

# BASIC PROCEDURES

## UNITIZATION PROCEDURES FOR MILITARY AMMUNITION AND COM- PONENTS PACKED IN FIBERBOARD BOXES IN WIREBOUND OR FIBER- BOARD 4-WAY ENTRY PALLET BOXES

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### NOTICE:

THIS BASIC PROCEDURE DRAWING WILL BE AUGMENTED BY SEPARATELY ISSUED APPENDICES BEARING THE DRAWING AND FILE NUMBERS OF THIS DOCUMENT. AN APPENDIX WILL DELINEATE THE APPROVED CONFIGURATION OF A UNIT LOAD FOR ONE ITEM OF AMMUNITION OR FOR A CATEGORY OF AMMUNITION ITEMS. APPENDICES CANNOT STAND ALONE, BUT MUST BE USED IN CONJUNCTION WITH THIS BASIC PROCEDURE DRAWING. THE DRAWING NUMBER OF EACH APPENDIX WILL CONTAIN A SUB-NUMBER FOR IDENTIFICATION (E.G., THE DRAWING NUMBER FOR APPENDIX 3 WILL BE 19-48-4169/3-20PA1006). A BLOCK OF SUB-NUMBERS HAS BEEN SELECTED FOR EACH CLASS OF FSC GROUP 13 ITEMS; I.E., ONE BLOCK FOR CLASS 1305, ANOTHER BLOCK FOR CLASS 1310, ETC. IN SOME INSTANCES, AN ITEM MAY HAVE MORE THAN ONE STANDARD PACK, THUS REQUIRING MORE THAN ONE APPENDIX WHEN THE PACKAGE SIZES VARY APPRECIABLY. SUCH ADDITIONAL APPENDICES WILL BE IDENTIFIED BY ADDING A LETTER TO THE SUB-NUMBER (E.G., 19-48-4169/3A-20PA1006). APPENDICES WILL NOT NECESSARILY BE ISSUED BY NUMERICAL SEQUENCE. ALSO, SOME SUB-NUMBERS WITHIN THE BLOCK SELECTED FOR A CLASS OF ITEMS MAY NOT BE USED IF ALL APPLICABLE ITEMS WITHIN THAT CLASS ARE COVERED BY AN APPENDIX (E.G., IN THE SELECTED BLOCK OF SUB-NUMBERS OF 1 THROUGH 25, NUMBERS 23, 24, AND 25 MAY NOT BE USED, THUS SUB-NUMBER 26 WILL FOLLOW 22.

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## U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, COMBAT CAPABILITIES DEVELOPMENT COMMAND ARMAMENTS CENTER  HANSEN.JOSEP H.W.1376495538  <small>Digitally signed by HANSEN.JOSEPH.W.13764955 38 Date: 2023.08.31 07:00:49 -05'00'</small>	<b>CAUTION: VERIFY PRIOR TO USE AT <a href="https://www.dau.edu/cop/ammo/pages/default.aspx">https://www.dau.edu/cop/ammo/pages/default.aspx</a> THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 10.</b>		
APPROVED, U.S. ARMY JOINT MUNITIONS COMMAND  WARD.GINA. M.1369379808  <small>Digitally signed by WARD.GINA.M.1369379808 Date: 2023.08.31 07:45:32 -05'00'</small>	<b>DO NOT SCALE</b>	<h1 style="margin: 0;">MARCH 1985</h1>	
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND  BRAILSFORD.KEITH .ANTHONY.1028655 661 DEFENSE AMMUNITION CENTER  <small>Digitally signed by BRAILSFORD.KEITH.ANTHONY.1 028655661 Date: 2023.08.31 08:15:46 -05'00'</small>	DESIGN ENGINEER  ENGINEERING DIVISON  TEST ENGINEER TEST REPORT <b>NA</b>  EXPLOSIVE SAFETY DIRECTORATE	WILLIAM FRERICHS  RICHARD GARSIDE  FIEFFER.LAUR A.A.1230375727  <small>Digitally signed by FIEFFER.LAURA.A.1230375727 Date: 2023.07.11 10:48:39 -05'00'</small>  FELICIANO.AD IN.1259200373  <small>Digitally signed by FELICIANO.ADIN.1259200373 Date: 2023.07.24 14:29:59 -05'00'</small>  CUMMINS.PAU L.A.1231883122  <small>Digitally signed by CUMMINS.PAUL.A.1231883122 Date: 2023.06.01 12:21:29 -05'00'</small>	REVISION NO. 3  JULY 2023  <b>SEE THE REVISION LISTING ON PAGE 3</b>
	CLASS <b>19</b>	DIVISION <b>48</b>	DRAWING <b>4169</b>
		FILE <b>20PA1006</b>	

## GENERAL NOTES

(GENERAL NOTES CONTINUED)

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1, AUGMENTS TM 743-200-1 (CHAPTER 5) AND CONFORMS TO MIL-STD-1660.
- B. APPROVED SPECIFICATIONS, COVERING THE ASSEMBLAGE AND UNITIZATION OF FIBERBOARD BOX-PACKED MILITARY AMMUNITION INTO UNIT LOADS, ARE SET FORTH WITHIN THIS DRAWING. THIS DRAWING WILL BE CONSIDERED THE BASIC DOCUMENT FOR THE UNITIZATION OF MILITARY AMMUNITION ITEMS AND COMPONENTS PACKED IN FIBERBOARD BOXES. THIS DOCUMENT INCLUDES MATERIAL SPECIFICATIONS AND UNITIZING STANDARDS APPLICABLE TO UNITIZATION, PLUS INFORMATION RELATIVE TO TYPICAL POSITIONING OF BOXES WITHIN EITHER A WIREBOUND OR FIBERBOARD PALLET BOX AND INSTALLATION OF UNITIZING STEEL STRAPPING. FOR TYPICAL UNITIZATION PROCEDURES SEE PAGES 4, 5, 6 AND 7. ADDITIONALLY, PROCEDURES FOR LESS-THAN-FULL-LAYER UNIT LOADS ARE DELINEATED ON PAGE 8.
- C. APPENDICES PERTAINING TO THIS BASIC DOCUMENT WILL BE ISSUED SEPARATELY. ALL APPENDICES, HOWEVER, ARE A PART OF THIS BASIC PROCEDURE DRAWING. EACH APPENDIX WILL COVER THE APPROVED CONFIGURATION FOR A UNIT LOAD, THE SPECIFIC UNITIZATION SPECIFICATIONS AND THE PERTINENT TABULAR DATA FOR ONE AMMUNITION ITEM OR FOR A CATEGORY OF AMMUNITION ITEMS.
- D. THIS DOCUMENT DELINEATES TWO SEPARATE UNITIZATION METHODS FOR MILITARY AMMUNITION ITEMS AND COMPONENTS; I.E., UNITIZATION METHODS UNITIZING EITHER WIREBOUND PALLET BOXES OR TRIPLE WALL FIBERBOARD BOXES. EITHER UNITIZATION METHOD IS APPROVED FOR USE, WITH THE PREFERRED METHOD BEING THAT WHICH RESULTS IN THE LEAST EXPENSE TO THE GOVERNMENT.
- E. GENERALLY, UNIT LOADS WILL BE CONSTRUCTED TO CONFORM TO THE STANDARDS LISTED BELOW.
1. PALLET BOX AND BASE.
    - (A) WIREBOUND PALLET BOXES SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM-D6254 (TYPE I OR IV, CLASS 1, GRADE A), WITH THE EXCEPTION OF THE PALLET BASE STRINGERS. STRINGER CONFIGURATION WILL BE AS DELINEATED IN THE "WIREBOUND PALLET BOX BASE DETAIL" ON PAGE 10.
    - (B) FIBERBOARD PALLET BOXES SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM-D5168 (CLASS 2, STYLE E, REGULAR SLOTTED BOX, TRIPLE WALL, AAA FLUTE). ALL FIBERBOARD PALLET BOX BASES (PALLET) SHALL BE MILITARY SPECIFICATION MIL-DTL-15011 PALLET (4-WAY ENTRY, STYLE I, IA, OR IB, TYPE I, CLASS 1, PRESERVATIVE TREATED).
  2. GROSS WEIGHT.
    - (A) WIREBOUND PALLET BOX UNIT LOADS ARE BASED UPON A MAXIMUM GROSS WEIGHT OF 2,500 POUNDS.
    - (B) FIBERBOARD PALLET BOX UNIT LOADS ARE BASED UPON A MAXIMUM GROSS WEIGHT OF 4,000 POUNDS.
  3. MAXIMUM DIMENSIONS.
    - (A) WIREBOUND PALLET BOX UNIT LOADS SHALL BE LIMITED TO A MAXIMUM INSIDE DEPTH (HEIGHT OF LOAD) OF 48". THE INSIDE LENGTH OR WIDTH SHALL NOT EXCEED 60"; THE SUM OF THE INSIDE LENGTH AND WIDTH DIMENSIONS SHALL NOT EXCEED 102"; THE INSIDE LENGTH SHALL BE AT LEAST 31-1/2". ADDITIONALLY, ONE OF THE TWO OUTSIDE DIMENSIONS (LENGTH OR WIDTH) SHALL NOT EXCEED 46".
    - (B) FIBERBOARD PALLET BOX UNIT LOADS SHALL NOT EXCEED 54" IN HEIGHT, INCLUDING PALLET HEIGHT. THE UNIT LOADS SHALL NOT EXCEED 40" IN LENGTH BY 48" IN WIDTH FOR STYLE I (40" X 48") PALLET, 35" IN LENGTH BY 45-1/2" IN WIDTH FOR STYLE IA (35" X 45-1/2") PALLET, OR 42" IN LENGTH BY 53" IN WIDTH FOR STYLE IB (42" X 53") PALLET.
  4. AMMUNITION BOXES SHALL BE ARRANGED WITHIN FIBERBOARD PALLET BOX UNIT LOADS TO MOST EFFECTIVELY UTILIZE THE INTERIOR CUBE. LONGITUDINAL OR LATERAL VOIDS GREATER THAN 1/4" MUST BE FILLED. VOID FILLERS CAN CONSIST OF HARDBOARD, PLYWOOD, SOLID CORE FIBERBOARD, TRIPLE WALL AAA FLUTED FIBERBOARD, HONEYCOMB VOID FILLER (SEE "MATERIAL SPECIFICATIONS"), OR WOODEN SPACER ASSEMBLIES. FOR ADDITIONAL GUIDANCE, SEE THE "TYPICAL FIBERBOARD PALLET BOX UNITIZATION PROCEDURES" ON PAGES 6 AND 7.
  5. SINCE WIREBOUND PALLET BOX UNIT LOADS ARE CONSTRUCTED TO FIT A SPECIFIC AMMUNITION BOX SIZE, THE UNIT LOADS SHOULD BE CONFIGURED TO MOST EFFECTIVELY AND EFFICIENTLY UTILIZE TRANSPORTATION AND MATERIALS HANDLING EQUIPMENT. SEE THE "TYPICAL WIREBOUND PALLET BOX UNITIZATION PROCEDURES" ON PAGES 4 AND 5.
  6. AN AMMUNITION BOX (MILITARY, EXTERIOR PACK) WILL NOT CONTAIN MORE THAN ONE LOT OF AMMUNITION PER BOX. UNIT LOADS WILL NOT CONTAIN MORE THAN TWO LOTS OF AMMUNITION WHEN THE QUANTITY OF BOXES COMPRISING A LOT IS GREAT ENOUGH TO CONSTRUCT MORE THAN ONE UNIT LOAD. **NOTICE:** MULTIPLE (MORE THAN TWO) LOTS ARE PERMITTED TO BE PALLETIZED TOGETHER AS A UNIT LOAD WHEN A SINGLE LOT QUANTITY IS INSUFFICIENT TO COMPLETE ONE UNIT LOAD. MULTIPLE LOTS ON A PALLET WILL BE OF THE SAME NATIONAL STOCK NUMBER (NSN) AND WILL BE UNITIZED IN ACCORDANCE WITH THE PROCEDURES SPECIFIED HEREIN. MULTIPLE-LOT UNIT LOADS WILL BE MARKED IN ACCORDANCE WITH MIL-STD-129.
  7. LESS-THAN-FULL BOXES OF AN AMMUNITION ITEM (LIGHT BOXES) ARE LIMITED TO ONLY ONE LIGHT BOX PER ITEM LOT. A UNIT LOAD WILL NOT CONTAIN MORE THAN ONE LIGHT BOX PER ITEM LOT ON A PALLET. ADDITIONAL REQUIREMENTS ARE SPECIFIED IN THE "PROVISIONS FOR LESS-THAN-FULL-LAYER UNIT LOADS" ON PAGE 8.
  8. A UNIT LOAD, SUCH AS THE LAST UNIT LOAD FOR AN AMMUNITION LOT, CAN BE ASSEMBLED WITH LESS LAYERS THAN OTHER UNIT LOADS IN THE LOT. UNIT LOADS, INCLUDING PARTIAL UNIT LOADS, HOWEVER, WILL NOT BE ASSEMBLED WITH A PARTIAL LAYER; REINFORCED EMPTY BOXES, FILLER ASSEMBLIES, OR VOID FILLER WILL BE USED TO ACHIEVE FULL-LAYER UNIT LOADS. FOR SPECIFIC GUIDANCE, SEE THE "PROVISIONS FOR LESS-THAN-FULL-LAYER UNIT LOADS" ON PAGE 8.
- F. ANY REQUEST FOR DEVIATION FROM THE STANDARDS DESCRIBED IN GENERAL NOTE "E" OR FROM THE PROCEDURES AND SPECIFICATIONS DELINEATED HEREIN MUST BE DIRECTED TO THE COMMANDER, COMBAT CAPABILITIES DEVELOPMENT COMMAND ARMAMENTS CENTER, ATTN: CFDD-ACE-LTP, ROCK ISLAND, IL 61299-7300 FOR SPECIFIC APPROVAL.
- G. 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 0.454KG.
- H. UNIT LOADS MUST ONLY BE CONSTRUCTED WITH FULL LAYERS. FOR REDUCED QUANTITIES, HOWEVER, ONE OR MORE FULL LAYERS MAY BE OMITTED, AND/OR A FULL LAYER MAY CONSIST OF BOXED ITEMS AND A FILLER ASSEMBLY, A HONEYCOMB VOID FILLER, OR A REINFORCED EMPTY BOX(ES). SEE THE "PROVISIONS FOR LESS-THAN-FULL-LAYER UNIT LOADS" ON PAGE 8. ONLY ONE UNIT LOAD HAVING A REDUCED QUANTITY OF ITEMS SHOULD BE PERMITTED PER LOT OF THAT ITEM.
- J. A PLUS-OR-MINUS 1/4" IS ALLOWED ON OVERALL DIMENSIONS OF A FILLER ASSEMBLY, SPACER ASSEMBLY, OR ANY OTHER DUNNAGE ASSEMBLY. SIMILAR PIECES IN AN ASSEMBLY, HOWEVER, MUST BE WITHIN 1/8" OF THE SAME DIMENSION.
- K. DIMENSIONAL LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF A NOMINAL SIZE UNLESS OTHERWISE SPECIFIED. FOR EXAMPLE, 1" X 4" MATERIAL IS ACTUALLY 3/4" THICK BY 3-1/2" WIDE AND 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE.
- L. IN ORDER TO OBTAIN COMPACT (SOUND) UNITS, ALL STRAPS SHALL BE LOCATED IN PROPER ALIGNMENT AND TENSIONED UNTIL THEY CUT INTO THE EDGE OF THE PALLET BOXES AND/OR THE PALLET DECK. AFTER TENSIONING, EACH STRAP WILL BE SECURED USING ONE SEAL CRIMPED WITH TWO PAIR OF NOTCHES. SEALS MAY BE LOCATED ON A SIDE OR ON THE TOP OF THE UNIT, AS REQUIRED BY OPERATIONAL NECESSITY. SEE "UNIT ASSEMBLY TOLERANCES" DETAILS ON PAGE 9.
- M. 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. SEE "STRAP RETENSIONING TAB" VIEW ON PAGE 9.
- N. DETERMINATION OF LENGTH OF STRAPPING. THE FOLLOWING DEFINITIONS APPLY:
- L = LENGTH OF STRAP REQUIRED IN INCHES.  
A = LENGTH OF UNIT LOAD IN INCHES.  
W = WIDTH OF UNIT LOAD IN INCHES.  
H = HEIGHT OF UNIT LOAD, INCLUDING PALLET, IN INCHES.
1. THE LENGTH OF A LOAD STRAP REQUIRED FOR A SPECIFIC UNIT LOAD, WHERE THE STRAP PASSES THROUGH A STRAP SLOT OF THE PALLET WILL BE DETERMINED BY USING THE FOLLOWING FORMULA:  
 $L = 2W + 2H + 2"$
  2. THE LENGTH OF A HORIZONTAL STRAP REQUIRED FOR A SPECIFIC UNIT LOAD, WHERE THE STRAP ENCLOSES THE UNIT LOAD, WILL BE DETERMINED BY USING THE FOLLOWING FORMULA:  
 $L = 2A + 2W + 12"$
  3. THE LENGTH OF A TIEDOWN STRAP REQUIRED FOR A SPECIFIC UNIT LOAD, WHERE THE STRAP PASSES UNDER THE PALLET DECK, WILL BE DETERMINED BY USING THE FOLLOWING FORMULA:  
 $L = 2A + 2H + 2"$
- O. PALLET BOX UNIT LOADS SHALL BE INSPECTED FOR TORN, DETERIORATED, OR LOOSENED STRAPPING PRIOR TO SHIPPING.
1. TORN OR BROKEN STRAPS SHOULD BE REPLACED OR REPAIRED BY SPLICING IN A MANNER SIMILAR TO THAT DESCRIBED IN 4(B) ON PAGE 3.
  2. DETERIORATION DUE TO A MINOR AMOUNT OF RUST WILL NOT NECESSARILY BE CAUSE FOR STRAP REPLACEMENT IF THE SHIPMENT IS MADE FROM AMMUNITION STORAGE DEPOTS. AN EXTENSIVELY RUSTED /SCALED/PITTED STRAP, HOWEVER, IS CAUSE FOR STRAP REPLACEMENT.
  3. A DAMAGED OR DEFECTIVE SEAL IS SUFFICIENT CAUSE FOR REPLACEMENT OF THE SEAL.

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4. LOOSE STRAPS SHOULD BE CHECKED FOR DEGREE OF LOOSENESS BY POSITIONING THE HOOK OF A SCALE (COMMONLY KNOWN AS A FISH SCALE) BEHIND THE STRAPS NEAR THE MIDPOINT AT THE TOP OR SIDE OF THE UNIT LOAD. PULL THE SCALE UNTIL A READING OF 20 POUNDS IS OBTAINED. THE DISTANCE BETWEEN THE PALLET BOX AND THE STRAP MUST NOT EXCEED 1-1/2". IF THE MEASUREMENT EXCEEDS 1-1/2", THE STRAP MUST BE TIGHTENED OR REPLACED. TIGHTENING CAN BE ACCOMPLISHED BY EITHER OF THE TWO FOLLOWING METHODS.

(A) A STRAP TENSIONING TOOL CAN BE USED IF THE STRAP HAS AT LEAST A 6" LONG TAB ON THE UNDERSIDE OF THE JOINT AT THE SEAL. SEE GENERAL NOTE "M" ON PAGE 2.

(B) AN 18" OR LONGER STRAP CAN BE USED AS A SPLICE PIECE. CUT THE LOOSE STRAP ON BOTH SIDES OF THE ORIGINAL SEAL AND DISCARD THE CUT-OUT SECTION. OVERLAP ONE END OF THE STRAP SPLICE PIECE TO ONE END OF THE ORIGINAL STRAPPING SO AS TO PROTRUDE SLIGHTLY BEYOND THE END OF THE SEAL TO BE USED. POSITION AND SECURE SEAL TO OVERLAPPED SECTION WITH TWO PAIR OF NOTCHES. USING A STRAPPING TOOL, TENSION AND SEAL THE LENGTHENED STRAP. THE STRAP SPLICE PIECE MAY BE CUT FROM NEW STRAP OR USED STRAP, PROVIDED IT IS AT LEAST OF AS GOOD A QUALITY AS THE STRAP TO WHICH IT IS BEING SECURED. NOTE: ONLY ONE SPLICE PER STRAP IS ALLOWED ON PALLET BOX UNIT LOADS OF AMMUNITION.

5. CAUTION: WHEN A STRAP IS REPLACED, SPLICED, OR RETENSIONED, AND THE OTHER STRAPS ON A UNIT LOAD ARE NOT, CARE MUST BE EXERCISED TO INSURE THAT THE TENSION ON THE AFFECTED STRAP IS NEARLY THE SAME AS THAT OF THE OTHER STRAP.

P. LOAD, HORIZONTAL, AND TIEDOWN STRAP QUANTITIES FOR PALLET BOX UNIT LOADS OF AMMUNITION OR COMPONENTS WILL BE AS FOLLOWS:

1. WIREBOUND PALLET BOX UNIT LOADS SHALL BE STRAPPED IN ACCORDANCE WITH THE GUIDANCE CONTAINED IN ASTM-D6254, WITH THE EXCEPTION OF THE TYPE OF STRAPPING TO BE USED. STRAPPING TO BE APPLIED TO WIREBOUND PALLET BOXES WILL BE 3/4" WIDE BY .035" OR .031" OR .029" THICK OF A CLASS, TYPE, AND FINISH AS SPECIFIED IN THE "MATERIAL SPECIFICATIONS" ON THIS PAGE. FOR ADDITIONAL GUIDANCE, SEE THE "TYPICAL WIREBOUND PALLET BOX UNITIZATION PROCEDURES" ON PAGES 4 AND 5.

2. FIBERBOARD PALLET BOX UNIT LOADS SHALL BE STRAPPED IN ACCORDANCE WITH THE FOLLOWING GUIDANCE.

(A) ALL STRAPS APPLIED TO THE UNIT LOADS SHALL BE OF THE SAME WIDTH, CLASS, TYPE, AND FINISH. STRAP THICKNESS CAN BE EITHER .035" OR .031" OR .029" AND CAN BE MIXED ON A UNIT LOAD. SEE "MATERIAL SPECIFICATIONS" ON THIS PAGE FOR STRAPPING SPECIFICATIONS.

(B) HORIZONTAL STRAPS WILL NOT BE APPLIED TO ANY FIBERBOARD PALLET BOX UNIT LOADS.

(C) ALL FIBERBOARD PALLET BOX UNIT LOADS SHALL HAVE TWO LOAD STRAPS APPLIED TO VERTICALLY ENCIRCLE THE UNIT LOAD. THESE STRAPS MUST BE THREADED THROUGH THE TWO OUTERMOST PALLET STRAP SLOTS, REGARDLESS OF WHICH STYLE PALLET IS BEING USED. SEE THE "TYPICAL FIBERBOARD PALLET BOX UNITIZATION PROCEDURES" ON PAGES 6 AND 7 FOR ADDITIONAL GUIDANCE.

(D) EITHER 3/4" WIDE OR 1-1/4" WIDE STRAPPING MAY BE USED FOR TIEDOWN STRAPPING ON FIBERBOARD PALLET BOX UNIT LOADS. THE QUANTITY OF TIEDOWN STRAPS TO BE APPLIED TO UNIT LOADS WILL BE BASED UPON ONE 3/4" TIEDOWN STRAP BEING CAPABLE OF RESTRAINING 700 POUNDS OF LADING AND ONE 1-1/4" TIEDOWN STRAP BEING CAPABLE OF RESTRAINING 1,100 POUNDS OF LADING. TO DETERMINE THE REQUIRED NUMBER OF TIEDOWN STRAPS FOR A SPECIFIC UNIT LOAD, DIVIDE THE GROSS WEIGHT OF THE UNIT LOAD BY 700 POUNDS OR 1,100 POUNDS, WHICHEVER IS APPLICABLE, AND ROUND OFF TO THE NEXT HIGHER EVEN NUMBER; E.G., IF THE GROSS WEIGHT OF A UNIT LOAD IS 1,900 POUNDS, THEN THE REQUIRED NUMBER OF 3/4" STRAPS WOULD BE (1,900/700 = 2.7) 3 STRAPS, OR THE REQUIRED NUMBER OF 1-1/4" STRAPS WOULD BE (1,900/1,100 = 1.7) 2 STRAPS. CAUTION: REGARDLESS OF THE GROSS WEIGHT OF A UNIT LOAD, NO LESS THAN TWO TIEDOWN STRAPS WILL BE APPLIED TO ANY ONE UNIT LOAD. FOR ADDITIONAL GUIDANCE, SEE THE "TYPICAL FIBERBOARD PALLET BOX UNITIZATION PROCEDURES" ON PAGES 6 AND 7.

(E) THE WIDTH OF STRAPPING TO BE USED BY THE INSTALLATION/ACTIVITY PERFORMING THE UNITIZATION OPERATION WILL BE DETERMINED BY THE AVAILABILITY OF THE TWO STRAPPING WIDTHS, THE AVAILABILITY OF REQUIRED TENSIONING EQUIPMENT, AND THE ECONOMIC IMPACT OF USING ONE SIZE IN LIEU OF THE OTHER SIZE.

Q. MILITARY AMMUNITION OR COMPONENTS, PACKED IN FIBERBOARD BOXES, UNITIZED PRIOR TO DISTRIBUTION OF THIS DRAWING, NEED NOT BE REUNITIZED SOLELY TO CONFORM TO THE STANDARDS SPECIFIED HEREIN, UNLESS THE PREVIOUSLY UNITIZED LOADS PRESENT AN APPARENT HAZARDOUS CONDITION FOR HANDLING, SHIPMENT, OR STORAGE. STRAP ALIGNMENT, HOWEVER, MUST CONFORM WITH THE TOLERANCE STANDARDS SPECIFIED ON PAGE 9 OF THIS DRAWING, REGARDLESS OF UNITIZATION METHOD, BEFORE A UNIT LOAD IS ACCEPTABLE FOR SHIPMENT. ALSO, THE CONDITION OF THE UNITIZING STRAPPING ON A UNIT LOAD MUST COMPLY WITH CRITERIA OF GENERAL NOTE "O" ON PAGE 2.

R. UNIT LOAD MARKING WILL BE ACCOMPLISHED IN ACCORDANCE WITH MIL-STD-129, APPENDIX G, AMMUNITION MARKINGS (MARKING FOR SHIPMENT AND STORAGE).

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S. OUTLOADING AND STORAGE OF UNIT LOADS, PALLETIZED IN ACCORDANCE WITH THIS DRAWING, SHALL BE ACCOMPLISHED IN ACCORDANCE WITH DRAWINGS IDENTIFIED WITHIN AMC DRAWING 19-48-75-5.

T. ALL WOODEN DUNNAGE USED IN UNIT LOADS SHALL BE TREATED WITH EITHER TYPE I OR TYPE III WOOD PRESERVATIVE, IN ACCORDANCE WITH ARDEC DRAWING 13064136. IF THE DUNNAGE CONSISTS OF MORE THAN ONE COMPONENT, IT MUST BE ASSEMBLED PRIOR TO TREATMENT. PRESERVATIVE MARKING SHALL BE APPLIED TO AT LEAST ONE LOCATION ON THE ASSEMBLY OR COMPONENT IN ACCORDANCE WITH PARAGRAPH 3.3.6 OF ARDEC DRAWING 13064136.

U. A SPACER ASSEMBLY WILL BE DESIGNED SO THAT BOXES ON EACH SIDE OF A VOID WITHIN A PALLET BOX WILL BE BRACED AS STRONGLY AS IF THE VOID WAS OCCUPIED BY THE BOXES THAT ARE LOADED INTO THE PALLET BOX. ALSO, A SPACER ASSEMBLY WILL BE DESIGNED IN A MANNER THAT WILL PREVENT DAMAGE TO ADJACENT BOXES. FOR ADDITIONAL GUIDANCE, SEE THE "TYPICAL FIBERBOARD PALLET BOX UNITIZATION PROCEDURES" ON PAGES 6 AND 7.

V. FILLER ASSEMBLIES WILL BE DESIGNED SO AS TO PROVIDE LATERAL AND LONGITUDINAL BRACING WITHIN THE PALLET BOX EQUIVALENT TO OR GREATER THAN THE STRENGTH OF THE BOX(ES) BEING OMITTED FROM A LAYER. FOR EXAMPLES OF TYPICAL FILLER ASSEMBLIES, SEE PAGES 4 AND 6.

W. ALL NON-MANUFACTURED WOOD USED IN THE UNIT LOAD WILL BE HEAT TREATED AND MARKED TO SHOW CONFORMANCE TO THE INTERNATIONAL PLANT PROTECTION CONVENTION STANDARD (IPPC), ISPM-15. SEE DAC DRAWING ACV00831 FOR ISPM-15 CERTIFICATION MARKING AND PLACEMENT DETAILS.

MATERIAL SPECIFICATIONS

PALLET - - - - - : MIL SPEC MIL-DTL-15011; 4-WAY ENTRY, STYLE 1, 1A, OR 1B, TYPE I, CLASS 1, PRESERVATIVE TREATED.

BOX, WIREBOUND PALLET - - - - - : ASTM-D6254; PARTIAL 4-WAY ENTRY, TYPE I OR IV, CLASS 1, GRADE A.

BOX, FIBERBOARD PALLET - - - - - : ASTM-D5168; CLASS 2, STYLE E, REGULAR SLOTTED BOX, TRIPLE WALL, AAA FLUTE.

LUMBER - - - - - : SEE TM 743-200-1 (DUNNAGE LUMBER) AND VOLUNTARY PRODUCT STANDARD PS 20 FOR FILLER ASSEMBLIES. ASTM D6199; CLASS 2, GROUP II, III, OR IV, PRESERVATIVE AND HEAT TREATED FOR OTHER DUNNAGE ASSEMBLIES. NOTE: ONLY GROUP IV LUMBER IN ACCORDANCE WITH ASTM D6199 WILL BE ACCEPTABLE FOR THE CONSTRUCTION OF THE PALLET.

NAILS - - - - - : ASTM F1667; COMMON STEEL NAIL (NLCMS OR NLCMS). ALT: UNDERLAYMENT NAIL (NLUL), PALLET NAIL (NLPL), OR COOLER NAIL (NLCL) OF SAME SIZE.

STRAPPING, STEEL - - - : ASTM D3953; FLAT STRAPPING, TYPE I, HEAVY DUTY, FINISH B (GRADE 2), SIZE 3/4" X .035" OR .031" OR .029" ALTERNATIVE SIZE 1-1/4" X .035" OR .031" OR .029". NOTE: IF EDGES DO NOT MEET THE PREECE TEST FOR GRADE 2, ANY BRITE OR SLIT EDGES MUST HAVE FINISH A OVERLAY APPLIED.

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.

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.

HARDBOARD - - - - - : COMMERCIAL GRADE.

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

FILLER, FIBERBOARD - : ASTM D4727; TYPE SF (SOLID FIBERBOARD), CLASS-DOMESTIC, ALL GRADES.

REVISIONS

REVISION NO. 1, DATED MAY 1989, CONSISTS OF:

UPDATING GENERAL NOTES.

REVISION NO. 2, DATED DECEMBER 2019, CONSISTS OF CHANGES PER ECP R17K3001-3 INCLUDING:

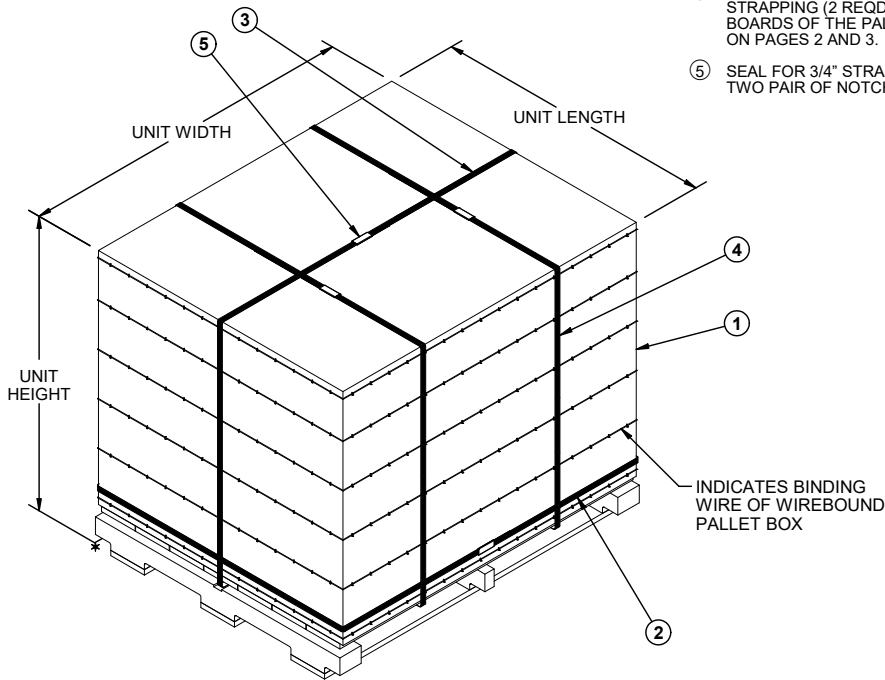
- 1. ADDING DISTRIBUTION STATEMENT A.
2. UPDATING GENERAL NOTE "T" (PRESERVATIVE TREATMENT).
3. UPDATING PROVISIONS FOR LESS-THAN-FULL-LAYER LOADS, NOTE 4.
4. UPDATING DRAWING TO CURRENT STANDARDS.

REVISION NO. 3, DATED JULY 2023, CONSISTS OF:

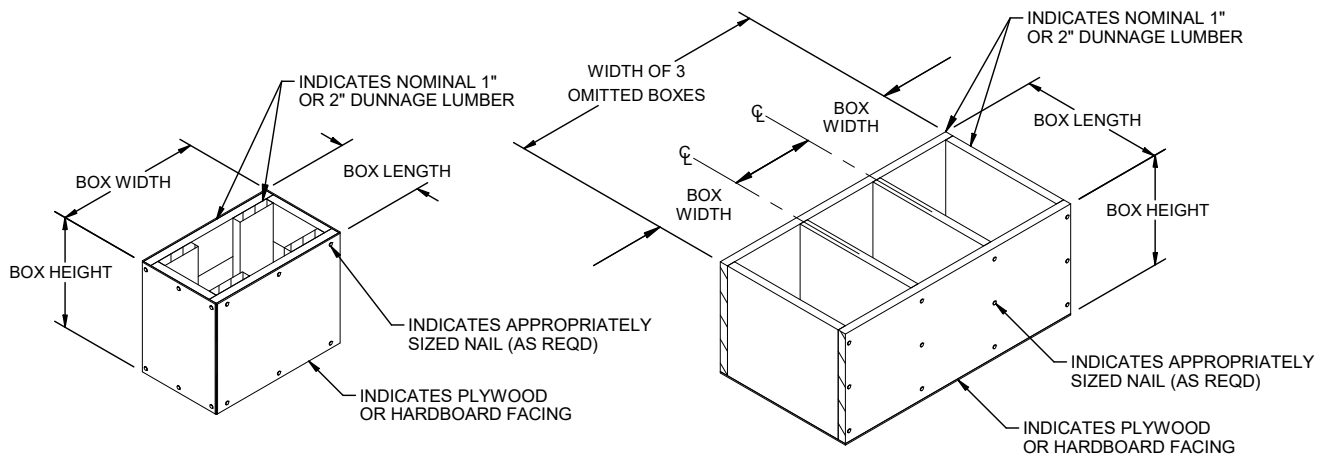
- 1. REMOVING "PLACARD" REFERENCE FOR NOTE AND LEADER ON PAGE 8.
2. ADDING GENERAL NOTE "W" (HEAT TREATMENT).

**UNITIZATION NOTES**

- ① WIREBOUND PALLET BOX TO BE DESIGNED FOR THE MOST EFFICIENT ECONOMICAL MEANS OF UNITIZING A SPECIFIED QUANTITY OF BOXES. SEE GENERAL NOTE "E" ON PAGE 2.
- ② HORIZONTAL STRAP, 3/4" X .035" OR .031" OR .029" BY LENGTH-TO-SUIT STEEL STRAPPING (1 REQD). INSTALL TO ENCIRCLE PALLET BOX AS SHOWN. SEE GENERAL NOTES "L", "M", "N", AND "P" ON PAGES 2 AND 3.
- ③ LOAD STRAP, 3/4" X .035" OR .031" OR .029" BY LENGTH-TO-SUIT STEEL STRAPPING (1 REQD). THE LOAD STRAP MUST BE THREADED THROUGH THE PALLET STRAP SLOT. SEE GENERAL NOTES "L", "M", "N", AND "P" ON PAGES 2 AND 3.
- ④ TIEDOWN STRAP, 3/4" X .035" OR .031" OR .029" BY LENGTH-TO-SUIT STEEL STRAPPING (2 REQD). INSTALL EACH STRAP TO PASS UNDER THE TOP DECK BOARDS OF THE PALLET AS SHOWN. SEE GENERAL NOTES "L", "M", "N", AND "P" ON PAGES 2 AND 3.
- ⑤ SEAL FOR 3/4" STRAPPING (4 REQD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES. SEE GENERAL NOTE "L" ON PAGE 2.



**TYPICAL WIREBOUND PALLET BOX UNIT LOAD**

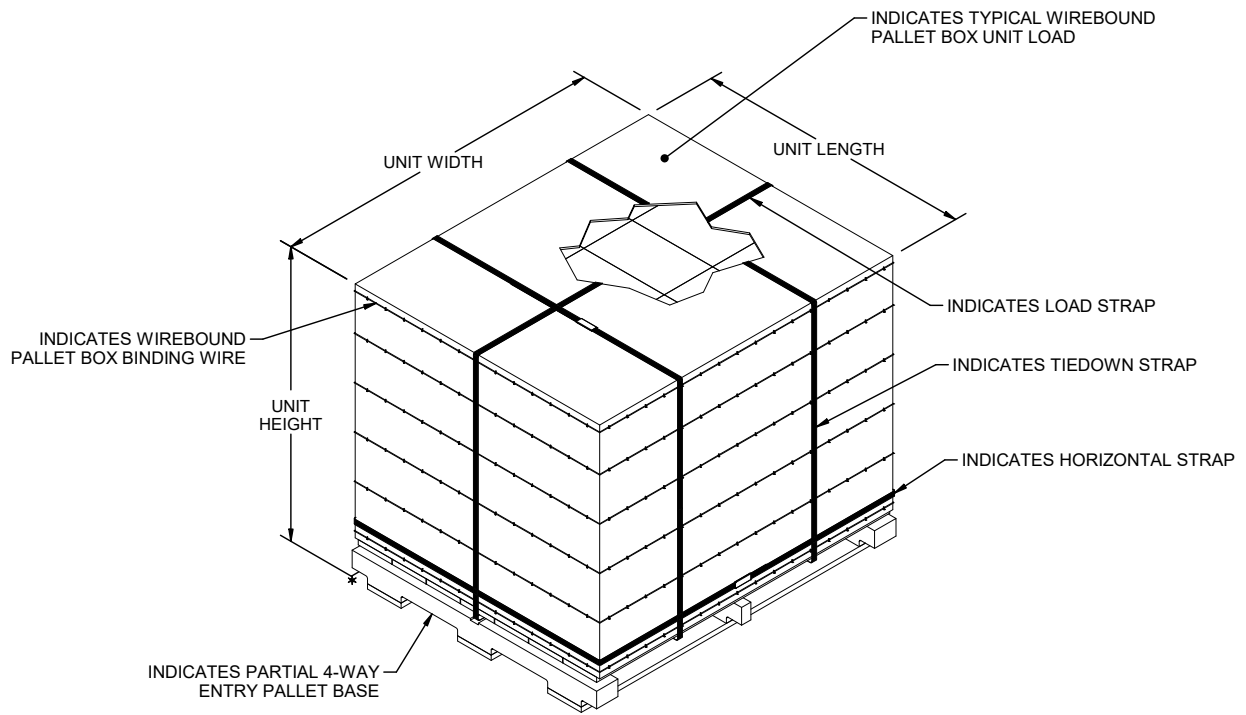


**TYPICAL FILLER ASSEMBLY**

THIS VIEW DEPICTS A TYPICAL FILLER ASSEMBLY TO BE USED WHEN ONE BOX IS OMITTED FROM A UNIT LOAD. SEE GENERAL NOTE "V" ON PAGE 3.

**TYPICAL FILLER ASSEMBLY**

THIS VIEW DEPICTS A TYPICAL FILLER ASSEMBLY TO BE USED WHEN THREE BOXES ARE OMITTED FROM A UNIT LOAD. SEE GENERAL NOTE "V" ON PAGE 3.



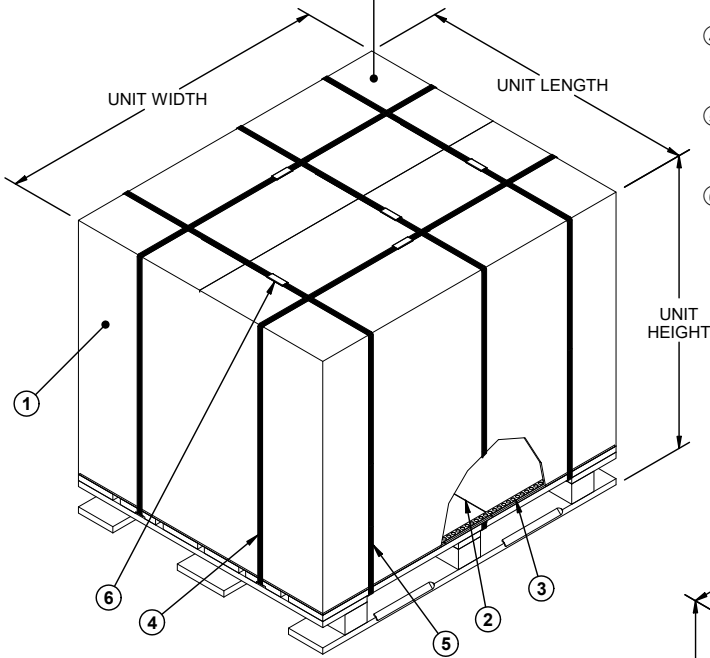
**TYPICAL UNIT LOAD**

THIS VIEW DEPICTS A TYPICAL UNIT LOAD FOR WHICH THE WIREBOUND PALLET BOX WAS CONSTRUCTED TO FIT A QUANTITY OF FIBERBOARD BOXES THAT ARE TO BE POSITIONED IN A 3-BOX LONG BY 6-BOX WIDE BY 6-BOX HIGH LOADING PATTERN WITHIN THE PALLET BOX.

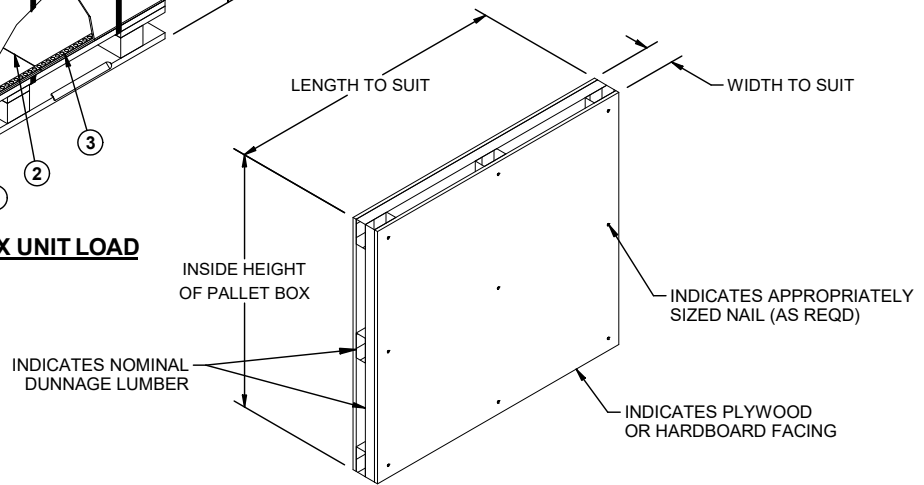
**UNITIZATION NOTES**

- ① SELECT ONE OF THE THREE SIZES OF FIBERBOARD PALLET BOXES THAT IS DEEMED THE MOST ECONOMIC AND EFFICIENT ONE FOR THE AMMUNITION ITEM TO BE UNITIZED. SEE GENERAL NOTE "E" ON PAGE 2.
- ② POSITION THE PALLET BOX ON THE CORRESPONDING MIL-DTL-15011 PALLET. POSITION A PIECE OF TRIPLE WALL, AAA FLUTE FIBERBOARD, CUT-TO-FIT IN SIZE, IN THE BOTTOM OF THE BOX BETWEEN THE INSIDE END FLAPS.
- ③ FASTEN PALLET BOX TO PALLET W/9-8d NAILS DRIVEN THROUGH PERFORATED METAL STRAPPING INTO THE PALLET DECK. **NOTE:** NAIL LOCATION WILL BE SUCH THAT A NAIL IS DRIVEN THROUGH THE PALLET DECK INTO A POST OF THE PALLET. IN LIEU OF THE SPECIFIED PERFORATED STRAPPING AND 8d NAILS, NINE COMMERCIAL FIBERBOARD PALLET BOX FASTENERS CAN BE USED TO SECURE THE BOX TO THE PALLET.
- ④ LOAD STRAP, 3/4" OR 1-1/4" X .035" OR .031" OR .029" BY LENGTH-TO-SUIT STEEL STRAPPING (AS REQD). INSTALL EACH STRAP TO PASS UNDER THE TOP DECK BOARDS OF THE PALLET AS SHOWN. SEE GENERAL NOTES "L", "M", "N", AND "P" ON PAGES 2 AND 3.
- ⑤ TIEDOWN STRAP, 3/4" OR 1-1/4" X .035" OR .031" OR .029" BY LENGTH-TO-SUIT STEEL STRAPPING (AS REQD). INSTALL EACH STRAP TO PASS UNDER THE TOP DECK BOARDS OF THE PALLET AS SHOWN. SEE GENERAL NOTES "L", "M", "N", AND "P" ON PAGES 2 AND 3.
- ⑥ SEAL FOR 3/4" OR 1-1/4" STRAPPING (AS REQD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES. SEE GENERAL NOTE "L" ON PAGE 2.

INDICATES TYPICAL FIBERBOARD BOX PALLET UNIT. **NOTE:** BOXES INSIDE PALLET BOX HAVE NOT BEEN SHOWN SO THAT PALLET BOX FASTENERS AND FIBERBOARD FILL PIECE CAN BE CLEARLY DEPICTED

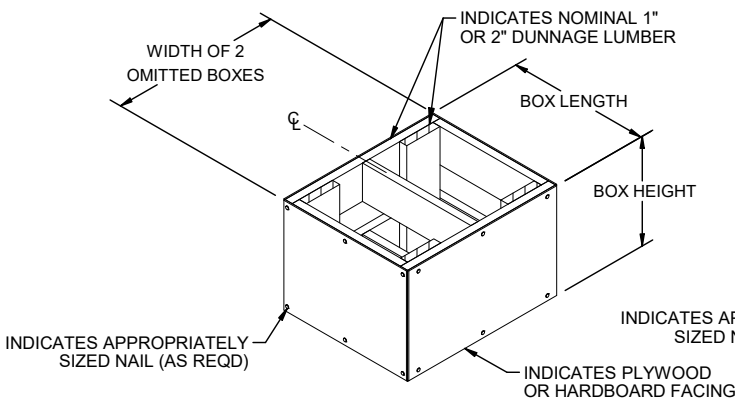


**TYPICAL FIBERBOARD PALLET BOX UNIT LOAD**



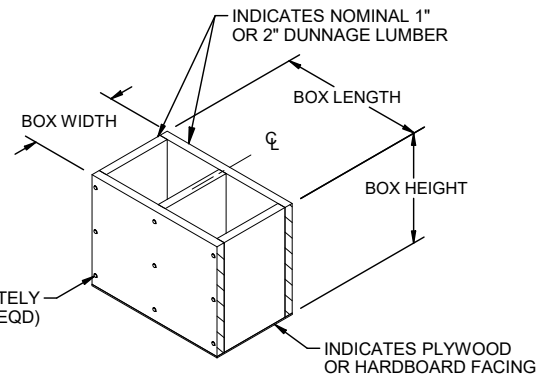
**TYPICAL SPACER ASSEMBLY**

THIS VIEW DEPICTS A TYPICAL WOODEN SPACER ASSEMBLY CONSTRUCTED TO FILL AN UNOCCUPIED VOID LOCATED WITHIN A PALLET BOX. SEE GENERAL NOTES "E4" ON PAGE 2 AND "U" ON PAGE 3.



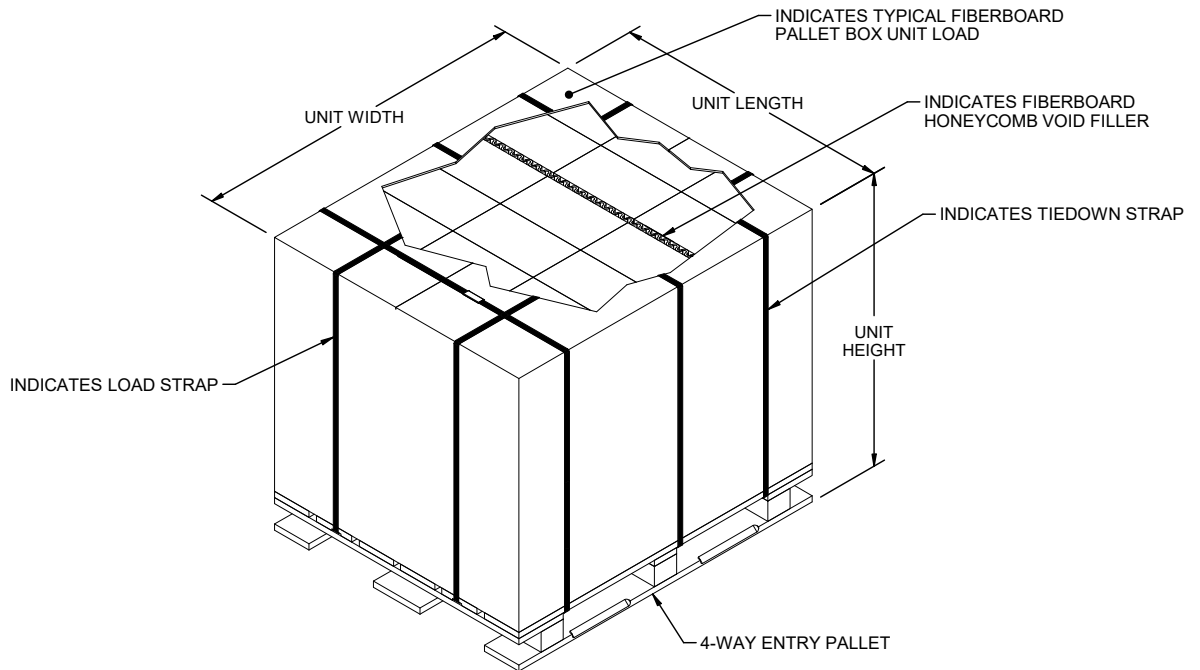
**TYPICAL FILLER ASSEMBLY**

THIS VIEW DEPICTS A TYPICAL FILLER ASSEMBLY TO BE USED WHEN TWO BOXES ARE OMITTED FROM A UNIT LOAD. SEE GENERAL NOTE "V" ON PAGE 3.



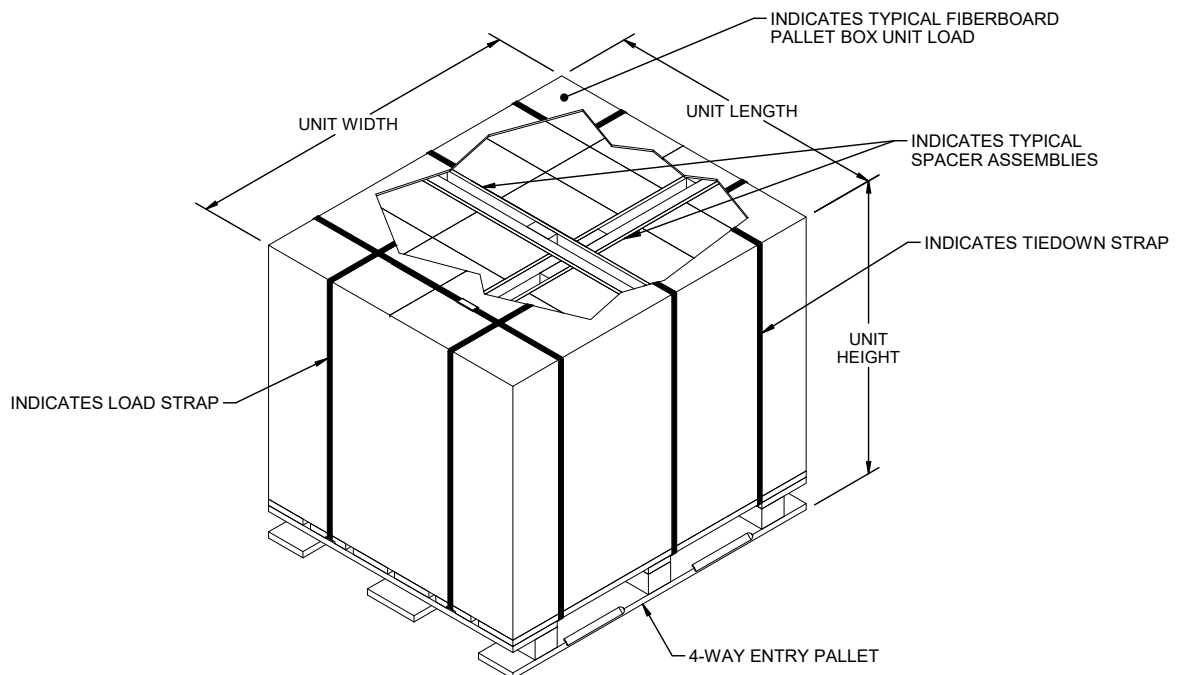
**TYPICAL FILLER ASSEMBLY**

THIS VIEW DEPICTS A TYPICAL FILLER ASSEMBLY TO BE USED WHEN ONE BOX IS OMITTED FROM A UNIT LOAD. SEE GENERAL NOTE "V" ON PAGE 3.



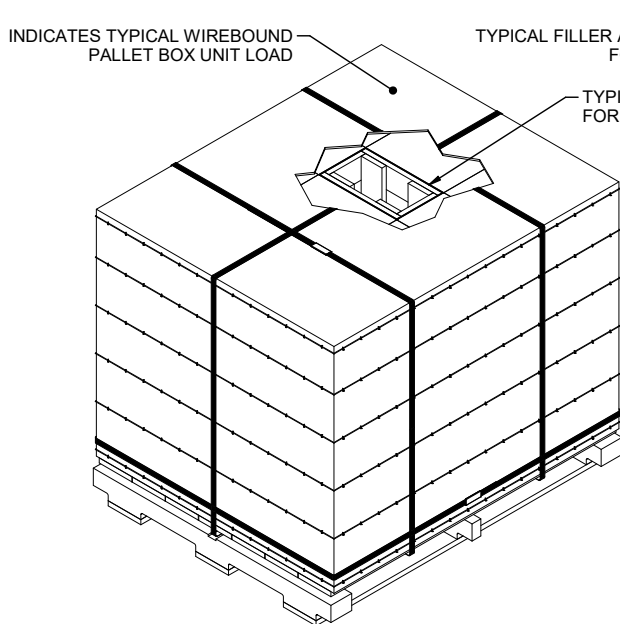
**TYPICAL UNIT LOAD WITH ONE VOID FILLER**

THIS VIEW DEPICTS THE APPLICATION OF FIBERBOARD HONEYCOMB VOID FILLER POSITIONED LENGTHWISE IN THE UNIT LOAD, TO FILL THE UNOCCUPIED SPACE WITHIN THE PALLET BOX. SIMILARLY, TO FILL A WIDTHWISE VOID, HONEYCOMB VOID FILLER COULD BE POSITIONED WIDTHWISE WITHIN THE PALLET BOX. SEE GENERAL NOTES "E4" ON PAGE 2 AND "U" ON PAGE 3.



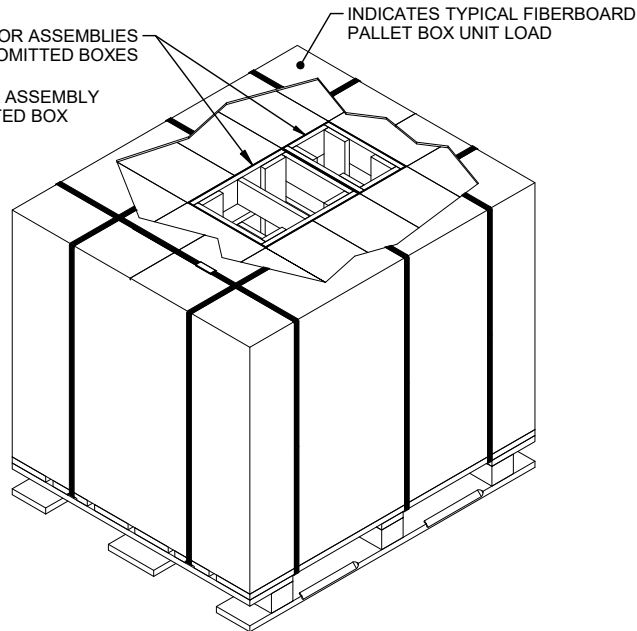
**TYPICAL UNIT LOAD WITH THREE SPACER ASSEMBLIES**

THIS VIEW DEPICTS THE APPLICATION OF THREE SPACER ASSEMBLIES POSITIONED IN THE UNIT LOAD TO FILL THE UNOCCUPIED SPACE WITHIN THE PALLET BOX. SEE GENERAL NOTES "E4" ON PAGE 2 AND "U" ON PAGE 3.



**TYPICAL APPLICATION OF FILLER ASSEMBLY**

(ONE BOX OMITTED)

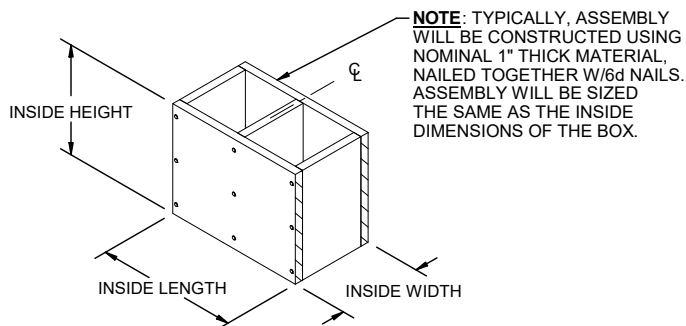


**TYPICAL APPLICATION OF FILLER ASSEMBLY**

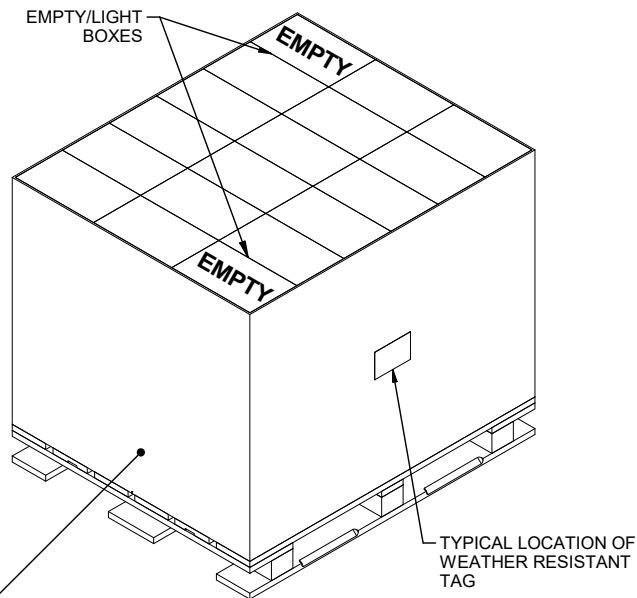
(THREE BOXES OMITTED)

**PROVISIONS FOR LESS-THAN-FULL-LAYER LOADS**

1. THE FOLLOWING PROVISIONS SET FORTH THE SPECIFICATIONS THAT MUST BE FOLLOWED IF A FILLER TYPE ASSEMBLY IS USED TO ACHIEVE A FULL-LAYER UNIT LOAD.
  - A. FILLERS ARE DESIGNED FOR USE IN THE PLACE OF ONE OR MORE BOXES OF A UNIT LOAD. SEE THE TYPICAL FILLER ASSEMBLY DETAILS ON PAGES 4 AND 6 AND GENERAL NOTE "V" ON PAGE 3.
  - B. FILLERS WILL BE POSITIONED IN THE TOP LAYER OR LAYERS OF THE UNIT LOAD. FILLERS MAY BE POSITIONED IN ANY STACK, INCLUDING CORNERS STACKS, IN THE UNIT LOAD, DEPENDING UPON BASE OF FILLER INSTALLATION AND OPERATIONAL NECESSITY. SEE THE "TYPICAL APPLICATION OF FILLER ASSEMBLY" VIEWS ABOVE.
2. EMPTY BOXES, PREFERABLY "REJECTS", CAN BE USED AS FILLERS INSTEAD OF WOODEN DUNNAGE ASSEMBLIES INDICATED ABOVE, TO ACHIEVE A FULL-LAYER UNIT LOAD. THE EMPTY BOXES, HOWEVER, MUST HAVE A REINFORCING ASSEMBLY PLACED INSIDE EACH ONE TO PREVENT COLLAPSING OF THE BOXES WHEN FORCES ARE INCURRED DURING SHIPMENT OR STORAGE. SEE THE "TYPICAL REINFORCING ASSEMBLY FOR EMPTY BOX" DETAIL AT RIGHT. **NOTE:** THE ASSEMBLY DEPICTED AT RIGHT IS NOT TO BE USED AS A "FILLER ASSEMBLY". FILLER ASSEMBLIES WILL BE CONSTRUCTED AS TYPICALLY DETAILED ON PAGES 4 AND 6.
3. WHEN EMPTY BOXES ARE USED TO ACHIEVE A FULL-LAYER UNIT LOAD, THEY WILL ONLY BE USED IN THE TOP LAYER AND WILL ONLY BE POSITIONED AT THE CORNERS OF THE LAYER (NOT IN THE MIDDLE OF THE LAYER) IN THE UNIT LOAD. NOT MORE THAN FOUR EMPTY BOXES MAY BE USED IN A UNIT LOAD. WHEN EMPTY BOXES ARE USED TO FILL OUT A LAYER, THE EMPTY BOXES WILL BE PAINTED AND MARKED AS SPECIFIED IN DAC DRAWING ACV00561 AND ARDEC DRAWING 12982865. SEE NOTE 5 BELOW.
4. LESS THAN FULL BOXES OF AMMUNITION (LIGHT BOXES) MAY BE USED TO ACHIEVE A FULL-LAYER UNIT LOAD. LIGHT BOXES WILL BE PAINTED AND MARKED AS SPECIFIED IN ARDEC DRAWINGS 8796522 OR 12982865. LIGHT BOXES WILL ONLY BE PLACED IN THE TOP LAYER AND LOCATED AT ANY OF THE FOUR CORNERS OF THE LAYER (NOT IN THE MIDDLE OF THE LAYER) IN THE UNIT LOAD. NOT MORE THAN TWO LIGHT BOXES (ONE PER LOT) WILL BE PLACED IN A UNIT LOAD. SEE NOTE 5 BELOW.
5. TO SATISFY THE REQUIREMENTS FOR A FULL-LAYER UNIT, IT IS PERMISSIBLE TO USE A COMBINATION OF EMPTY AND LIGHT BOXES IN THE TOP LAYER. IF A TOTAL OF FOUR EMPTY AND LIGHT BOXES DOES NOT PROVIDE FOR A FULL LAYER, HOWEVER, ONE OR MORE FILLER ASSEMBLIES MUST BE USED IN THE MIDDLE OF THE LAYER TO INSURE COMPLIANCE WITH THE LIMITATIONS SPECIFIED IN NOTES 3 AND/OR 4 ABOVE.
6. EACH UNIT LOAD CONTAINING EMPTY AND/OR LIGHT BOXES WILL HAVE A WEATHER RESISTANT TAG PREPARED AND APPLIED TO THE UNIT LOAD AS SPECIFIED IN DAC DRAWING ACV00561. SEE THE "USE OF EMPTY/LIGHT BOXES TO ACHIEVE A FULL LAYER" DETAIL AT RIGHT.



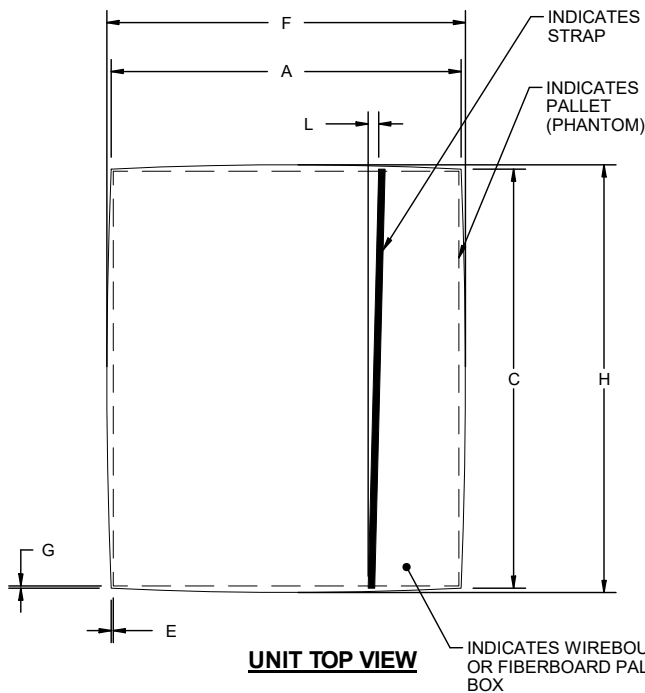
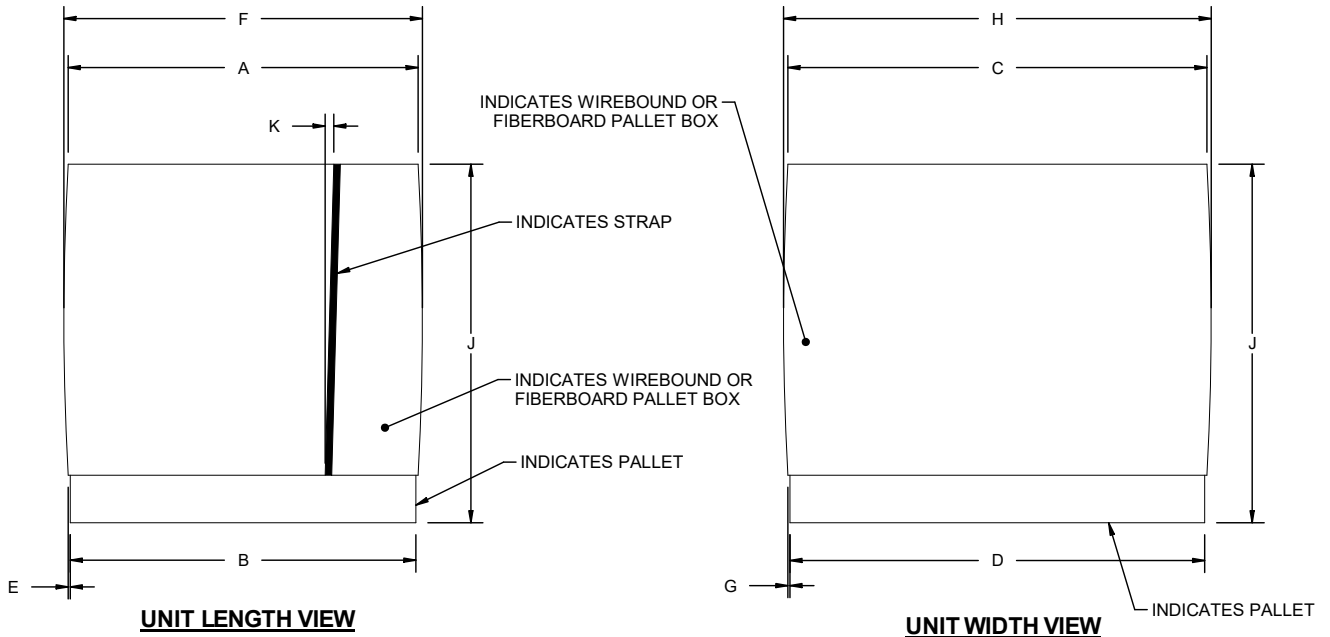
**TYPICAL REINFORCING ASSEMBLY FOR EMPTY BOX**



**USE OF EMPTY/LIGHT BOXES TO ACHIEVE A FULL LAYER**

TYPICAL FIBERBOARD PALLET BOX UNIT LOAD  
NOTE: PALLET BOX TOP AND UNITIZING STRAPS HAVE BEEN OMITTED FOR CLARITY PURPOSES

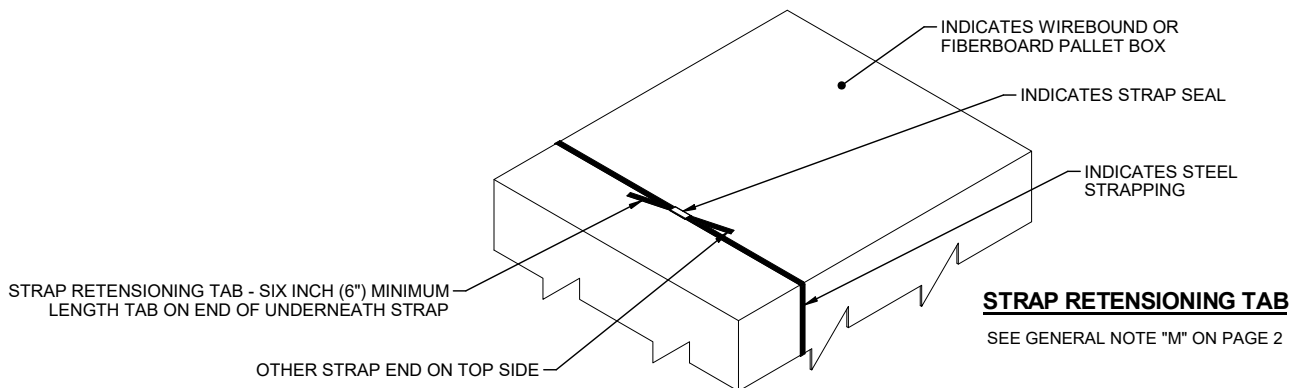




**SPECIAL NOTES:**

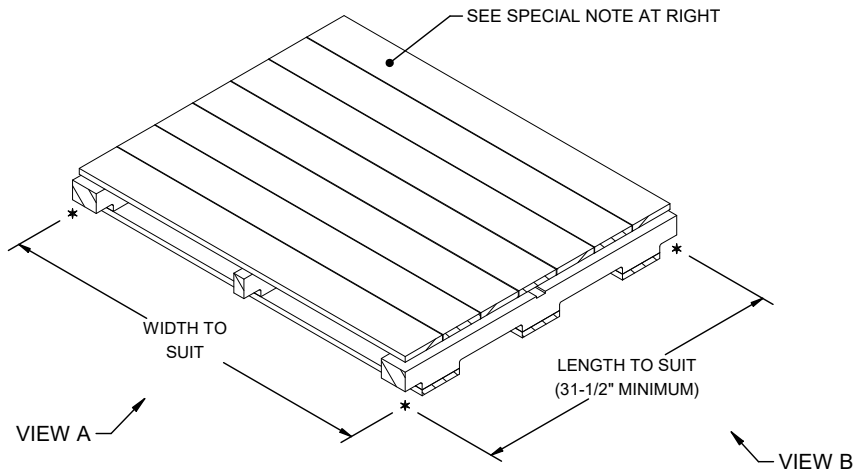
- DIMENSIONS APPLICABLE TO ALLOWABLE TOLERANCES ARE EXPRESSED IN INCHES AND IDENTIFIED BY LETTERS AS FOLLOWS.
  - A = UNIT LENGTH.
  - B = PALLET LENGTH.
  - C = UNIT WIDTH.
  - D = PALLET WIDTH.
  - E = LENGTHWISE OVERHANG = (A-B)/2; MAXIMUM ALLOWABLE LENGTHWISE OVERHANG IS 1/4". (DOES NOT APPLY TO THE BULGING OF THE PALLET BOX.)
  - F = ALLOWABLE UNIT LENGTH = "A" PLUS 1" MAXIMUM.
  - G = WIDTHWISE OVERHANG = (C-D)/2; MAXIMUM ALLOWABLE WIDTHWISE OVERHANG IS 1/4". (DOES NOT APPLY TO THE BULGING OF THE PALLET BOX.)
  - H = ALLOWABLE UNIT WIDTH = "C" PLUS 1" MAXIMUM.
  - J = UNIT HEIGHT.
  - K = MAXIMUM ALLOWABLE VERTICAL STRAP VARIATION FROM TRUE ALIGNMENT = J/40; e.g., IF J = 50", K = 50"/40 = 1-1/4" MAXIMUM.
  - L = MAXIMUM ALLOWABLE TRANSVERSE STRAP VARIATION FROM TRUE ALIGNMENT = C/40; e.g., IF C = 55", L = 55"/40 = 1-3/8" MAXIMUM.
- THE TOLERANCES SPECIFIED IN SPECIAL NOTE 1 APPLY TO EITHER WIREBOUND OR FIBERBOARD PALLET BOX UNIT LOADS WHEN THE UNIT LOADS ARE IN AN UNSTACKED CONDITION.
- STRAPPING TOLERANCES APPLY TO ALL STRAPS AND TO ALL SURFACES WHICH EACH STRAP ENCOMPASSES, i.e., TOP, BOTTOM, AND BOTH SIDES.

**ALLOWABLE TOLERANCES FOR ASSEMBLING UNITS**



**SPECIAL NOTE:**

MATERIAL USED FOR CONSTRUCTION OF THE WIREBOUND PALLET BOX BASE DEPICTED AT LEFT WILL BE THAT AS SPECIFIED WITHIN ASTM-D6254 FOR A TYPE I OR II, CLASS 1, GRADE A WIREBOUND PALLET BOX. ONLY THE STRINGER CONFIGURATION WILL VARY FROM WHAT IS SPECIFIED IN ASTM-D6254. NAILING AND MATERIAL SIZES WILL REMAIN UNCHANGED.



**WIREBOUND PALLET BOX BASE DETAIL**

SEE GENERAL NOTE "E" ON PAGE 2.

