

# APPENDIX 157F

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

**FUZE, MULTIOPTION, PRECISION GUIDANCE KIT (PGK), M1156, PACKED 3 PER PA125 METAL CONTAINER, UNITIZED 54 CONTAINERS PER 40" X 48" PALLET; APPROX CONTAINER SIZE 14-11/32" L X 5-3/4" W X 13-7/8" 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, COMBAT CAPABILITIES DEVELOPMENT COMMAND ARMAMENTS CENTER</p> <p>HANSSEN.JOSEP H.W.1376495538</p> <p><small>Digitally signed by HANSSEN.JOSEPH.W.1376495538 Date: 2023.08.28 09:49:11 -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>			<p style="font-size: 24pt; font-weight: bold;">MAY 2010</p>																	
<p>APPROVED, U.S. ARMY JOINT MUNITIONS COMMAND</p> <p>WARD.GINA. M.1369379808</p> <p><small>Digitally signed by WARD.GINA.M.1369379808 Date: 2023.08.30 15:02:42 -05'00'</small></p> <p style="text-align: right;">AMJM-MLT</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">DESIGN ENGINEER</td> <td style="width: 10%;">BASIC</td> <td style="width: 70%;">CANH TRAN</td> </tr> <tr> <td></td> <td>REV.</td> <td>SPENCER HOVEY</td> </tr> </table>	DESIGN ENGINEER	BASIC	CANH TRAN		REV.	SPENCER HOVEY	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">REVISION NO. 1</td> <td style="width: 50%;">JUNE 2023</td> </tr> </table>		REVISION NO. 1	JUNE 2023	<p><b>SEE THE REVISION LISTING ON PAGE 2</b></p>									
DESIGN ENGINEER	BASIC	CANH TRAN																			
	REV.	SPENCER HOVEY																			
REVISION NO. 1	JUNE 2023																				
<p>APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND</p> <p>BRAILSFORD.KEIT H.ANTHONY.10286 55661</p> <p><small>Digitally signed by BRAILSFORD.KEITH.ANTHONY. 1028655661 Date: 2023.08.31 07:30:36 -05'00'</small></p> <p style="text-align: right;">DEFENSE AMMUNITION CENTER</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">TEST ENGINEER</td> <td style="width: 80%;">FELICIANO.AD</td> </tr> <tr> <td>TEST REPORT</td> <td>IN.1259200373</td> </tr> <tr> <td>EXPLOSIVE SAFETY DIRECTORATE</td> <td>CUMMINS.PAU L.A.1231883122</td> </tr> </table>	TEST ENGINEER	FELICIANO.AD	TEST REPORT	IN.1259200373	EXPLOSIVE SAFETY DIRECTORATE	CUMMINS.PAU L.A.1231883122	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><small>Digitally signed by FIEFFER.LAURA.A.1230375727 Date: 2023.06.08 09:16:22 -05'00'</small></td> <td style="width: 80%;">CLASS</td> </tr> <tr> <td></td> <td>DIVISION</td> </tr> <tr> <td></td> <td>DRAWING</td> </tr> <tr> <td></td> <td>FILE</td> </tr> </table>	<small>Digitally signed by FIEFFER.LAURA.A.1230375727 Date: 2023.06.08 09:16:22 -05'00'</small>	CLASS		DIVISION		DRAWING		FILE	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">19</td> <td style="width: 20%;">48</td> <td style="width: 20%;">4116/ 157F</td> <td style="width: 40%;">20PA1002</td> </tr> </table>	19	48	4116/ 157F	20PA1002
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19	48	4116/ 157F	20PA1002																		

PALLET UNIT DATA				
ITEMS INCLUDED		*HAZARD CLASS AND DIVISION	*COMPATIBILITY GROUP	APPROX WEIGHT (LBS)
NSN	DODIC			
1390-				
01-579-0413	NA28	1.4	D	1,651
01-617-0269	NA29	1.4	D	1,651
01-680-2062	NA36	1.4	D	1,721
01-690-6310	NA37	1.4	D	1,667

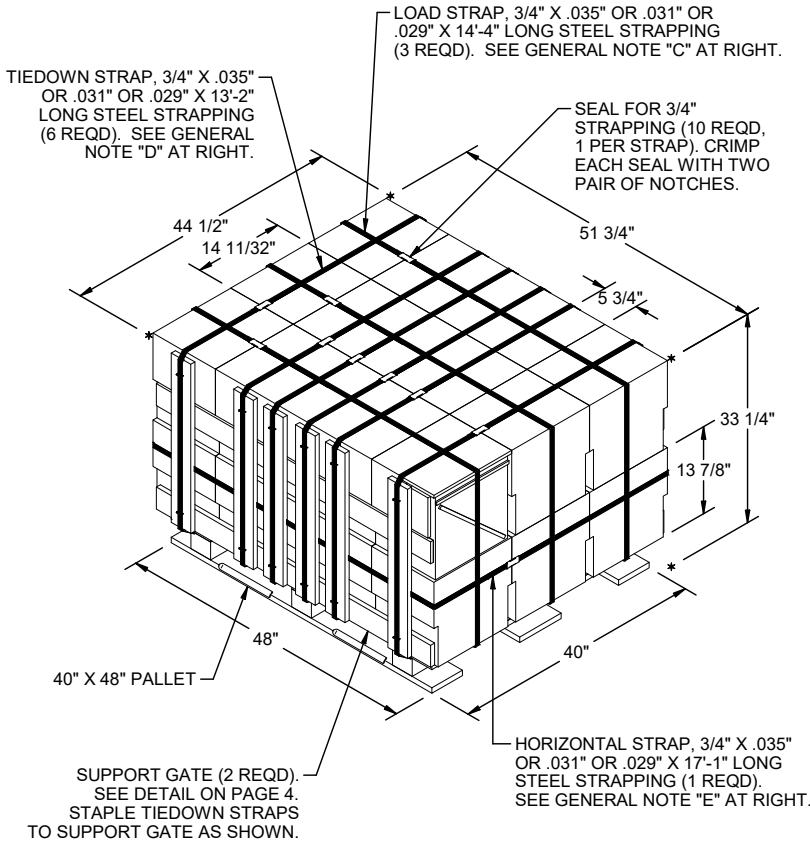
\*HAZARD CLASSIFICATION DATA CONTAINED IN THE ABOVE CHART IS FOR GUIDANCE AND INFORMATIONAL PURPOSES ONLY. VERIFICATION OF THE SPECIFIED DATA SHOULD BE MADE BY CONSULTING THE MOST RECENT JOINT HAZARD CLASSIFICATION SYSTEM LISTING OR OTHER APPROVED LISTING(S).

### REVISION

REVISION NO. 1, DATED JUNE 2023, CONSISTS OF CHANGES PER ECP R22K3001 INCLUDING:

1. UPDATING DRAWING TITLE FROM XM1156 TO M1156.
2. ADDING NSNS TO "PALLET UNIT DATA" CHART.
3. UPDATING GENERAL NOTES "G", "J" AND "L".
4. UPDATING WEIGHTS IN THE "PALLET UNIT DATA" CHART.

**GENERAL NOTES**



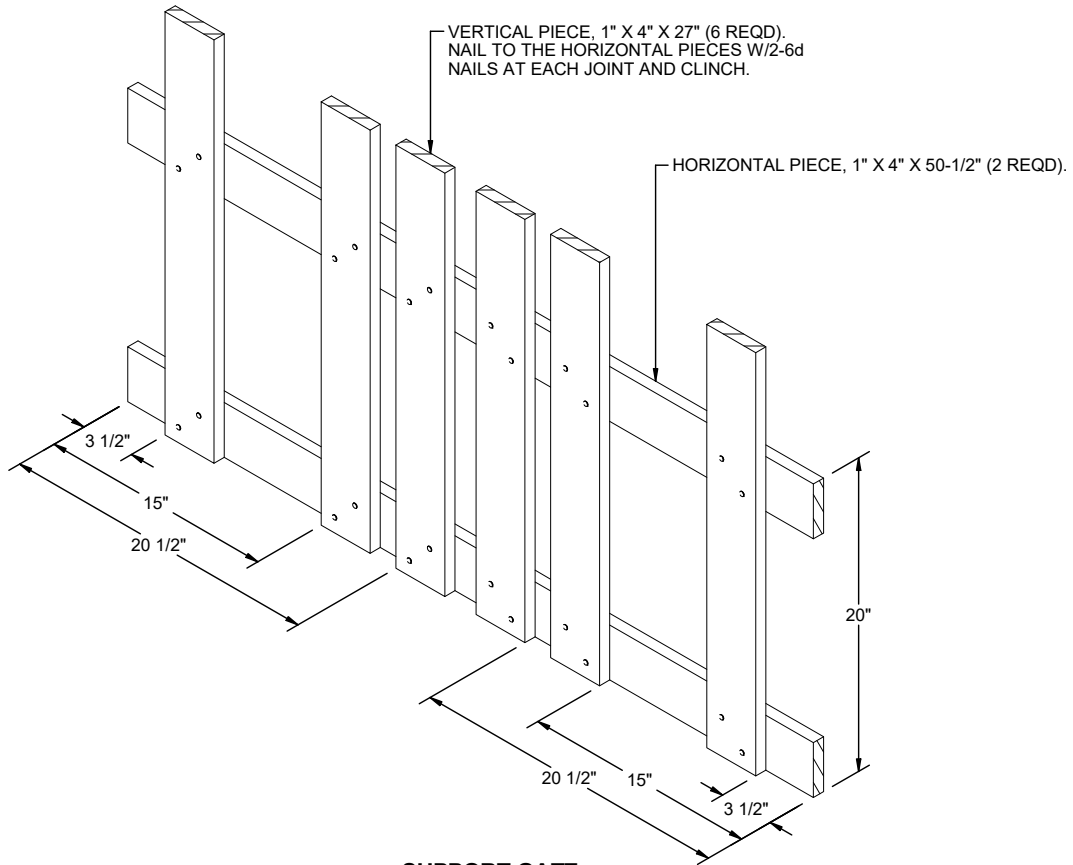
**PALLET UNIT**  
(SEE GENERAL NOTE "B" AT RIGHT)

54 CONTAINERS OF PGK FUZE (3 PER BOX) @ 29.6 LBS	--	1,599 LBS
DUNNAGE	--	42 LBS
PALLET	--	80 LBS
<b>TOTAL WEIGHT</b>	--	<b>1,721 LBS (APPROX)</b>
<b>CUBE</b>	--	<b>44.3 CU FT (APPROX)</b>

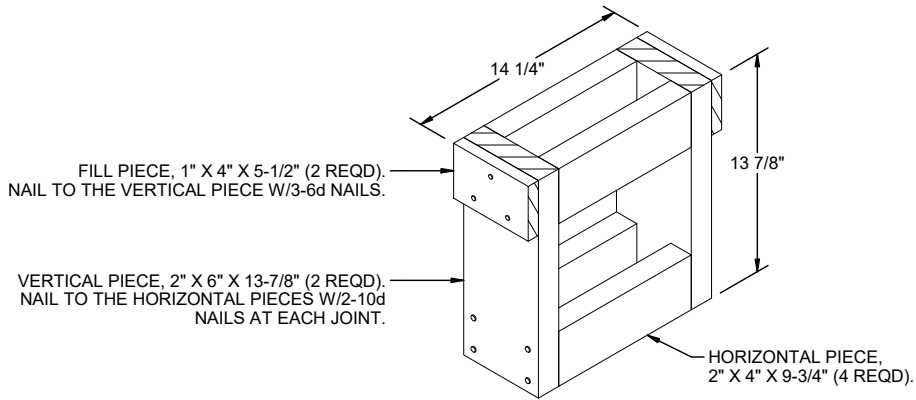
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	43.83	14.61
NAILS	NO. REQD	POUNDS
6d (2")	48	0.28
PALLET, 40" X 48"	1 REQD	80 LBS
STEEL STRAPPING, 3/4"	138.67' REQD	12.38 LBS
SEAL FOR 3/4" STRAPPING	10 REQD	NIL
STAPLE, 15/16" X 3/4"	24 REQD	NIL

- 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 CONTAINERS 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 CONTAINERS 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 DECK/STRINGER 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 HORIZONTAL STRAP SHOULD BE APPLIED FOLLOWING ASSEMBLY OF THE BOTTOM/FIRST LAYER OF CONTAINERS ON THE PALLET. THIS HORIZONTAL STRAP SHALL BE APPLIED PRIOR TO SECURING THE LOAD STRAPS AND THE TWO SUPPORT GATES WITH THE TIEDOWN STRAPS. THE HORIZONTAL STRAP SHALL BE PLACED BETWEEN 3" TO 4-1/2" DOWN FROM THE TOP OF THE CONTAINER LID.
- F. 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
- G. IF ITEMS COVERED HEREIN ARE UNITIZED PRIOR TO ISSUANCE OF THIS REVISION TO THIS APPENDIX, THE CONTAINERS NEED NOT BE REUNITIZED SOLELY TO CONFORM TO THIS REVISION.
- H. THE UNITIZATION PROCEDURES DEPICTED HEREIN MAY ALSO BE USED FOR UNITIZING PRECISION GUIDANCE KITS (PGK) 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. THE STYLE 1 PALLET DELINEATED IN THE DETAIL AT LEFT SHALL HAVE FOUR 3-1/4" NAILS USED IN EACH POST IN A BOX SHAPE PATTERN IN LIEU OF THE THREE 3-1/4" NAILS IN STAGGERED PATTERN CURRENTLY SPECIFIED IN MIL-DTL-15011. 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.
- K. THE 44-1/2" LENGTH DIMENSION IS AN EXCEPTION TO THE BASIC PROCEDURES. HOWEVER, THE EXCEPTION IS NECESSARY FOR THE AMMUNITION PACK COVERED BY THIS APPENDIX TO MOST EFFECTIVELY GET AN ACCEPTABLE, COMPACT AND SOUND PALLET UNIT.
- L. ALL WOODEN DUNNAGE SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH GENERAL NOTE "AA" IN THE BASIC PROCEDURES, AND HEAT TREATED IN ACCORDANCE WITH GENERAL NOTE "JJ" IN THE BASIC PROCEDURES.
- M. FOR DETAILS OF THE PA125 CONTAINER REFER TO NORTHROP GRUMMAN (NG) DRAWING 28079585.



**SUPPORT GATE**  
(2 REQD)



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