

# APPENDIX 110

## UNITIZATION PROCEDURES FOR BOXED AMMUNITION AND COMPO- NENTS ON 4-WAY ENTRY PALLETS

**FLARE, SURFACE-TRIP, M49 SERIES, PACKED 32  
PER WOODEN BOX, UNITIZED 18 BOXES PER 35" X  
45 1/2" PALLET; APPROX BOX SIZE 16 1/4" L X 15" W  
X 12 1/2" H**

**NOTICE: THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC UNITIZATION  
PROCEDURES DRAWING 19-48-4116-20PA1002.**

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### U.S. ARMY MATERIEL COMMAND DRAWING

<b>APPROVED, U.S. ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND</b> PISKORIK, DAVID. <small>Digitally signed by PISKORIK, DAVID. A. 1229069167 DN: cn=PISKORIK, DAVID, A. 1229069167, o=U.S. Government, ou=DoD, ou=PKI, ou=USA Date: 2008.08.14 12:49:00 -0500</small> AMSRD-AAR-AIL-TP(R)		<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 4.</b>					
<b>APPROVED, U.S. ARMY JOINT MUNITIONS COMMAND</b> CASILLAS, GILBERT. <small>Digitally signed by CASILLAS, GILBERT. J. 1230393644 DN: cn=CASILLAS, GILBERT, A. 1230393644 Date: 2008.08.15 10:14:11 -0500</small> AMSJM-LIT		<b>DO NOT SCALE</b> ENGINEER OR TECHNICIAN BASIC REV.		MELVIN DAEUMER MATTHEW THOMPSON		<h1 style="margin: 0;">APRIL 1977</h1> REVISION NO. 3      JULY 2008	
<b>APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND</b> CARNEY, GARY BURTON. 1038708038 <small>Digitally signed by CARNEY, GARY BURTON. 1038708038 DN: cn=CARNEY, GARY BURTON, ou=DoD, ou=PKI, ou=USA, cn=CARNEY, GARY BURTON, ou=DoD, ou=PKI, ou=USA Date: 2008.08.18 07:22:25 -0500</small> U.S. ARMY DEFENSE AMMUNITION CENTER		TRANSPORTATION ENGINEERING DIVISON VALIDATION ENGINEERING DIVISON ENGINEERING DIRECTORATE		FIEFFER, LAURA. <small>Digitally signed by FIEFFER, LAURA. A. 1230375727 DN: cn=FIEFFER, LAURA, ou=DoD, ou=PKI, ou=USA, ou=FIEFFER, LAURA A. 1230375727 Date: 2008.08.01 14:39:05 -0500</small>		<b>SEE THE REVISION LISTING ON PAGE 2</b>	
		BARICKMAN, PHILIP. <small>Digitally signed by BARICKMAN, PHILIP. W. 1230202202 DN: cn=BARICKMAN, PHILIP, ou=DoD, ou=PKI, ou=USA, ou=BARICKMAN, PHILIP, W. 1230202202 Date: 2008.08.01 15:00:45 -0500</small>		TESTED		CLASS    DIVISION    DRAWING    FILE	
		BEAVER, JERRY. <small>Digitally signed by BEAVER, JERRY. W. 1230949952 DN: cn=BEAVER, JERRY, ou=DoD, ou=PKI, ou=USA, ou=BEAVER, JERRY, W. 1230949952 Date: 2008.08.06 08:12:56 -0500</small>		19      48      4116/ 110      20PA1002			

PALLET UNIT DATA				
ITEMS INCLUDED		*HAZARD CLASS AND DIVISION	*COMPATIBILITY GROUP	APPROX WEIGHT (LBS)
NSN	DODIC			
1370-00-752-8060	L495	1.3	G	919
00-935-9288	L497	---- INERT ----	----	919

\*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).

### REVISIONS

REVISION NO. 1, DATED SEPTEMBER 1977, CONSISTS OF:

1. CHANGING BOX DIMENSIONS.
2. ADDING TWO MORE BOXES TO THE PALLET UNIT.
3. CHANGING UNITIZATION PROCEDURES TO CONFORM TO 1 AND 2 ABOVE.

REVISION NO. 2, DATED JULY 1983, CONSISTS OF:

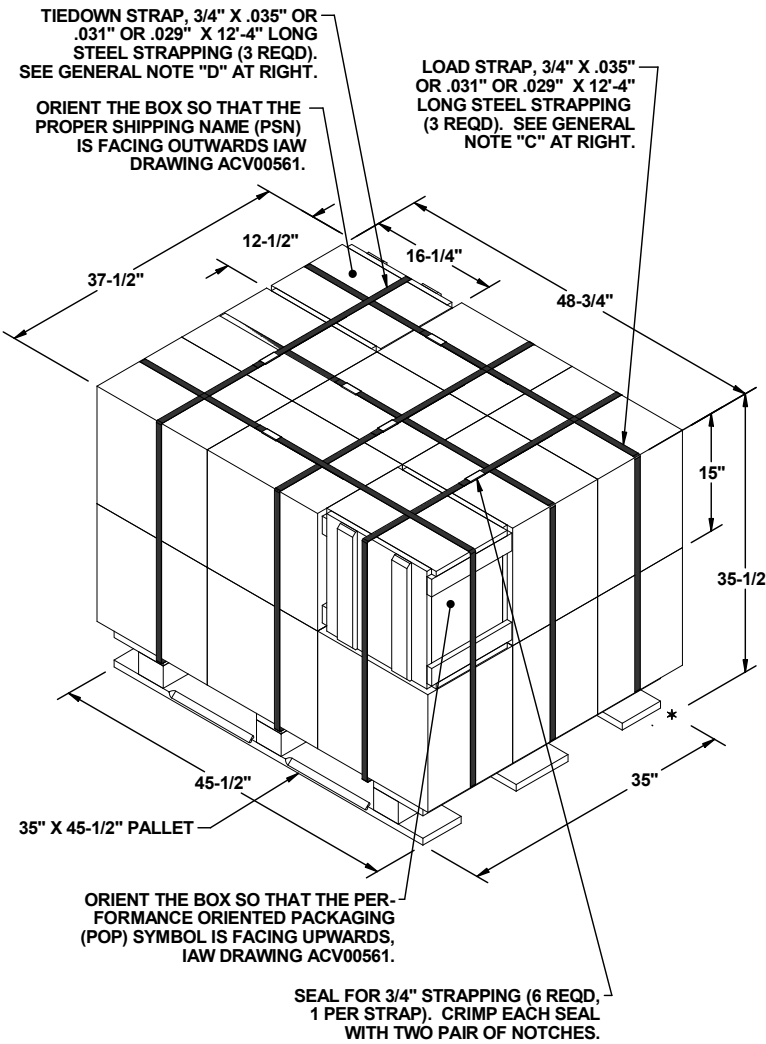
1. CHANGING BOX DIMENSIONS.
2. UPDATE DRAWING FORMAT.

REVISION NO. 3, DATED JULY 2008, CONSISTS OF CHANGES PER ECP R07K3011 INCLUDING:

REORIENTING THE TOP CORNER BOXES ON THE PALLET UNIT.

**GENERAL NOTES**

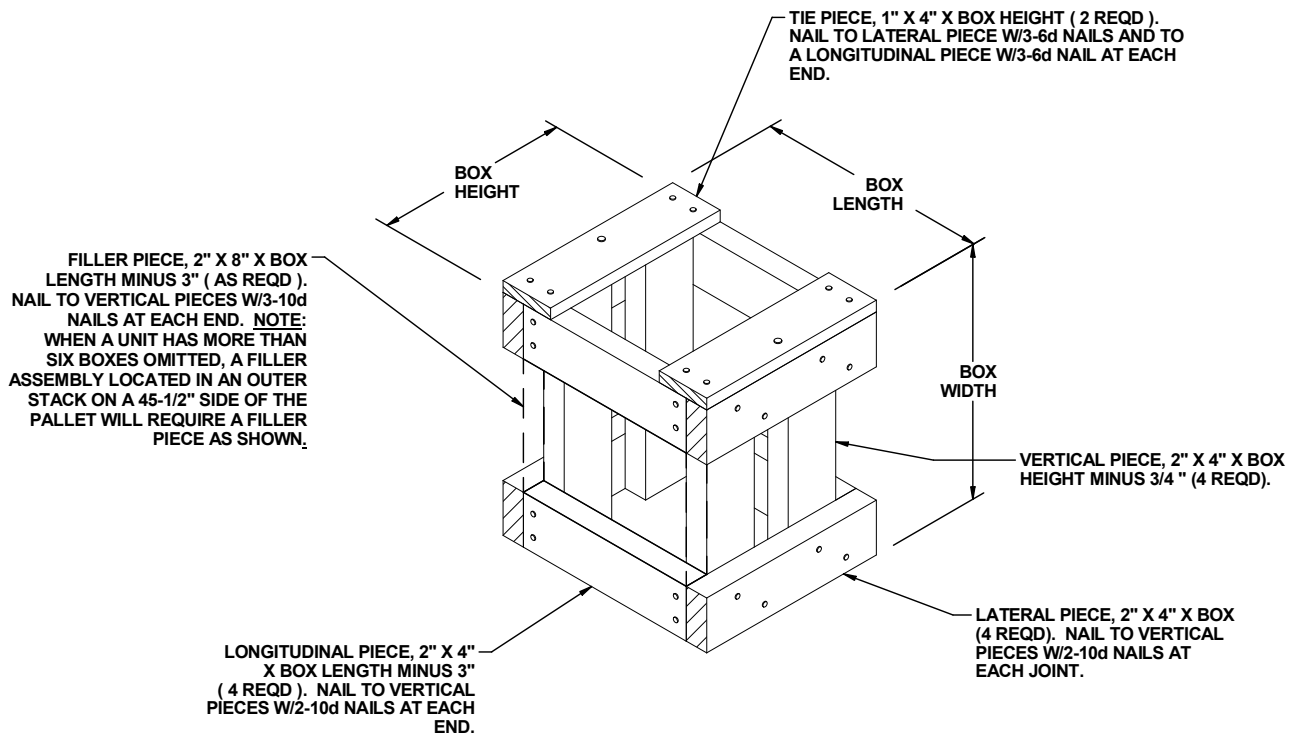
- A. THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC UNITIZATION PROCEDURES DRAWING 19-48-4116-20PA1002. TO PRODUCE AN APPROVED UNIT LOAD, ALL PERTINENT PROCEDURES, SPECIFICATIONS AND CRITERIA SET FORTH WITHIN THE BASIC DRAWING WILL APPLY TO THE PROCEDURES DELINEATED IN THIS APPENDIX. ANY EXCEPTIONS TO THE BASIC PROCEDURES ARE SPECIFIED IN THIS APPENDIX.
- B. DIMENSIONS, CUBE AND WEIGHT OF A PALLET UNIT WILL VARY SLIGHTLY DEPENDING UPON THE ACTUAL DIMENSIONS OF THE BOXES AND THE WEIGHT OF THE SPECIFIC ITEM BEING UNITIZED.
- C. THE LOAD STRAPS MAY BE THREADED THROUGH THE STRAP SLOTS OF A PALLET OR PRE-POSITIONED ON THE PALLET DECK PRIOR TO PLACING THE BOXES ON THE PALLET. LOAD STRAPS MUST BE TENSIONED AND SEALED PRIOR TO APPLICATION OF TIEDOWN STRAPS.
- D. INSTALL EACH TIEDOWN STRAP TO PASS UNDER THE TOP DECK BOARDS OF THE PALLET AND TO BE LOCATED AS SHOWN. TIEDOWN STRAPS WILL NOT BE APPLIED UNTIL THE LOAD STRAPS HAVE BEEN TENSIONED AND SEALED.
- E. 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
- F. IF ITEMS COVERED HEREIN ARE UNITIZED PRIOR TO ISSUANCE OF THIS REVISION TO THIS APPENDIX, THE BOXES NEED NOT BE REUNITIZED SOLELY TO CONFORM TO THIS REVISION.
- G. THE UNITIZATION PROCEDURES DEPICTED HEREIN MAY ALSO BE USED FOR UNITIZING FLARES WHEN IDENTIFIED BY DIFFERENT NATIONAL STOCK NUMBERS (NSN) THAN WHAT IS SHOWN ON PAGE 2, PROVIDED THE BOX PACK DOES NOT VARY FROM WHAT IS DELINEATED HEREIN. THE EXPLOSIVE CLASSIFICATION OF OTHER ITEMS MAY BE DIFFERENT THAN WHAT IS SHOWN.
- H. THE STYLE 1A PALLET DELINEATED IN THE DETAIL AT LEFT NEED NOT HAVE CHAMFERS OR STRAP SLOTS AS SPECIFIED WITHIN MILITARY SPECIFICATION MIL-P-15011 WHEN USED FOR THE UNITIZATION OF ITEMS COVERED BY THIS APPENDIX.
- J. FOR DETAILS OF THE MIL-B-2427 BOX SEE ARDEC DRAWING 8830880.



**PALLET UNIT**  
SEE GENERAL NOTE "B" AT RIGHT.

18 BOXES OF FLARES ( 32 PER BOX ) @ 47 LBS	-----	846 LBS ( APPROX )
DUNNAGE	-----	8 LBS
PALLET	-----	65 LBS
<b>TOTAL WEIGHT</b>	-----	<b>919 LBS ( APPROX )</b>
<b>CUBE</b>	-----	<b>37.6 CU FT ( APPROX )</b>

BILL OF MATERIAL	
PALLET, 35" X 45-1/2"	----- 1 REQD ----- 65 LBS
STEEL STRAPPING, 3/4" - 79.75'	REQD ----- 7.12 LBS
SEAL FOR 3/4" STRAPPING	----- 6 REQD ----- NIL



**FILLER ASSEMBLY**  
 (FOR MINUS ONE BOX)