

APPENDIX 13

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

**CARTRIDGE, CALIBER .45, PACKED 2,000 PER
WIREBOUND BOX, UNITIZED 36 BOXES PER 40" X
48" PALLET; APPROX BOX SIZE 14-1/2" L X 12-3/4"
W X 8-3/8" 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

<p>APPROVED, U.S. ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND PENNOCK.AM.13800 42157</p> <p><small>Digitally signed by PENNOCK.AMANDA.C.1 380042157 Date: 2018.10.05 07:40:44 -05'00'</small></p> <p style="text-align: right;">RDAR-EIL-TP</p>	<p>CAUTION: VERIFY PRIOR TO USE AT https://www.dau.mil/cop/ammo/Pages/Default.aspx THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 4.</p>																									
<p>APPROVED, U.S. ARMY JOINT MUNITIONS COMMAND RUS.ALLEN.J .1230354282</p> <p><small>Digitally signed by RUS.ALLEN.J.1230354282 Date: 2018.10.10 15:38:54 -05'00'</small></p> <p style="text-align: right;">AMSJM-MMT</p>	<p>DO NOT SCALE</p>	<p>NOVEMBER 1979</p>																								
<p>APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND SHIMP.UPTON .R.1231257183</p> <p><small>Digitally signed by SHIMP.UPTON.R.1231257183 Date: 2018.10.18 15:09:55 -05'00'</small></p> <p style="text-align: center;">U.S. ARMY DEFENSE AMMUNITION CENTER</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">ENGINEER OR TECHNICIAN</td> <td style="width: 25%;">BASIC REV.</td> <td style="width: 50%;">GEORGE B. FECKE MADELINE BANKS</td> </tr> <tr> <td>ENGINEERING DIVISON</td> <td></td> <td>FIEFFER.LAUR A.A.1230375727</td> </tr> <tr> <td>TEST ENGINEER TEST REPORT</td> <td style="text-align: center;">NA</td> <td>FELICIANO.AD IN.1259200373</td> </tr> <tr> <td>EXPLOSIVE SAFETY DIRECTORATE</td> <td></td> <td>THOMAS.CARL.ANT HONY.1104621372</td> </tr> </table>	ENGINEER OR TECHNICIAN	BASIC REV.	GEORGE B. FECKE MADELINE BANKS	ENGINEERING DIVISON		FIEFFER.LAUR A.A.1230375727	TEST ENGINEER TEST REPORT	NA	FELICIANO.AD IN.1259200373	EXPLOSIVE SAFETY DIRECTORATE		THOMAS.CARL.ANT HONY.1104621372	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">REVISION NO. 3</td> <td style="width: 50%;">OCTOBER 2018</td> </tr> <tr> <td colspan="2" style="text-align: center;">SEE THE REVISION LISTING ON PAGE 2</td> </tr> <tr> <td>CLASS</td> <td>DIVISION</td> <td>DRAWING</td> <td>FILE</td> </tr> <tr> <td style="text-align: center;">19</td> <td style="text-align: center;">48</td> <td style="text-align: center;">4116/13</td> <td style="text-align: center;">20PA1002</td> </tr> </table>	REVISION NO. 3	OCTOBER 2018	SEE THE REVISION LISTING ON PAGE 2		CLASS	DIVISION	DRAWING	FILE	19	48	4116/13	20PA1002
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PALLET UNIT DATA				
ITEMS INCLUDED		*HAZARD CLASS AND DIVISION	*COMPATIBILITY GROUP	APPROX WEIGHT (LBS)
NSN	DODIC			
1305-				
00-028-6613	A475	1. 4	S	3, 943
00-301-1685	A475	1. 4	S	3, 943
00-753-2304	A476	1. 4	S	1, 495
00-905-6788	A479	1. 4	S	3, 943
00-752-7910	A482	1. 4	S	3, 943
00-892-2526	A483	1. 4	S	3, 943
00-516-5234	A501	--- INERT---		3, 835

*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 1985, CONSISTS OF:

1. ADDING ALTERNATE LOAD STRAPS TO "PALLET UNIT" DRAWING.
2. ADDING GENERAL NOTES.
3. ADDING ITEM BY NATIONAL STOCK NUMBER (NSN) TO "PALLET UNIT DATA" CHART.

REVISION NO. 2, DATED MAY 2015, CONSISTS OF CHANGES PER ECP R11K3012 INCLUDING:

1. REFORMATING DRAWING INTO 4 PAGE FORMAT.
2. ADDING ITEMS BY NATIONAL STOCK NUMBER (NSN) TO "PALLET UNIT DATA" CHART.
3. ADDING REFERENCE TO .029" STRAPPING THICKNESS TO LEADER CALLOUTS ON PAGE 3.
4. ELIMINATING REFERENCE TO STRAP CUTTER GENERAL NOTE "F".
5. UPDATING PALLET SPECIFICATION TO MIL-DTL-15011 IN GENERAL NOTE "H".

REVISION NO. 3, DATED OCTOBER 2018, CONSISTS OF CHANGES PER ECP R18K3001 NOR 12:

DELETING ITEM BY NATIONAL STOCK NUMBER (NSN) FROM "PALLET UNIT DATA" CHART.

GENERAL NOTES

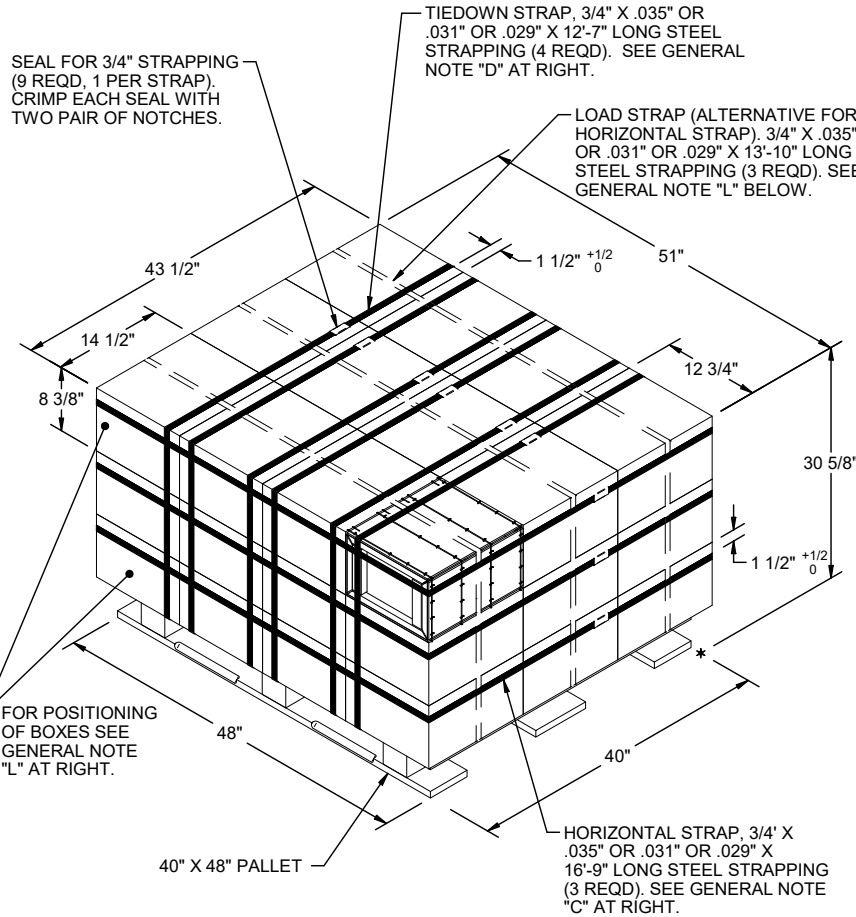
- A. THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC UNITIZATION PROCEDURES DRAWING 19-48-4116-20PA1002. TO PRODUCE AN APPROVED UNIT LOAD, ALL PERTINENT PROCEDURES, SPECIFICATIONS AND CRITERIA SET FORTH WITHIN THE BASIC DRAWING WILL APPLY TO THE PROCEDURES DELINEATED IN 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. INSTALL EACH HORIZONTAL STRAP TO ENCIRCLE A LAYER OF BOXES ON THE PALLET. NOTE THAT THE STRAPS WILL BE LOCATED AS SHOWN, NEAR THE TOP OF EACH LAYER. HORIZONTAL STRAPS MUST BE TENSIONED AND SEALED PRIOR TO THE APPLICATION OF TIEDOWN STRAPS.
- D. INSTALL EACH TIEDOWN STRAP TO PASS UNDER THE TOP DECK BOARDS OF THE PALLET. NOTE THAT THE STRAPS WILL BE LOCATED AS SHOWN, NEAR THE SIDE CLEATS OF THE END PANELS OF THE BOX. TIEDOWN STRAPS WILL NOT BE APPLIED UNTIL THE LOAD STRAPS HAVE BEEN TENSIONED AND SEALED.
- E. THE FOLLOWING AMC DRAWINGS ARE APPLICABLE FOR UNLOADING 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 .45 CALIBER CARTRIDGES 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 1 PALLET DELINEATED IN THE DETAIL AT LEFT NEED NOT HAVE CHAMFERS OR STRAP SLOTS AS SPECIFIED WITHIN MILITARY SPECIFICATION MIL-DTL-15011 WHEN USED FOR THE UNITIZATION OF ITEMS COVERED BY THIS APPENDIX.
- J. WHEN THE TOTAL WEIGHT OF A 36-BOX UNIT IS 2,800 POUNDS OR LESS, ONLY FOUR TIEDOWN STRAPS WILL BE REQUIRED TO RETAIN THE BOXES ON THE PALLET. OMIT THE CENTER TWO TIEDOWN STRAPS.
- K. IF DEEMED MORE ECONOMICALLY FEASIBLE, THE ALTERNATIVE FILLER ASSEMBLY MAY BE SUBSTITUTED FOR THE FILLER ASSEMBLY TO COMPLETE A LAYER ON A PALLET.

- L. LOAD STRAPS MAY BE USED IN LIEU OF HORIZONTAL STRAPS. LOAD STRAPS WILL BE LOCATED AS SHOWN IN THE DETAIL AT LEFT. LOAD STRAPS MAY BE PRE-POSITIONED ON THE PALLET DECK OR THREADED THROUGH THE STRAP SLOTS. **NOTICE:** WHEN LOAD STRAPS ARE BEING USED IN LIEU OF HORIZONTAL STRAPS, THE THREE OUTBOARD BOXES ON THE 40" SIDES OF THE BOTTOM LAYER OF THE UNIT WILL BE POSITIONED WITH THE TOPS DOWNWARD, AND THE THREE OUTWARD BOXES ON THE 40" SIDES OF THE TOP LAYER OF THE UNIT WILL BE POSITIONED WITH TOPS UPWARDS. LOAD STRAPS MUST BE TENSIONED AND SEALED PRIOR TO THE APPLICATION OF TIEDOWN STRAPS.
- M. REGARDLESS OF THE QUANTITY OF BOXES TO BE PALLETIZED, THE TOTAL WEIGHT OF A FULLY LOADED PALLET UNIT WILL NOT EXCEED 4,000 POUNDS. WHEN THE TOTAL WEIGHT OF A FULLY LOADED PALLET UNIT EXCEEDS 4,000 POUNDS, ONE OR MORE LOADED BOXES MUST BE REMOVED, AND EITHER FILLER ASSEMBLIES, AS DEPICTED ON PAGE 4, OR EMPTY BOXES MUST BE SUBSTITUTED THEREFORE. FOR ADDITIONAL GUIDANCE, SEE THE "PROVISIONS FOR LESS-THAN-FULL-LAYER LOADS" IN THE BASIC UNITIZATION DRAWING 19-48-4116-20PA1002.

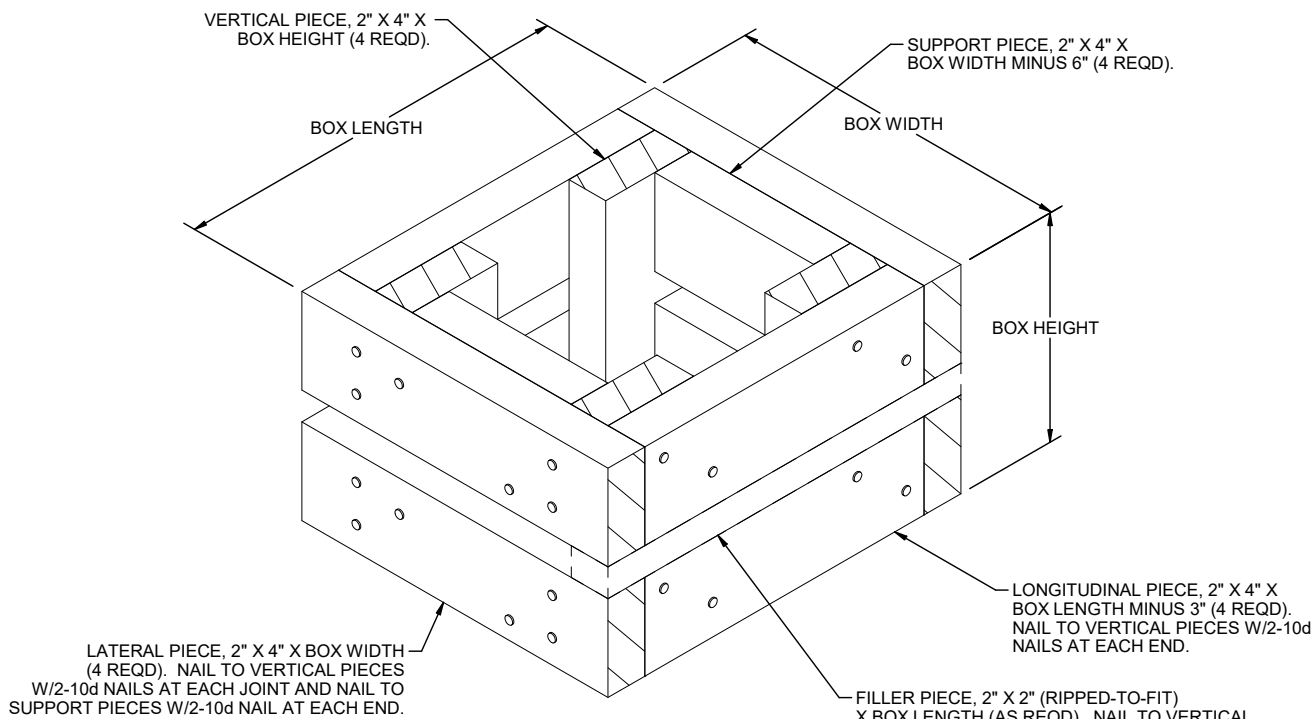
N. FOR DETAILS OF THE WIREBOUND BOX SEE ARDEC DRAWING 9396206.



PALLET UNIT
SEE GENERAL NOTE "B" AT RIGHT.

36 BOXES OF .45 CALIBER CARTRIDGE (2,000 PER BOX) @ 107 LBS	-	3,852 LBS	
DUNNAGE	- - - - -	11 LBS	
PALLET	- - - - -	80 LBS	
TOTAL WEIGHT		3,943 LBS	(APPROX)
CUBE		39.3 CU FT	(APPROX)

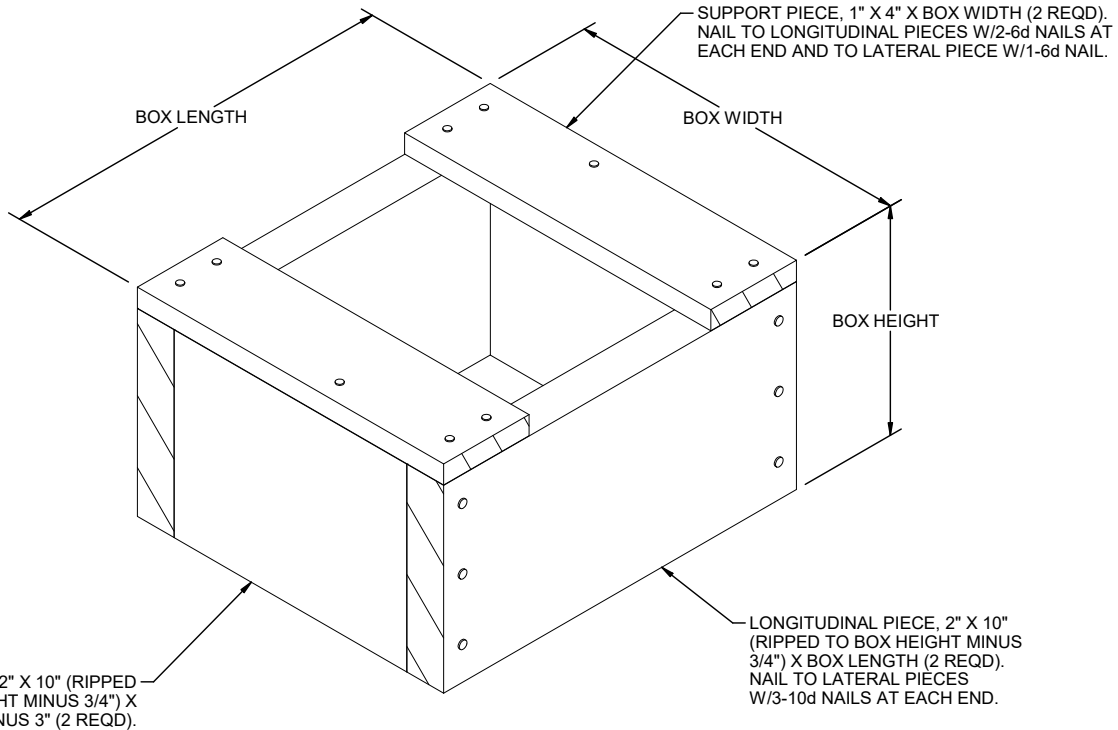
BILL OF MATERIAL			
PALLET, 40" X 48"	- - - - -	1 REQD	- - - - - 80 LBS
STEEL STRAPPING, 3/4"	- - - - -	125.78' REQD	- - - - - 11.23 LBS
SEAL FOR 3/4" STRAPPING	- - - - -	9 REQD	- - - - - NIL



FILLER ASSEMBLY
(FOR MINUS ONE BOX)

LONGITUDINAL PIECE, 2" X 4" X BOX LENGTH MINUS 3" (4 REQD). NAIL TO VERTICAL PIECES W/2-10d NAILS AT EACH END.

FILLER PIECE, 2" X 2" (RIPPED-TO-FIT) X BOX LENGTH (AS REQD). NAIL TO VERTICAL PIECES W/1-10d NAILS AT EACH END. **NOTE:** WHEN A FILLER ASSEMBLY IS LOCATED IN AN OUTER STACK ON THE 40" SIDE OR SIDES OF A PALLET AND LOAD STRAPS ARE BEING USED, A FILLER PIECE WILL BE INSTALLED AS SHOWN.



ALTERNATE FILLER ASSEMBLY
(FOR MINUS ONE BOX)

LATERAL PIECE, 2" X 10" (RIPPED TO BOX HEIGHT MINUS 3/4") X BOX WIDTH MINUS 3" (2 REQD).

LONGITUDINAL PIECE, 2" X 10" (RIPPED TO BOX HEIGHT MINUS 3/4") X BOX LENGTH (2 REQD). NAIL TO LATERAL PIECES W/3-10d NAILS AT EACH END.

SEE GENERAL NOTE "K" ON PAGE 3.