

# APPENDIX 45J

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

CARTRIDGE, 105MM, PACKED 2 PER WOODEN BOX,  
UNITIZED 15 BOXES PER 35" X 45½" PALLET;  
APPROX BOX SIZE 44 <sup>7</sup>/<sub>8</sub>" L X 13" W X 8 <sup>1</sup>/<sub>8</sub>" H

PALLET UNIT DATA						
ITEMS INCLUDED		HAZARD CLASSIFICATION ①				WEIGHT
NSN	DODIC	DOT CLASS	CG CLASS	QD CLASS	COMP GROUP	( LBS )
1315-						
00-028-4815	C498	A	IV	1.1	E	1,977
00-028-4820	C498	A	IV	1.1	E	2,007
00-926-4069	C463	A	IV	(12) 1.2	E	1,861
00-935-1977	C513	A	IV	(12) 1.2	E	1,897
00-935-9178	C513	A	IV	(12) 1.2	E	1,897
00-935-1982	C513	A	IV	(12) 1.2	E	1,977
00-143-7121	C513	A	IV	(12) 1.2	E	1,977
00-143-7768	C513	A	IV	(12) 1.2	E	1,977
00-935-1980	C513	A	IV	(12) 1.2	E	1,977
00-935-1978	C513	A	IV	(12) 1.2	E	1,977
00-055-9725	C513	A	IV	(12) 1.2	E	1,977

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

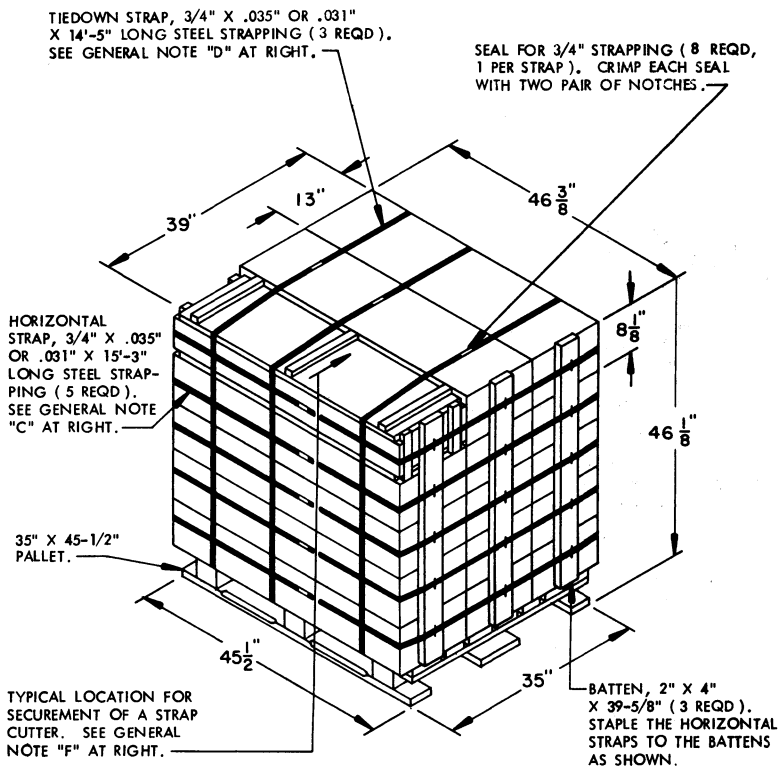
① HAZARD CLASSIFICATION DATA CONTAINED IN THE ABOVE CHART IS FOR GUIDANCE AND INFORMATIONAL PURPOSES ONLY. VERIFICATION OF THE SPECIFIED DATA SHOULD BE MADE BY CONSULTING THE MOST RECENT JOINT HAZARD CLASSIFICATION SYSTEM LISTING OR OTHER APPROVED LISTING(S).

**DO NOT SCALE**

REVISIONS			
			DESIGNED BY: <i>R. B. Mack</i> AREA ENG: <i>WRF/Adw</i> CHECKED BY: <i>LSH</i> LEO ENGINE: <i>LSH</i> APPROVED BY: <i>J. Martin</i> U.S. ARMY AMMUNITION, MUNITIONS AND CHEMICAL COMMAND APPROVED BY: <i>John L. Boyd</i> U.S. ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND U.S. ARMY AMMUNITION CENTER AND SCHOOL U.S. ARMY DARCOM DRAWING OCTOBER 1983 CLASS: 19      DIVISION: 48      DRAWING: 4116/45J      FILE: 20PA1002
1	1	1	
2	1	1	
3	1	1	
4	1	1	
5	1	1	
6	1	1	
7	1	1	
8	1	1	
9	1	1	
10	1	1	

**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 19-48-4118-1-2-3-4-14-22PA1002
- 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 105MM 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'-0", AND ONE HORIZONTAL STRAP WILL BE DELETED. THIS WILL RESULT IN AN OVERALL UNIT HEIGHT OF 38", A GROSS UNIT WEIGHT OF 1,512 POUNDS, AND A UNIT CUBE OF 39.5 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.



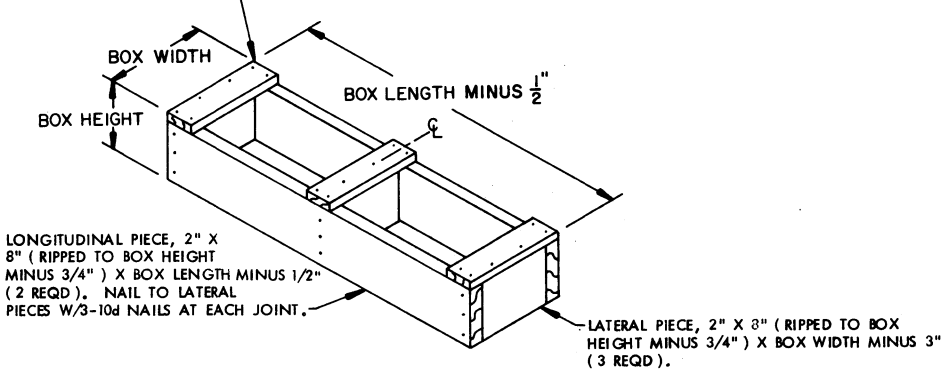
**PALLET UNIT**

SEE GENERAL NOTE "B" AT RIGHT.

15 BOXES OF 105MM CARTRIDGES (2 PER BOX) @ 126 LBS	-----	1,890 LBS (APPROX)
DUNNAGE	-----	22 LBS
PALLET	-----	65 LBS
<b>TOTAL WEIGHT</b>	-----	<b>1,977 LBS (APPROX)</b>
<b>CUBE</b>	-----	<b>48.3 CU FT (APPROX)</b>

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	9.91	6.60
PALLET, 35" X 45-1/2"	1 REQD	65 LBS
STEEL STRAPPING, 3/4"	119.50' REQD	8.54 LBS
SEAL FOR 3/4" STRAPPING	8 REQD	NIL
STAPLE	15 REQD	NIL

TIE PIECE, 1" X 4" X BOX WIDTH (3 REQD).  
NAIL TO LONGITUDINAL PIECES W/2-6d NAILS AT EACH END AND TO LATERAL PIECE W/2-6d NAILS.



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