

APPENDIX 45

UNITIZATION PROCEDURES FOR AMMUNITION AND COMPONENTS PACKED IN CYLINDRICAL METAL CONTAINERS ON 4-WAY ENTRY METAL OR RESIN TREATED PAL- LETS

**CARTRIDGE, 105MM PACKED 1 PER PA117 CYLIN-
DRICAL METAL CONTAINER, UNITIZED 30 PER 44" X
40" PALLET; APPROX CONTAINER SIZE 44-1/2" L X
6-7/8" W X 6-7/8" H**

**NOTICE: THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC UNITIZATION
PROCEDURES DRAWING 19-48-4231-20PM1006.**

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U.S. ARMY MATERIEL COMMAND DRAWING

<p>APPROVED, U.S. ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND</p> <p>REHMSTEDT.MA RK.J.1230548400</p> <p style="font-size: small;">Digitally signed by REHMSTEDT.MARK.J.1230548400 DN: cn=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, c=US, email=CASILLAS.GILBERT.J.1230393644 Date: 2013.12.30 12:37:42 -0600</p> <p style="text-align: right;">RDAR-EIL-TP</p>	<p>CAUTION: VERIFY PRIOR TO USE AT HTTPS://MHP.REDSTONE.ARMY.MIL THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 4.</p>		<p style="font-size: 2em; font-weight: bold;">DECEMBER 1990</p>						
<p>APPROVED, U.S. ARMY JOINT MUNITIONS COMMAND</p> <p>CASILLAS.GILBE RT.J.1230393644</p> <p style="font-size: small;">Digitally signed by CASILLAS.GILBERT.J.1230393644 DN: cn=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, c=US, email=CASILLAS.GILBERT.J.1230393644 Date: 2014.01.08 13:04:57 -0600</p> <p style="text-align: right;">AMSJM-LIT</p>	<p>DO NOT SCALE</p>	<p>ENGINEER OR TECHNICIAN</p>	<p>BASIC REV.</p>	<p>LAURA FIEFFER</p>	<p>REVISION NO. 4</p>	<p>FEBRUARY 2014</p>			
<p>APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND</p> <p>SHIMP.UPTON .R.1231257183</p> <p style="font-size: small;">Digitally signed by SHIMP.UPTON.R.1231257183 DN: cn=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, c=US, email=SHIMP.UPTON.R.1231257183 Date: 2014.01.13 11:21:15 -0600</p> <p style="text-align: center;">U.S. ARMY DEFENSE AMMUNITION CENTER</p>	<p>ENGINEERING DIVISION</p>	<p>FIEFFER.LAUR A.A.1230375727</p> <p style="font-size: x-small;">Digitally signed by FIEFFER.LAURA.A.1230375727 DN: cn=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, c=US, email=FIEFFER.LAURA.A.1230375727 Date: 2013.03.29 13:46:07 -0500</p>		<p>SEE THE REVISION LISTING ON PAGE 2</p>					
	<p>TEST ENGINEER</p>	<p>TEST REPORT</p>	<p>25-90</p>	<p>GORDON.WALTE R.G.1239583268</p> <p style="font-size: x-small;">Digitally signed by GORDON.WALTER.G.1239583268 DN: cn=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, c=US, email=GORDON.WALTER.G.1239583268 Date: 2013.04.01 10:01:04 -0500</p>		<p>CLASS</p>	<p>DIVISION</p>	<p>DRAWING</p>	<p>FILE</p>
	<p>EXPLOSIVE SAFETY DIRECTORATE</p>	<p>WILLIAMS.KENY ON.L.1231212392</p> <p style="font-size: x-small;">Digitally signed by WILLIAMS.KENYON.L.1231212392 DN: cn=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, c=US, email=WILLIAMS.KENYON.L.1231212392 Date: 2013.04.29 15:16:33 -0500</p>		<p>19</p>	<p>48</p>	<p>4231/45</p>	<p>20PM1006</p>		

PALLET UNIT DATA				
ITEMS INCLUDED		*HAZARD CLASS AND DIVISION	*COMPATIBILITY GROUP	APPROX WEIGHT (LBS)
NSN	DODIC			
1315-				
UNASSI GNE	C445	TO BE DETERM	NED	2, 212
01-371-2990	C449	1. 2. 1	G	2, 242
UNASSI GNE	C452	TO BE DETERM	NED	2, 257
UNASSI GNE	C473	TO BE DETERM	NED	2, 212
UNASSI GNE	C479	TO BE DETERM	NED	2, 257
UNASSI GNE	C540	TO BE DETERM	NED	2, 257
01-514-5716	C541	1. 2. 1	G	2, 242
01-527-4400	C541	1. 2. 1	G	2, 242
UNASSI GNE	C542	TO BE DETERM	NED	2, 242
01-324-6633	C543	1. 2. 1	C	2, 242
01-320-4190	C544	1. 2. 1	E	2, 242
01-250-2857	C546	1. 2. 1	E	2, 242
01-388-6636	CA01	1. 2. 1	E	2, 242
01-451-7536	CA11	1. 2. 1	E	2, 263
01-453-2693	CA12	TO BE DETERM	NED	2, 263
01-514-7485	CA32	1. 1	E	2, 167
01-514-7477	CA37	1. 2. 1	C	2, 167
01-562-3730	CA53	1. 2. 1	G	2, 242

*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 JUNE 1996, CONSISTS OF CHANGES PER ECP M6T3001 INCLUDING:

1. ADDING ITEM BY NATIONAL STOCK NUMBER TO "PALLET UNIT DATA" CHART.
2. DELETING ITEM BY NATIONAL STOCK NUMBER FROM "PALLET UNIT DATA" CHART.
3. CHANGING HAZARD CLASS FOR ITEMS ON "PALLET UNIT DATA" CHART.
4. DELETING GENERAL NOTE RELATING TO STRAP CUTTER AND RE-LETTERING OTHER GENERAL NOTES ACCORDINGLY.
5. CHANGED SPECIFICATIONS IN THE GENERAL NOTE RELATING TO PALLET ADAPTER AND TOP LIFT ASSEMBLY.

REVISION NO. 2, DATED JANUARY 2001, CONSISTS OF CHANGES PER ECP R07K3011 INCLUDING:

1. CHANGING TITLE OF DRAWING.
2. REVISING TITLE BLOCK.
3. REVISING GENERAL NOTES.
4. ADDING DRAWING NUMBER TO EACH PAGE.
5. ADDING RESIN-TREATED PALLET DETAIL.

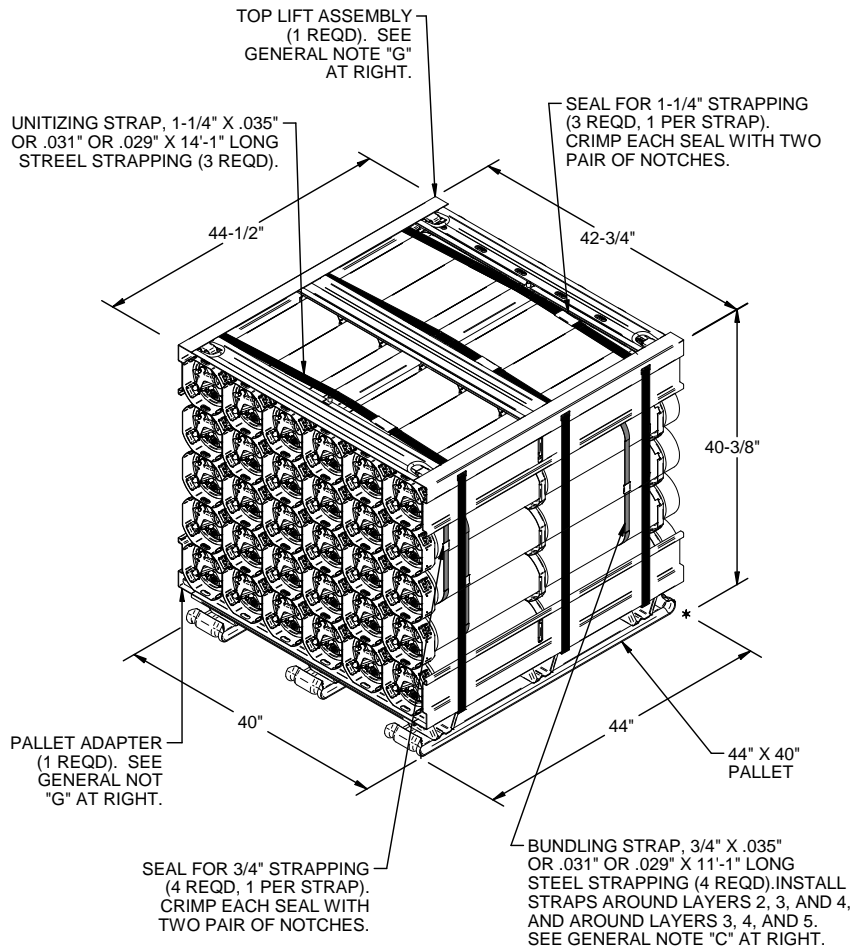
REVISION NO. 3, DATED DECEMBER 2004, CONSISTS OF:

ADDING ITEMS BY NATIONAL STOCK NUMBER TO "PALLET UNIT DATA" CHART.

REVISION NO. 4, DATED FEBRUARY 2014, CONSISTS OF CHANGES PER ECP R12A2006 INCLUDING:

1. ADDING ITEM BY NATIONAL STOCK NUMBER TO "PALLET UNIT DATA" CHART.
2. UPDATE CALLOUTS TO INCLUDE .029" STRAPPING REFERENCE.
3. ADDING GENERAL NOTE RELATING TO "DOT-SP-9649" MARKING.

GENERAL NOTES



PALLET UNIT

SEE GENERAL NOTE "B" AT RIGHT.

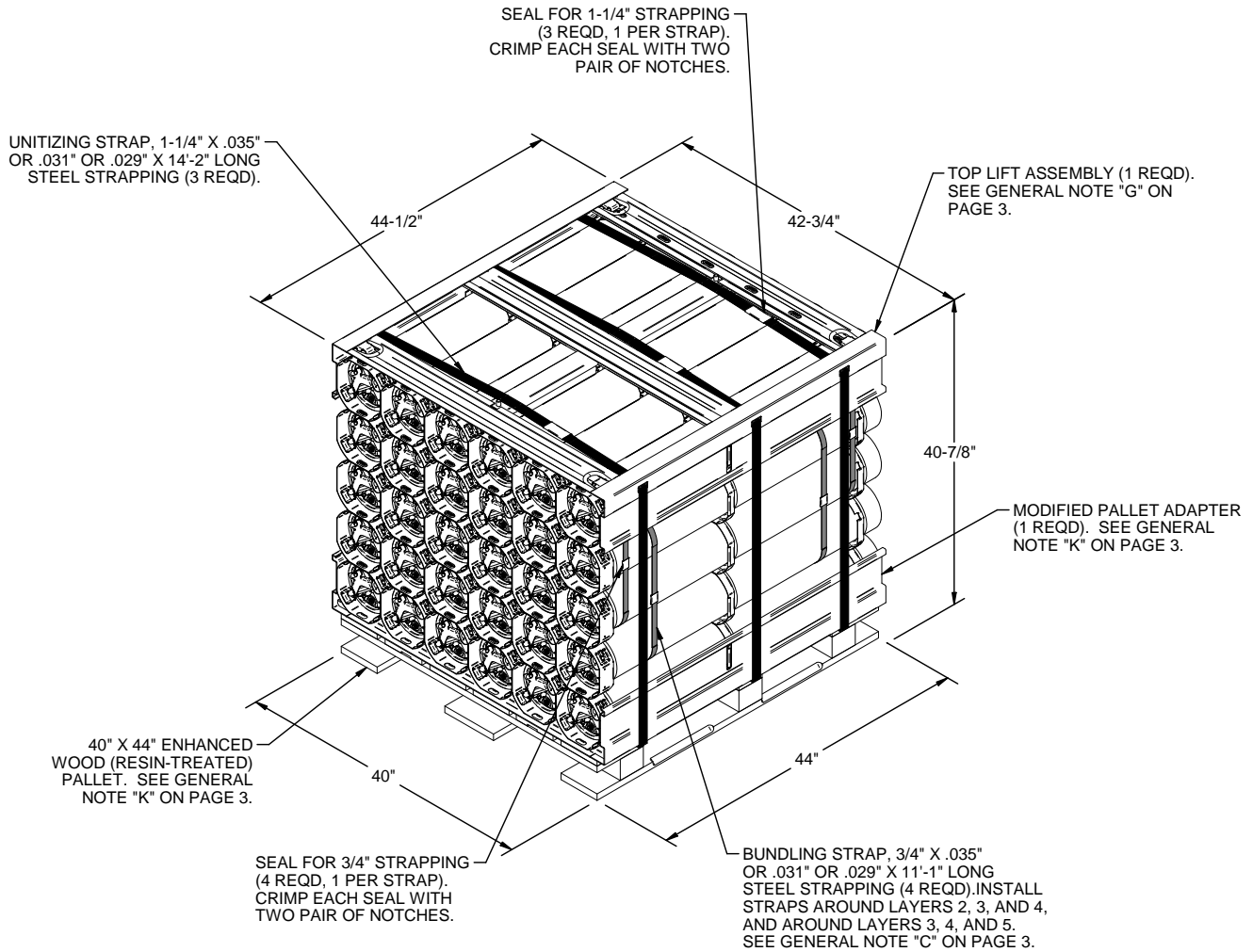
30 CONTAINERS OF 105MM CARTRIDGES (1 PER CONTAINER) @ 69 LBS	2,070 LBS
DUNNAGE	112 LBS
PALLET	105 LBS
TOTAL WEIGHT	2,287 LBS (APPROX)
CUBE	44.5 CU FT (APPROX)

BILL OF MATERIAL

METAL PALLET, 44" X 40"	1 REQD	105 LBS
PALLET ADAPTER	1 REQD	48 LBS
TOP LIFT ASSEMBLY	1 REQD	54 LBS
STEEL STRAPPING, 3/4"	44.33' REQD	3.96 LBS
STEEL STRAPPING 1-1/4"	42.25' REQD	6.04 LBS
SEAL FOR 3/4" STRAPPING	4 REQD	NIL
SEAL FOR 1-1/4" STRAPPING	3 REQD	NIL

- A. THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC UNITIZATION PROCEDURES DRAWING 19-48-4231-20PM1006. 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 CONTAINERS AND THE WEIGHT OF THE SPECIFIC ITEM BEING UNITIZED.
- C. BUNDLING STRAPS MUST BE TENSIONED AND SEALED PRIOR TO THE APPLICATION OF THE UNITIZING STRAPS. INSTALL BUNDLING STRAPS AS CLOSE TO THE OUTER CONTAINER BELLS OR RINGS AS POSSIBLE, TO AVOID DAMAGE TO THE CONTAINER. **CAUTION:** STRAPS MUST NOT BE ALLOWED TO OVERLAP.
- D. ALTHOUGH THE CONTAINERS DEPICTED IN THE UNIT LOAD AT LEFT ARE CONSTRUCTED WITH INTERLOCKING DEVICES, THE INTERLOCKS WILL NOT FUNCTION PROPERLY UNLESS THE CONTAINERS ARE POSITIONED SO THAT THE "PINS" OF THE INTERLOCKS ARE FACING UPWARD. THIS ORIENTATION WILL AID IN THE PREVENTION OF CONTAINER MOVEMENT, BOTH LATEROALLY AND LONGITUDINALLY, DURING SHIPMENT OF THE UNIT LOAD.
- E. THE FOLLOWING AMC DRAWINGS ARE APPLICABLE FOR OUTLOADING AND STORAGE OF THE ITEMS COVERED BY THIS APPENDIX.

CARLOADING	- - - -	19-48-4242/45-5PM1004
TRUCKLOADING	- - - -	19-48-4243/45-11PM1004
STORAGE	- - - -	19-48-4250/45-1-2-3-4-14-22PM1004
END OPENING ISO CONTAINER	- - - -	19-48-4245/45-15PM1009
MILVAN	- - - -	19-48-4244/45-15PM1008
SIDE OPENING ISO CONTAINER	- - - -	19-48-4272/45-15PM1016
- 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. FOR DETAILS OF THE PALLET ADAPTER AND TOP LIFT ASSEMBLY, SEE MILITARY SPECIFICATION MIL-A-70788, MIL-P-70786, AND DAC DRAWING ACV00134. FOR THE ALTERNATIVE PALLET AND ADAPTER, SEE GENERAL NOTE "K".
- H. THE UNITIZATION PROCEDURES DEPICTED HEREIN MAY ALSO BE USED FOR UNITIZING 105MM CARTRIDGES WHEN IDENTIFIED BY DIFFERENT NATIONAL STOCK NUMBERS (NSN) THAN WHAT IS SHOWN ON PAGE 2, PROVIDED THE CONTAINER PACK DOES NOT VARY FROM WHAT IS DELINEATED HEREIN. THE EXPLOSIVE CLASSIFICATION OF OTHER ITEMS MAY BE DIFFERENT THAN WHAT IS SHOWN.
- J. EMPTY OR REJECT PA117 CONTAINERS WILL BE USED AS FILLER CONTAINERS AS NECESSARY. FILLER CONTAINERS MUST BE INSTALLED IN THE MIDDLE OF THE TOP LAYER(S) OF CONTAINERS. IF SIX FULL CONTAINERS ARE TO BE OMITTED, ONE FULL LAYER OF CONTAINERS WILL BE OMITTED. WHEN (EMPTY) FILLER CONTAINERS ARE USED IN PLACE OF OMITTED CONTAINERS TO COMPLETE A LAYER ON A PALLET, THEY WILL BE MARKED AS SPECIFIED WITHIN ARDEC DRAWING 12982865.
- K. FOR THE ALTERNATIVE PALLET AND ASSOCIATED ADAPTER, SEE QAT 1420 AND DAC DRAWINGS ACV00248 AND ACV00409. ALSO SEE THE "RESIN-TREATED PALLET UNIT" DETAIL ON PAGE 4. THIS ALTERNATIVE ADAPTER ALONG WITH THE ALTERNATIVE PALLET MAY BE USED IN LIEU OF METAL ADAPTER AND PALLET IF AUTHORIZED BY THE PROCURING ACTIVITY.
- L. FOR DODIC C543 ONLY, THE METAL LIFTING FRAME OF THE PALLET UNIT WILL BE MARKED WITH "DOT-SP-9649" IN ONE-INCH WHITE LETTERS NEAR THE CLOSED END OF THE CONTAINER.
- M. FOR DETAILS OF THE PA117 CONTAINER SEE ARDEC DRAWING 9378166.



RESIN-TREATED PALLET UNIT
SEE GENERAL NOTE "B" ON PAGE 3.

30 CONTAINERS OF 105MM CARTRIDGES (1 PER CONTAINER) @ 69 LBS	-----	2,070 LBS
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