

# APPENDIX 10B

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

**CARTRIDGE, 9MM, PACKED 1,000 PER M2 SERIES  
METAL CONTAINER, 2 PER WIREBOUND BOX, UN-  
ITIZED 48 BOXES PER 40" X 48" PALLET; APPROX  
BOX SIZE 14-7/16" L X 12-17/32" W X 8-1/8" H**

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

**DISTRIBUTION STATEMENT A:**

**APPROVED FOR PUBLIC RELEASE  
DISTRIBUTION IS UNLIMITED.**

### U.S. ARMY MATERIEL COMMAND DRAWING

<p>APPROVED, COMBAT CAPABILITIES DEVELOPMENT COMMAND ARMAMENTS CENTER</p> <p><b>HANSEN.JOSEP</b> H.W.1376495538</p> <p><small>Digitally signed by HANSEN.JOSEPH.W.137649553 8 Date: 2021.05.06 07:48:09 -05'00'</small></p> <p style="text-align: right;">FCDD-ACE-LTP</p>	<p><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 4.</b></p>			<h2 style="margin: 0;">APRIL 1984</h2>				
<p>APPROVED, U.S. ARMY JOINT MUNITIONS COMMAND</p> <p><b>WARD.GINA.</b> M.1369379808</p> <p><small>Digitally signed by WARD.GINA.M.1369379808 Date: 2021.05.06 10:25:14 -05'00'</small></p> <p style="text-align: right;">AMSJM-MLT</p>	<p><b>DO NOT SCALE</b></p>	<p><b>ROBERT A. REGAZZI</b></p>	<p><b>REVISION NO. 8</b></p>		<p><b>MARCH 2021</b></p>			
<p>APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND</p> <p><b>BRAILSFORD.KEIT</b> H.ANTHONY.10286 55661</p> <p><small>Digitally signed by BRAILSFORD.KEITH.ANTHONY. 1028655661 Date: 2021.05.06 14:09:00 -05'00'</small></p> <p style="text-align: right;">U.S. ARMY DEFENSE AMMUNITION CENTER</p>	<p>DESIGN ENGINEER</p>	<p>BASIC</p>	<p>REV.</p>	<p><b>SEE THE REVISION LISTING ON PAGE 2</b></p>				
	<p>ENGINEERING DIVISON</p>	<p>FIEFFER.LAUR A.A.1230375727</p> <p><small>Digitally signed by FIEFFER.LAURA.A.1230375727 Date: 2021.03.17 15:59:19 -05'00'</small></p>	<p>CLASS</p>		<p>DIVISION</p>	<p>DRAWING</p>	<p>FILE</p>	
	<p>TEST ENGINEER</p>	<p>FELICIANO.AD IN.1259200373</p> <p><small>Digitally signed by FELICIANO.ADIN.1259200373 Date: 2021.03.19 13:12:57 -05'00'</small></p>	<p>TEST REPORT</p>	<p><b>NA</b></p>	<p><b>19</b></p>	<p><b>48</b></p>	<p><b>4116/10B</b></p>	<p><b>20PA1002</b></p>
	<p>EXPLOSIVE SAFETY DIRECTORATE</p>	<p>FAIRHURST.ROBE RT.JOHN.10157668 80</p> <p><small>Digitally signed by FAIRHURST.ROBERT.JOHN.101 5766880 Date: 2021.04.01 13:33:40 -05'00'</small></p>	<p>EXPLOSIVE SAFETY DIRECTORATE</p>					

ITEMS INCLUDED		*HAZARD CLASS AND DIVISION	*COMPATI- BILITY GROUP	APPROX WEIGHT (LBS)
NSN	DODIC			
1305				
01-307-5536	A358	1.4	C	3,358
01-206-8351	A359	- - - -	I N E R T - - - -	3,790
01-172-9558	A363	1.4	S	3,934
01-662-6145	A363	1.4	S	3,598
01-173-2397	A364	1.4	S	3,934
01-536-7720	AB12	1.4	S	2,254
01-536-7721	AB13	1.4	S	2,254
01-536-7722	AB14	1.4	S	2,254
01-568-5691	AB45	- - - -	I N E R T - - - -	3,598
01-663-9409	AC20	1.4	S	3,694
01-663-9680	AC21	1.4	S	3,886
01-663-9712	AC24	- - - -	I N E R T - - - -	3,502
01-670-4234	AC36	1.4	S	2,254
01-670-4963	AC37	1.4	S	2,254
01-671-2206	AC38	1.4	S	2,254
01-676-2226	AC54	1.4	S	3,070
01-691-4003	AC60	1.4	S	3,790

\*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 SEPTEMBER 1985, CONSISTS OF:

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

REVISION NO. 2, DATED DECEMBER 1992, CONSISTS OF:

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

REVISION NO. 3, DATED FEBRUARY 1995, CONSISTS OF:

CHANGING THE GROSS WEIGHT OF THE SHIPPING CONTAINERS ON THE "PALLET UNIT DATA" CHART.

REVISION NO. 4, DATED MAY 2012, CONSISTS OF CHANGES PER ECP R11K3012 - NOR 037 INCLUDING:

1. ADDING ITEMS BY NATIONAL STOCK NUMBERS TO "PALLET UNIT DATA" CHART.
2. UPDATING DRAWING TO FOUR-PAGE FORMAT.

REVISION NO. 5, DATED SEPTEMBER 2017, CONSISTS OF CHANGES PER ECP R17K3002 - NOR 03 INCLUDING:

1. ADDING ITEMS BY NATIONAL STOCK NUMBERS TO "PALLET UNIT DATA" CHART.
2. UPDATING PALLET SPECIFICATION IN GENERAL NOTE "M".

REVISION NO. 6, DATED OCTOBER 2018, CONSISTS OF CHANGES PER ECP R17Q2029 - NOR 13 INCLUDING:

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

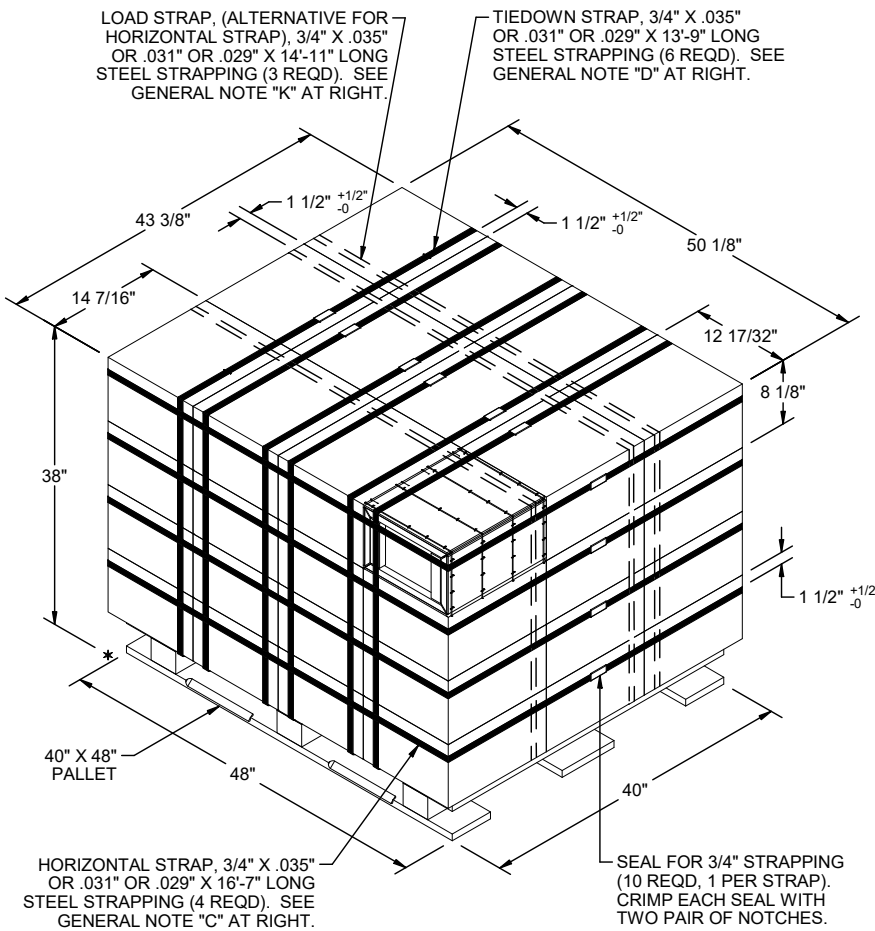
REVISION NO. 7, DATED JUNE 2019, CONSISTS OF CHANGES PER ECP R18S3008 - NOR 13 INCLUDING:

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

REVISION NO. 8, DATED MARCH 2021, CONSISTS OF CHANGE PER ECP R20Q2020 - NOR 07 AND ECP R20K3009 - NOR 05 INCLUDING:

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

**GENERAL NOTES**



**PALLET UNIT**

SEE GENERAL NOTE "B" AT RIGHT.

48 BOXES OF 9MM CARTRIDGE (2,000 PER BOX) @ 80 LBS	- -	3,840 LBS
DUNNAGE	- - - - -	14 LBS
PALLET	- - - - -	80 LBS
<b>TOTAL WEIGHT</b>	- - - - -	<b>3,934 LBS (APPROX)</b>
<b>CUBE</b>	- - - - -	<b>47.8 CU FT (APPROX)</b>

BILL OF MATERIAL	
PALLET, 40" X 48"	- - - - - 1 REQD - - - - - 80 LBS
STEEL STRAPPING, 3/4"	- 148.83' REQD - - - - - 13.29 LBS
SEAL FOR 3/4" STRAPPING	- - 10 REQD - - - - - NIL
STAPLE, 15/16" X 3/4"	- - - 56 REQD - - - - - NIL

**(GENERAL NOTES CONTINUED)**

M. THE STYLE 1 PALLET DELINEATED IN THE DETAIL ABOVE 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.

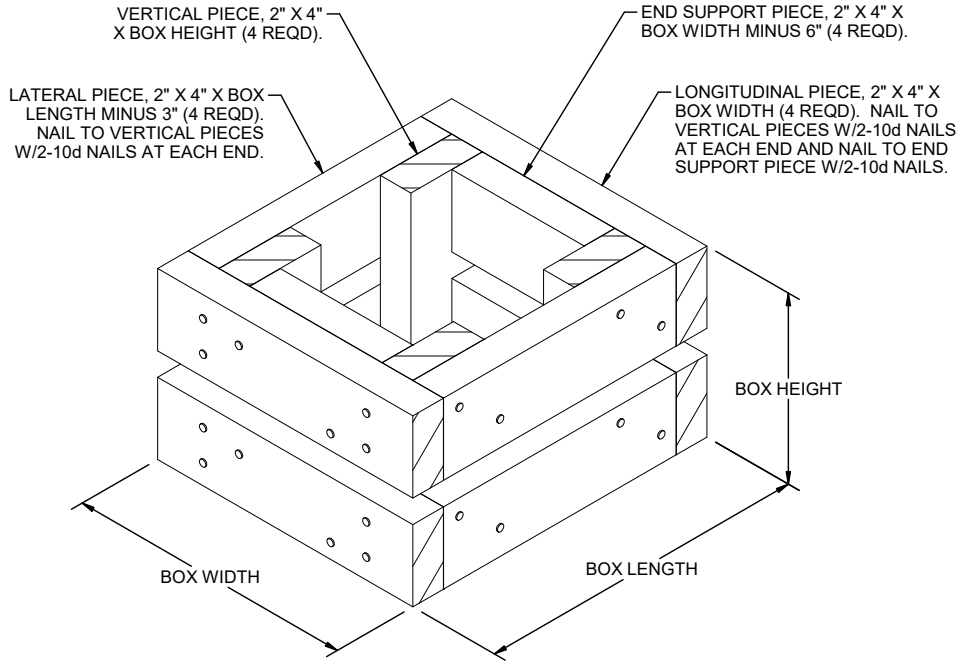
N. FOR DETAILS OF THE WIREBOUND BOX SEE ARDEC DRAWING 9396206.

- 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 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

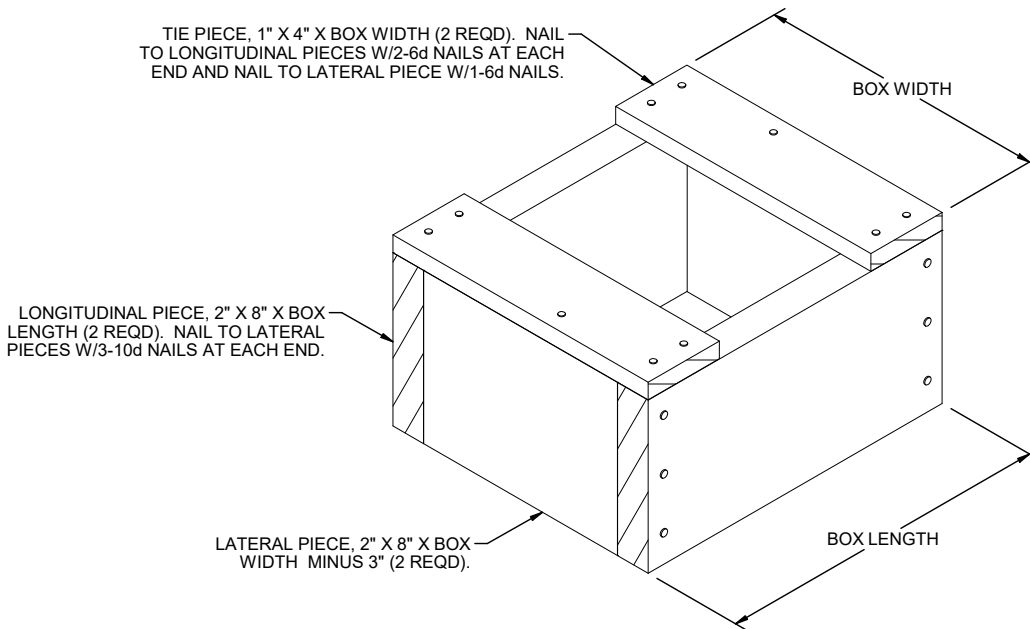
- F. IF ITEMS COVERED HEREIN ARE UNITIZED PRIOR TO ISSUANCE OF THIS REVISION TO THIS APPENDIX, THE BOXES NEED NOT BE REUNITIZED SOLELY TO CONFORM TO THIS REVISION.
- G. THE UNITIZATION PROCEDURES DEPICTED HEREIN MAY ALSO BE USED FOR UNITIZING 9MM CARTRIDGES WHEN IDENTIFIED BY DIFFERENT NATIONAL STOCK 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. 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.
- J. 1-1/4" STRAPS MAY BE SUBSTITUTED FOR THE 3/4" STRAPPING SPECIFIED IN THE "PALLET UNIT" AT LEFT. FOUR 1-1/4" TIEDOWN STRAPS WILL REPLACE THE SIX 3/4" TIEDOWN STRAPS SPECIFIED. REFER TO GENERAL NOTE "CC" IN THE BASIC UNITIZATION PROCEDURES DRAWING 19-48-4116-20PA1002 FOR ADDITIONAL GUIDANCE.
- K. LOAD STRAPS MAY BE USED IN LIEU OF HORIZONTAL STRAPS. LOAD STRAPS WILL BE PRE-POSITIONED AND LOCATED AS SHOWN IN THE DETAIL AT LEFT. **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.
- L. IF DEEMED MORE ECONOMICALLY FEASIBLE, THE ALTERNATIVE FILLER ASSEMBLY MAY BE SUBSTITUTED FOR THE FILLER ASSEMBLY TO COMPLETE A LAYER ON A PALLET.

(CONTINUED AT LEFT)



**FILLER ASSEMBLY**

(FOR MINUS ONE BOX)



**ALTERNATME FILLER ASSEMBLY**

(FOR MINUS ONE BOX)  
SEE GENERAL NOTE "L" ON PAGE 3.