

# APPENDIX 27C

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

CARTRIDGE, 57MM, PACKED 6 PER WOODEN BOX,  
UNITIZED 40 BOXES PER 40" X 48" PALLET;  
APPROX BOX SIZE 23" L X 10 $\frac{1}{2}$ " W X 8 $\frac{1}{4}$ " H

PALLET UNIT DATA						
ITEMS INCLUDED		HAZARD CLASSIFICATION <sup>①</sup>				WEIGHT
NSN	DODIC	DOT CLASS	CG CLASS	QD CLASS	COMP GROUP	(LBS)
1310-00-028-4583	B587	A	IV	(08)1.2	E	2,085
00-028-4588	B587	A	IV	(08)1.2	E	2,325

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

<sup>①</sup> 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(S).

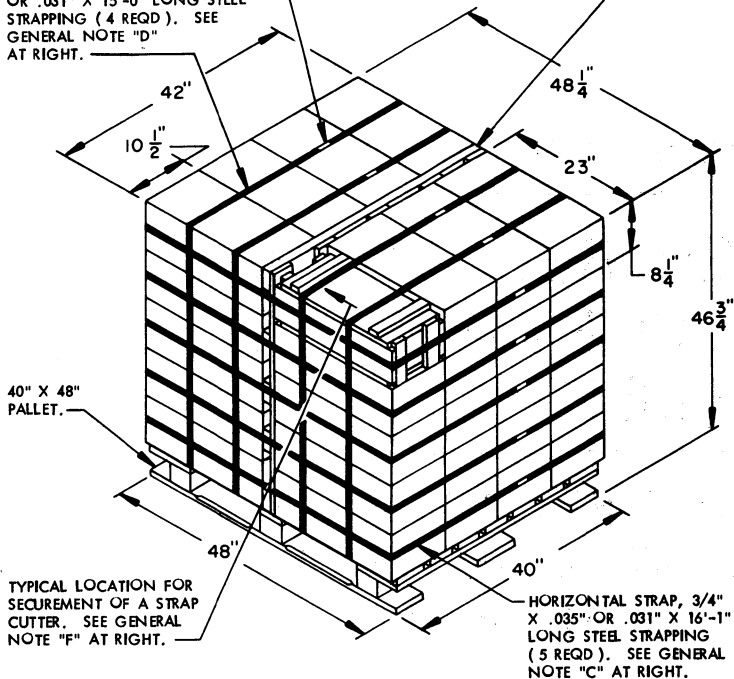
**DO NOT SCALE**

REVISIONS				DRAFTSMAN	PROJ. ENG.
				<i>[Signature]</i>	<i>[Signature]</i>
				CHECKER	LOG ENGINE OFFICE
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APPROVED, U. S. ARMY ARMAMENT, AMMUNITION AND CHEMISTRY CENTER					
<i>[Signature]</i>					
ORIGIN - LEP      ORIGIN - TUG					
APPROVED BY ORDER OF COMMANDING GENERAL, U. S. ARMY MATERIAL DEVELOPMENT AND READINESS COMMAND (DARCOM)					
<i>[Signature]</i>					
U. S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL					
OCTOBER 1983					
CLASS	DIVISION	DRAWING	FILE		
19	48	4116/27C	20PA1002		

SEAL FOR 3/4" STRAPPING (9 REQD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES.

TIEDOWN STRAP, 3/4" X .035" OR .031" X 15'-0" LONG STEEL STRAPPING (4 REQD). SEE GENERAL NOTE "D" AT RIGHT.

SPACER ASSEMBLY (1 REQD). SEE THE DETAIL BELOW. STAPLE HORIZONTAL STRAPS TO SPACER.



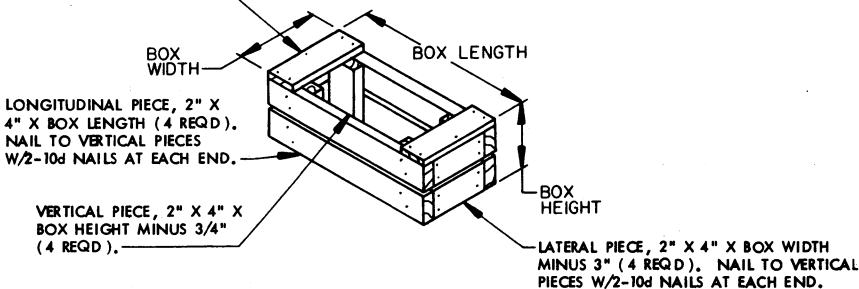
**PALLET UNIT**

SEE GENERAL NOTE "B" AT RIGHT.

40 BOXES OF 57 MM CARTRIDGE (6 PER BOX) @ 51 LBS	-----	2,040 LBS (APPROX)
DUNNAGE	-----	45 LBS
PALLET	-----	80 LBS
<b>TOTAL WEIGHT</b>	-----	<b>2,165 LBS (APPROX)</b>
<b>CUBE</b>	-----	<b>54.8 CU FT (APPROX)</b>

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	16.88	5.63
2" X 4"	17.50	11.67
NAILS		POUNDS
6d (2")	50	.29
PALLET, 40" X 48"	1 REQD	80 LBS
STEEL STRAPPING, 3/4"	140.42' REQD	10.03 LBS
SEAL FOR 3/4" STRAPPING	9 REQD	NIL
STAPLE	10 REQD	NIL

TIE PIECE, 1" X 4" X BOX WIDTH (2 REQD). NAIL TO LONGITUDINAL PIECES W/2-6d NAILS AT EACH END AND NAIL TO LATERAL PIECE W/1-6d NAIL.



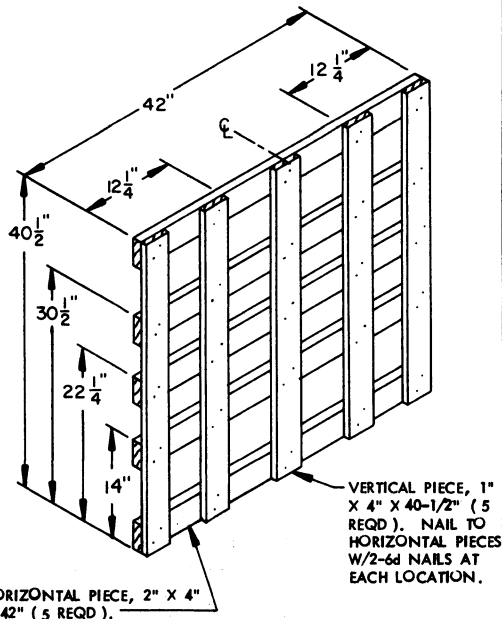
**FILLER ASSEMBLY**

(FOR MINUS ONE BOX)

**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. HORIZONTAL STRAPS MUST BE TENSIONED AND SEALED PRIOR TO APPLICATION OF TIEDOWN STRAPS.
- D. INSTALL EACH TIEDOWN STRAP TO PASS UNDER THE TOP DECK BOARDS OF THE PALLET AND TO BE LOCATED AS SHOWN. TIEDOWN STRAPS WILL NOT BE APPLIED UNTIL THE HORIZONTAL STRAPS HAVE BEEN TENSIONED AND SEALED.
- E. THE FOLLOWING DARCOM DRAWINGS ARE APPLICABLE FOR OUTLOADING AND STORAGE OF THE ITEMS COVERED BY THIS APPENDIX.
 

CARLOADING	-----	DRAWING 19-48-4115-5PA1002
TRUCKLOADING	-----	DRAWING 19-48-4117-11PA1003
STORAGE	-----	DRAWING 19-48-4118-1-2-3-4-14-22PA-1002
- F. FOR METHOD OF SECURING A STRAP CUTTER TO THE PALLET UNIT, SEE DARCOM DRAWING 19-48-4127-20P1000.
- G. IF ITEMS COVERED HEREIN ARE UNITIZED PRIOR TO ISSUANCE OF THIS APPENDIX, THE BOXES NEED NOT BE REUNITIZED SOLELY TO CONFORM TO THIS APPENDIX.
- H. THE UNITIZATION PROCEDURES DEPICTED HEREIN MAY ALSO BE USED FOR UNITIZING 57MM CARTRIDGES WHEN IDENTIFIED BY DIFFERENT NATIONAL STOCK NUMBERS (NSN) THAN WHAT IS SHOWN ON THE TITLE PAGE, 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.
- J. WHEN THE UNIT LOAD DEPICTED AT LEFT IS TO BE USED FOR UNITIZING MARINE CORPS AMMUNITION, ONE LAYER OF BOXES MUST BE OMITTED, TIEDOWN STRAP LENGTHS MUST BE DECREASED TO 13'-7", ONE HORIZONTAL STRAP MUST BE OMITTED, AND THE SPACER ASSEMBLY MUST BE MODIFIED. SPACER ASSEMBLY MODIFICATIONS INCLUDE CHANGING VERTICAL PIECE LENGTH TO 32-1/2", ELIMINATING THE HORIZONTAL PIECE LOCATED AT THE 40-1/2" HEIGHT DIMENSION, AND LOCATING THE UPPER HORIZONTAL PIECES EVEN WITH THE TOP OF THE VERTICAL PIECES. THIS WILL RESULT IN AN OVERALL UNIT HEIGHT OF 38-1/2", A GROSS UNIT WEIGHT OF 1,749 POUNDS, AND A UNIT CUBE OF 45.2 CUBIC FEET. ADDITIONALLY, THE UNIT LOAD MAY BE MODIFIED AS DESCRIBED WHEN BEING SHIPPED BY MILVAN OR COMMERCIAL INTERMODAL FREIGHT CONTAINER, CONVENTIONAL VAN TRAILER OR CONVENTIONAL OR HIGH-CAPACITY BOXCAR. THE DETERMINATION TO REDUCE THE LOAD BY A LAYER FOR TRANSPORTATION WILL BE MADE BY THE RESPONSIBLE COMMAND AND WILL BE BASED UPON ECONOMICS OF TRANSPORTATION AND HANDLING.



**SPACER ASSEMBLY**

(ONE REQD)