

APPENDIX 5

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

**CARTRIDGE, 5.56MM, PACKED VARIOUS QUANTI-
TIES PER M2 SERIES METAL CONTAINER, 2 CON-
TAINERS PER WIREBOUND BOX, UNITIZED 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.**

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U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, COMBAT CAPABILITIES DEVELOPMENT COMMAND ARMAMENTS CENTER HANSSSEN.JO.1376 SEPH.W.1376 495538 <small>Digitally signed by HANSSSEN.JO.1376 Date: 2019.03.25 15:25:47 -05'00'</small>	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.			<h2 style="margin: 0;">JULY 1979</h2>			
APPROVED, U.S. ARMY JOINT MUNITIONS COMMAND RUS.ALLEN.J.1230354282 .1230354282 <small>Digitally signed by RUS.ALLEN.J.1230354282 Date: 2019.04.01 08:23:00 -05'00'</small>	DO NOT SCALE	GEORGE B. FECKE MADELINE BANKS		REVISION NO. 20		MARCH 2019	
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND THOMAS.CARL.ANTHONY.110462137 THONY.110462137 2 <small>Digitally signed by THOMAS.CARL.ANTHONY.110462137 Date: 2019.04.01 09:41:53 -05'00'</small>	ENGINEERING DIVISON TEST ENGINEER TEST REPORT EXPLOSIVE SAFETY DIRECTORATE	FIEFFER.LAUR A.A.1230375727 FELICIANO.ADIN.1259200373 IN.1259200373 FAIRHURST.ROBERT.T.JOHN.1015766880	<small>Digitally signed by FIEFFER.LAUR A.1230375727 Date: 2019.03.06 09:48:51 -06'00'</small>	SEE THE REVISION LISTING ON PAGE 2			
U.S. ARMY DEFENSE AMMUNITION CENTER	NA	NA	<small>Digitally signed by FELICIANO.ADIN.1259200373 Date: 2019.03.06 14:37:13 -06'00'</small>	CLASS 19	DIVISION 48	DRAWING 4116/5	FILE 20PA1002

PALLET UNIT DATA				
ITEMS INCLUDED		*HAZARD CLASS AND DIVISION	*COMPATI-BILITY GROUP	APPROX WEIGHT (LBS)
NSN	DODIC			
1305-				
01-155-5456		1.4	S	3,282
01-155-5455	A058	1.4	S	3,282
01-155-5458	A058	1.4	S	3,195
01-155-5459	A059	1.4	S	3,406
01-155-5462	A059	1.4	S	3,310
01-155-5461	A062	1.4	S	3,440
01-174-9277	A062	1.4	S	2,355
01-155-5457	A063	1.4	S	3,296
01-293-2132	A063	1.4	S	3,310
00-069-0869	A066	1.4	S	2,590
00-926-3970	A066	1.4	S	3,190
00-009-5568	A068	1.4	S	2,562
00-009-5569	A068	1.4	S	3,190
00-914-4719	A068	1.4	S	3,190
00-965-0832	A068	1.4	S	2,562
00-063-0319	A070	1.4	S	3,104
00-005-8006	A071	1.4	S	3,392
00-926-3930	A071	1.4	S	3,310
01-015-6185	A071	1.4	S	3,310
01-255-6276	A071	1.4	S	3,310
00-926-3929	A072	1.4	S	3,310
01-258-8693	A072	1.4	S	3,310
00-935-9253	A073	1.4	S	3,613
00-926-1876	A076	-----I NERT-----		3,214
01-411-2993	AA09	1.4	S	3,090
01-667-1920	AA40	1.4	S	3,286
01-467-3033	AA45	1.4	S	3,406
01-467-3037	AA46	1.4	S	3,282
01-467-3036	AA47	1.4	S	2,355
01-493-3653	AA68	1.4	S	2,254
01-493-3632	AA69	1.4	S	3,406
01-530-3982	AA99	1.4	S	3,248
01-536-5822	AB09	1.4	S	2,158
01-536-5827	AB10	1.4	S	2,158
01-536-5829	AB11	1.4	S	2,158
01-568-5686	AB46	-----I NERT-----		2,830
01-559-3333	AB57	1.4	S	3,406
01-582-7499	AB67	1.4	S	3,118
01-598-0155	AB77	1.4	S	3,454
01-598-1219	AB78	1.4	S	3,454
01-640-9490	AC04	1.4	S	3,104
01-670-5103	AC39	1.4	S	2,158
01-670-5126	AC40	1.4	S	2,158
01-671-1588	AC41	1.4	S	2,158

*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. 17, DATED MAY 2014, CONSISTS OF CHANGES PER ECP R11K2029-NOR 7 (NUMBERS 1 & 4), ECP R12K2031-NOR 7 (NUMBER 2), ECP R12K2038-NOR 13 (NUMBER 1), AND ECP R13S2036-NOR 13 (NUMBERS 1 & 4):

1. ADDING ITEMS BY NATIONAL STOCK NUMBER TO THE "PALLET UNIT DATA" CHART.
2. DELETING ITEMS BY NATIONAL STOCK NUMBER FROM THE "PALLET UNIT DATA" CHART.
3. ADDING .029" THICKNESS STRAPPING TO THE ISOMETRIC VIEW ON PAGE 3.
4. UPDATING GENERAL NOTES "H", "K", AND "M" ON PAGE 3.
5. UPDATING APPROX WEIGHTS IN THE "PALLET UNIT DATA" CHART.

REVISION NO. 18, DATED OCTOBER 2016, CONSISTS OF CHANGES PER ECP R14K9001-NOR 17:

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

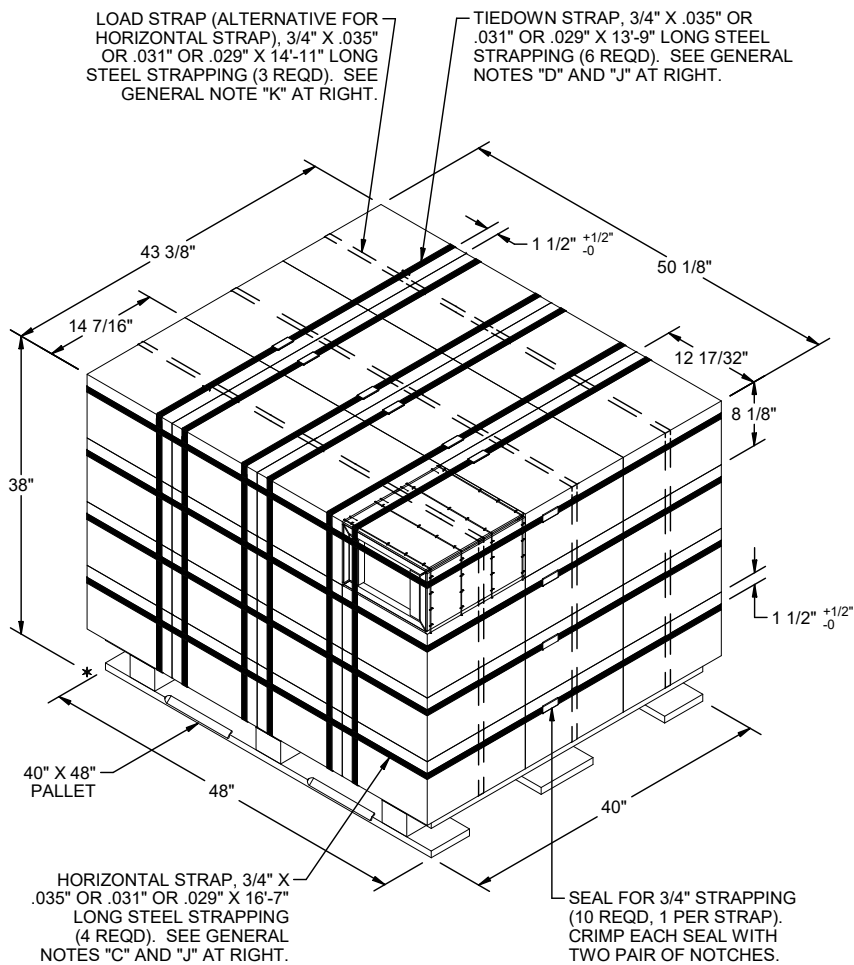
REVISION NO. 19, DATED MARCH 2018, CONSISTS OF CHANGES PER ECP R15S2028-NOR 11, ECP R16Q2037-NOR 2, AND ECP R18K2004-NOR 6:

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

REVISION NO. 20, DATED MARCH 2019, CONSISTS OF CHANGES PER ECP R17Q2029 NOR 20 AND ECP R18K2011 NOR 3:

1. UPDATNG ITEM WEIGHTS IN THE "PALLET UNIT DATA" CHART.
2. ADDING ITEMS BY NATIONAL STOCK NUMBER TO THE "PALLET UNIT DATA" CHART.

GENERAL NOTES



PALLET UNIT

SEE GENERAL NOTE "B" AT RIGHT.

48 BOXES OF 5.56MM CTG (1,680 PER BOX) @ 78 LBS	3,725 LBS
DUNNAGE	14 LBS
PALLET	80 LBS
TOTAL WEIGHT	3,819 LBS (APPROX)
CUBE	47.8 CU FT (APPROX)

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

(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 7553347.

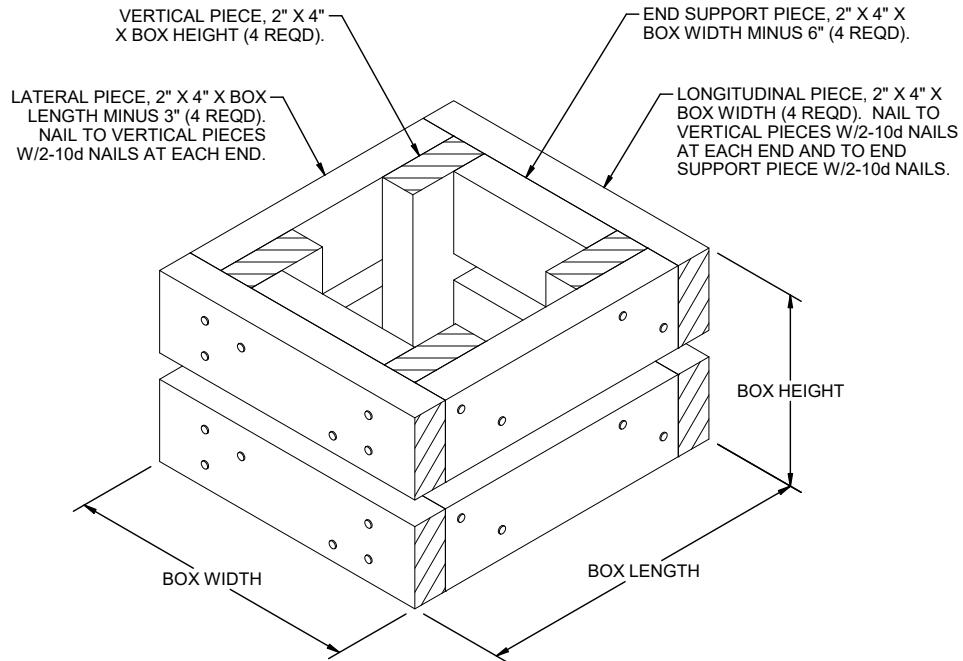
- A. THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC UNITIZATION PROCEDURES DRAWING 19-48-4116-20PA1002. TO PRODUCE AN APPROVED UNIT LOAD, ALL PERTINENT PROCEDURES, SPECIFICATIONS AND CRITERIA SET FORTH WITHIN THE BASIC DRAWING WILL APPLY TO THE PROCEDURES DELINEATED IN 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 5.56MM 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.

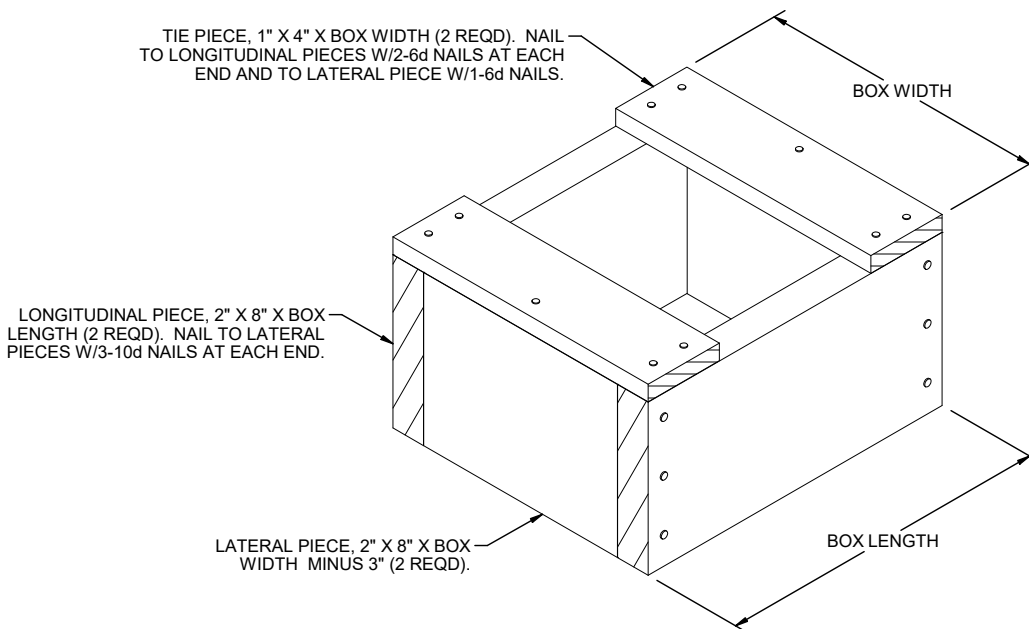
- K. LOAD STRAPS MAY BE USED IN LIEU OF HORIZONTAL STRAPS. LOAD STRAPS WILL BE PRE-POSITIONED AND LOCATED AS SHOWN IN THE DETAIL AT LEFT. **NOTICE:** WHEN LOAD STRAPS ARE BEING USED IN LIEU OF HORIZONTAL STRAPS, THE THREE OUTBOARD BOXES ON THE 40" SIDES OF THE BOTTOM LAYER OF THE UNIT WILL BE POSITIONED WITH THE TOPS DOWNWARD, AND THE THREE OUTBOARD 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.