

# APPENDIX 18A

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

CARTRIDGE, 30MM, STRIP PACK, PACKED VARIOUS  
QUANTITIES PER M592 METAL BOX, UNITIZED 20  
BOXES PER 35" X 45 $\frac{1}{2}$ " PALLET; APPROX BOX  
SIZE 18 $\frac{5}{8}$ " L X 9 $\frac{1}{2}$ " W X 14 $\frac{5}{8}$ " H

PALLET UNIT DATA						
ITEMS INCLUDED		HAZARD CLASSIFICATION ①				WEIGHT (LBS)
NSN	DODIC	DOT CLASS	CG CLASS	QD CLASS	COMP GROUP	
UNASSIGNED		C	I	1.4	S	3,208
UNASSIGNED		A	IV	(04) 1.2	E	2,344
UNASSIGNED		C	I	1.4	C	3,208
UNASSIGNED		A	IV	1.3	E	2,344

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

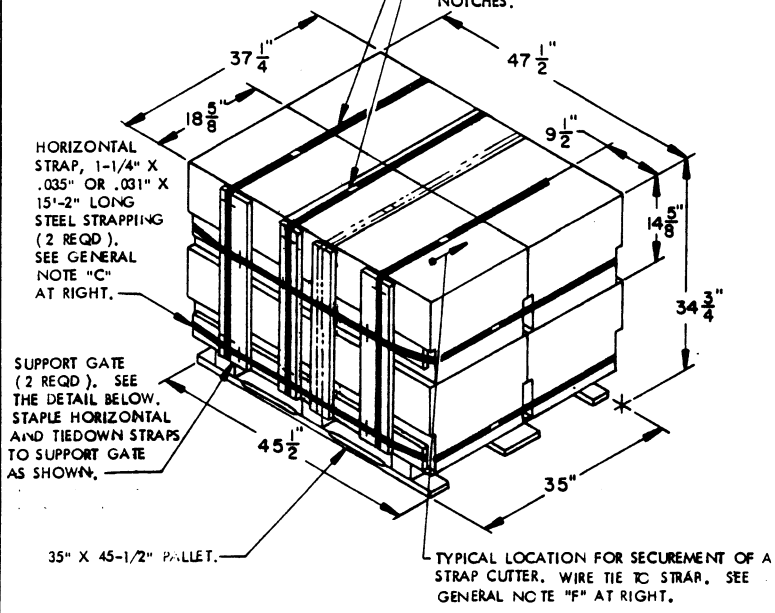
① HAZARD CLASSIFICATION DATA CONTAINED IN THE ABOVE CHART IS FOR GUIDANCE AND INFORMATIONAL PURPOSES ONLY. VERIFICATION OF THE SPECIFIED DATA SHOULD BE MADE BY CONSULTING THE MOST RECENT JOINT HAZARD CLASSIFICATION SYSTEM LISTING OR OTHER APPROVED LISTING (S).

**DO NOT SCALE**

REVISIONS				DRAWN BY <i>WRF</i>	PT <i>pt</i>	PROJ ENG <i>WRF</i>	RN GRD <i>WRF</i>
				CHECKER <i>WRF</i>	LOG ENGRS OFFICE <i>WRF</i>		
				APPROVED, U.S. ARMY ARMAMENT, MUNITIONS AND CHEMICAL COMMAND			
				<i>David P. Rebois</i>	<i>B. J. ...</i>		
				APPROVED BY CHIEF OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND (AMC)			
				<i>William F. Ernst</i>			
				U.S. ARMY AMC DRAWING			
				FEBRUARY 1988			
CLASS	DIVISION	DRAWING	FILE				
19	48	4116/ 18A	20PA 1002				

TIEDOWN STRAP, 1-1/4" X .035" OR .031" X 12'-2" LONG STEEL STRAPPING (3 REQD). SEE GENERAL NOTES "D" AND "J" AT RIGHT.

SEAL FOR 1-1/4" STRAPPING (5 REQD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES.



**PALLET UNIT**

SEE GENERAL NOTE "B" AT RIGHT.

20 BOXES OF 30MM CARTRIDGES @ 110 LBS-----	2,200 LBS (APPROX)
DUNNAGE-----	33 LBS
PALLET-----	65 LBS
<b>TOTAL WEIGHT-----</b>	<b>2,298 LBS (APPROX)</b>
<b>CUBE-----</b>	<b>35.6 CU FT (APPROX)</b>

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	19.92	6.64
1" X 6"	9.50	4.75
NAILS	NO. REQD	POUNDS
6d (2")	36	0.21
PALLET, 35" X 45-1/2"----- 1 REQD----- 65 LBS		
STEEL STRAPPING, 1-1/4"----- 66.83 REQD----- 9.55 LBS		
SEAL FOR 1-1/4" STRAPPING----- 5 REQD----- NIL		
STAPLE, 1-17/32" X 3/4"----- 20 REQD----- NIL		

**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 AND TO BE ALIGNED WITH THE HORIZONTAL PIECES OF THE "SUPPORT GATES" AS SHOWN. 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 ALIGNED WITH THE VERTICAL PIECES OF THE "SUPPORT GATES" AS SHOWN. TIEDOWN STRAPS WILL NOT BE APPLIED UNTIL THE HORIZONTAL STRAPS HAVE BEEN TENSIONED AND SEALED.
- E. THE FOLLOWING AMC (DARCOM) DRAWINGS ARE APPLICABLE FOR OUTLOADING AND STORAGE OF THE ITEMS COVERED BY THIS APPENDIX.  
 CARLOADING-----DRAWING 19-48-4115- SPA 1002.  
 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 30MM 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 EXPLOSIVES CLASSIFICATION OF OTHER ITEMS MAY BE DIFFERENT THAN WHAT IS SHOWN.
- J. WHEN THE TOTAL WEIGHT OF THE UNIT LOAD IS MORE THAN 3,300 POUNDS, FOUR TIEDOWN STRAPS WILL BE REQUIRED TO RETAIN THE BOXES ON THE PALLET. SEE DETAIL AT LEFT FOR LOCATION OF NEW STRAP..
- K. THE UNIT LOAD DEPICTED AT LEFT MAY BE INCREASED BY ONE LAYER IN HEIGHT. FOUR TIEDOWN STRAPS WILL BE REQUIRED, TIEDOWN STRAP LENGTHS MUST BE INCREASED TO 14'-8", ONE HORIZONTAL STRAP MUST BE ADDED TO THE NEW LAYER AND THE SUPPORT GATE MUST BE MODIFIED. SUPPORT GATE MODIFICATIONS INCLUDE CHANGING THE VERTICAL PIECE LENGTH TO 43-1/8" AND ADDING ONE HORIZONTAL PIECE AT 35-7/8". THIS WILL RESULT IN AN OVERALL UNIT HEIGHT OF 49-3/8", A GROSS UNIT WEIGHT OF 3,850 POUNDS OR 2,813 POUNDS, AND A UNIT CUBE OF 50.6 CUBIC FEET. THE DETERMINATION TO INCREASE THE LOAD BY ONE LAYER FOR TRANSPORTATION WILL BE MADE BY THE RESPONSIBLE COMMAND AND WILL BE BASED UPON ECONOMICS OF TRANSPORTATION AND HANDLING.
- L. THE STYLE 1A PALLET DELINEATED IN THE DETAIL AT LEFT NEED NOT HAVE CHAMFERS OR STRAP SLOTS AS SPECIFIED WITHIN MILITARY SPECIFICATION MIL-P-15011 WHEN USED FOR THE UNITIZATION OF THE ITEMS COVERED BY THIS APPENDIX.

