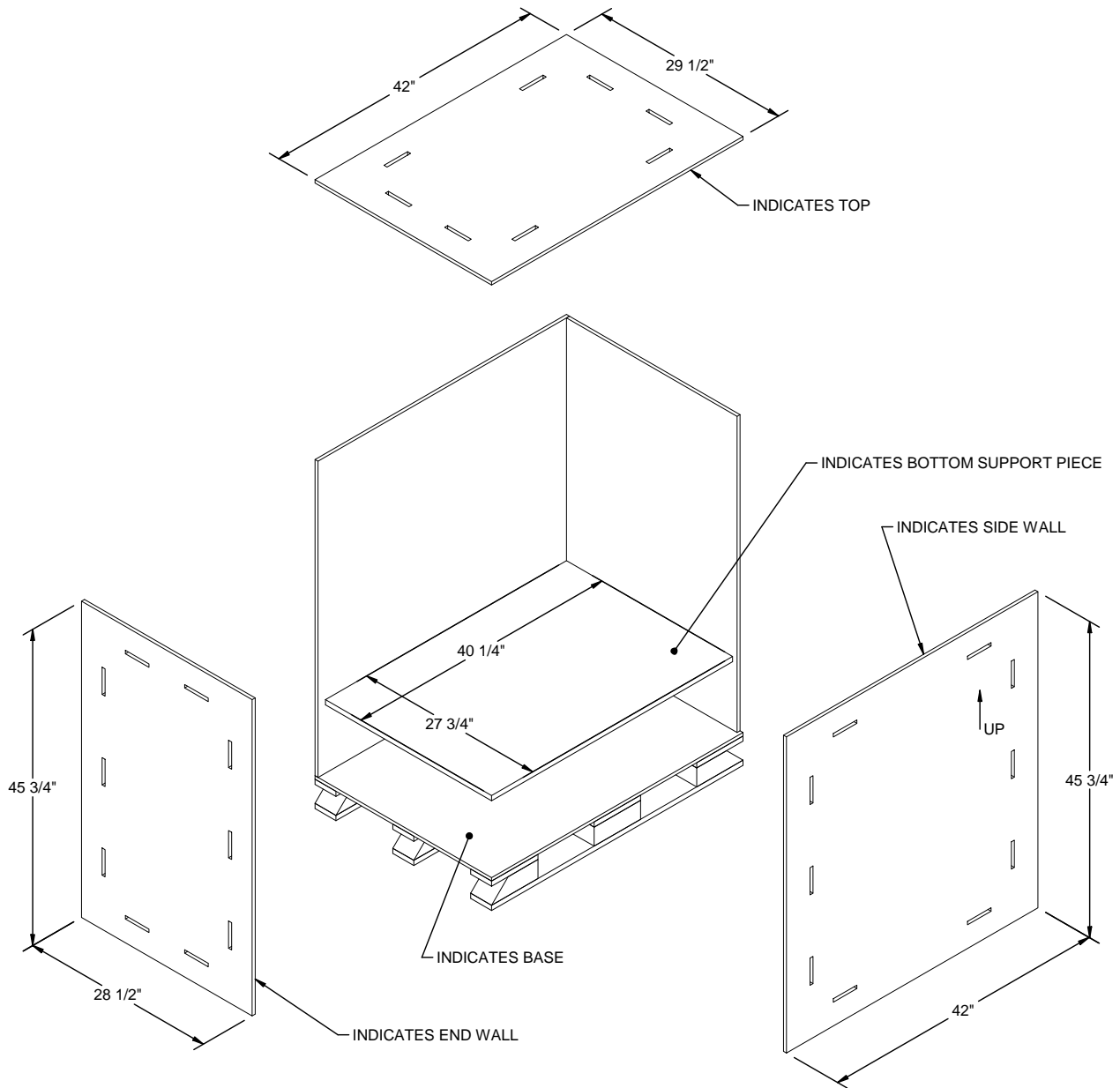
**PALLET UNIT INTERNAL DUNNAGE**  
 SEE GENERAL NOTE "K" ON PAGE 2.



**STACKING FOR COLLAPSED PALLET 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.