

# APPENDIX 4

## UNITIZATION PROCEDURES FOR BOXED WHITE PHOSPHORUS (WP) AND PLASTICIZED WHITE PHOSPHORUS (PWP) LOADED AMMUNITION ON 4-WAY ENTRY PALLETS

CARTRIDGE, 76MM, PACKED 2 PER WOODEN BOX,  
UNITIZED 20 BOXES PER 35" X 45 $\frac{1}{2}$ " PALLET;  
APPROX BOX SIZE 39 $\frac{7}{8}$ " L X 10 $\frac{7}{8}$ " W X 7 $\frac{1}{4}$ " H

PALLET UNIT DATA						
ITEMS INCLUDED		HAZARD CLASSIFICATION				WEIGHT (LBS)
NSN	DODIC	DOT CLASS	CG CLASS	QD CLASS	COMP GROUP	
1315- 00-028-4737	C128	A	II-D	(12) 1.2	H	1,806

NOTE: THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN  
CONJUNCTION WITH THE BASIC UNITIZATION PROCEDURES DRAWING  
19-48-4015-20PA1004.

REVISIONS				DRAFTSMAN <i>Dim</i> / pt	PROJ ENG <i>wrf/llw</i>
				CHECKER <i>GRS</i>	LOG ENGRG OFFICE <i>W &amp; Smit</i>
				APPROVED, U. S. ARMY ARMAMENT MATERIEL READINESS COMMAND	
				<i>[Signature]</i> DRSAR - LEP	<i>[Signature]</i> DRSAR - TMD
				APPROVED BY ORDER OF COMMANDING GENERAL, U. S. ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND (DARCOM)	
				<i>[Signature]</i> U. S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL	
<b>U. S. ARMY DARCOM DRAWING</b>					
<b>FEBRUARY 1983</b>					
				CLASS	DIVISION
				DRAWING	FILE
				<b>19</b>	<b>48</b>
				<b>4015/4</b>	<b>20PA 1004</b>

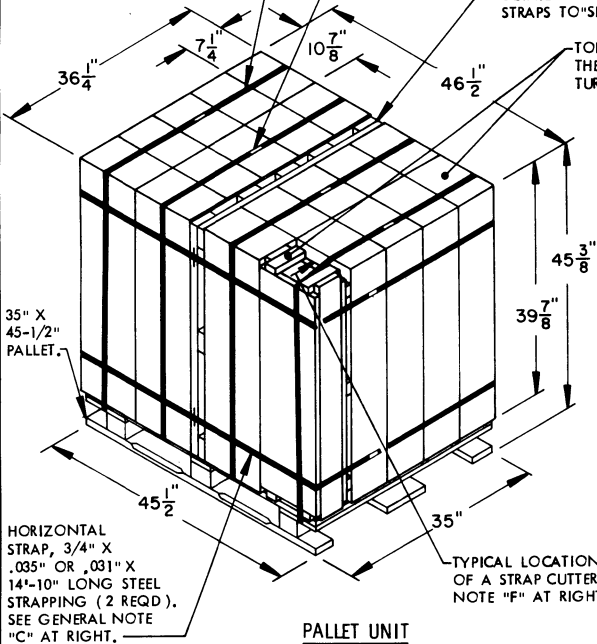
DO NOT SCALE

TIEDOWN STRAP, 3/4" X .035" OR .031" X 13'-10" LONG STEEL STRAPPING (4 REQD). SEE GENERAL NOTE "D" AT RIGHT.

SEAL FOR 3/4" STRAPPING (6 REQD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES.

SPACER ASSEMBLY (1 REQD). SEE DETAIL BELOW. STAPLE HORIZONTAL STRAPS TO "SPACER ASSEMBLY" AS SHOWN.

TOP CLEATS ON THE BOXES IN THE OUTSIDE STACKS WILL BE TURNED INWARD.



**PALLET UNIT**

SEE GENERAL NOTE "B" AT RIGHT.

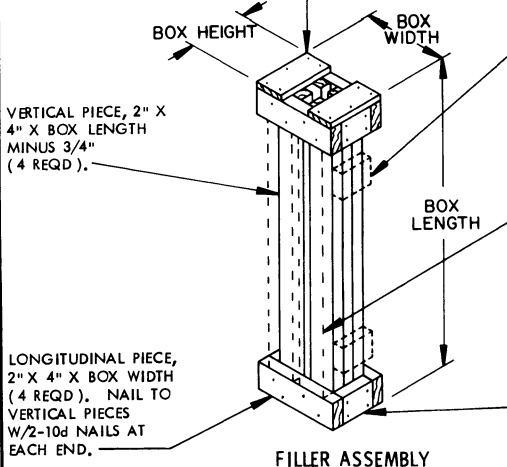
20 BOXES OF 76MM CARTRIDGES (2 PER BOX) @ 85 LBS -----1,700 LBS (APPROX)  
 DUNNAGE-----41 LBS  
 PALLET-----65 LBS

TOTAL WEIGHT-----1,806 LBS (APPROX)  
 CUBE-----44.3 CU FT (APPROX)

**BILL OF MATERIAL**

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	25.63	17.08
NAILS	NO. REQD	POUNDS
10d (3")	30	0.46
PALLET, 35" X 45-1/2"	1 REQD	65 LBS
STEEL STRAPPING, 3/4"	85.00' REQD	6.07 LBS
SEAL FOR 3/4" STRAPPING	6 REQD	NIL
STAPLE, 15/16" X 3/4"	4 REQD	NIL

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



**FILLER ASSEMBLY**

(FOR MINUS ONE BOX)

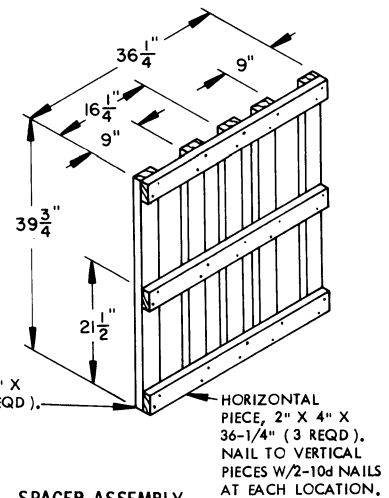
STRAP BEARING PIECE, 2" X 4" BY BOX HEIGHT MINUS 3" (AS REQD). NAIL TO VERTICAL PIECES W/2-10d NAILS AT EACH END. NOTE: WHEN A UNIT HAS MORE THAN SIX BOXES OMITTED, THE FILLER ASSEMBLY OR ASSEMBLIES LOCATED IN AN OUTER STACK ON THE 35" SIDE OR SIDES OF THE PALLET WILL REQUIRE "STRAP BEARING PIECES" UNDER THE HORIZONTAL STRAPS. STAPLE STRAPS TO "STRAP BEARING PIECES".

FILL PIECE, 2" X 4" X CUT-TO-FIT (AS REQD). NAIL TO VERTICAL PIECE W/3-10d NAILS. NOTE: WHEN A UNIT HAS MORE THAN 12 BOXES OMITTED, THE FILLER ASSEMBLY OR ASSEMBLIES LOCATED IN AN OUTER STACK ON THE 45-1/2" SIDE OR SIDES OF THE PALLET UNIT WILL REQUIRE "FILL PIECES".

LATERAL PIECE, 2" X 4" X BOX HEIGHT MINUS 3" (4 REQD). NAIL TO THE VERTICAL PIECES W/2-10d NAILS AT EACH END.

**GENERAL NOTES**

- THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC UNITIZATION PROCEDURES DRAWING 19-48-4015-20PA1004. 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.
- 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.
- INSTALL THE HORIZONTAL STRAPS TO ENCIRCLE THE LAYER OF BOXES ON THE PALLET. HORIZONTAL STRAPS MUST BE TENSIONED AND SEALED PRIOR TO APPLICATION OF TIEDOWN STRAPS.
- 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 HORIZONTAL STRAPS HAVE BEEN TENSIONED AND SEALED.
- THE FOLLOWING DARCOM DRAWINGS ARE APPLICABLE FOR OUT-LOADING 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
- FOR METHOD OF SECURING A STRAP CUTTER TO THE PALLET UNIT, SEE DARCOM DRAWING 19-48-4127-20P1000.
- IF ITEMS COVERED HEREIN ARE UNITIZED PRIOR TO ISSUANCE OF THIS APPENDIX, THE BOXES NEED NOT BE REUNITIZED SOLELY TO TO CONFORM TO THIS APPENDIX.
- THE UNITIZATION PROCEDURES DEPICTED HEREIN MAY ALSO BE USED FOR UNITIZING 76MM 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.
- IF THERE IS A NEED TO USE FILLER ASSEMBLIES AND AT LEAST TWO PALLET UNITS ARE BEING CONSTRUCTED, NOT MORE THAN 16 FILLERS WILL BE INSTALLED IN ANY ONE PALLET UNIT. ADDITIONAL FILLERS CAN BE PUT IN A SECOND PALLET UNIT AS REQUIRED WHEN THE QUANTITY OF 16 FILLERS IN THE FIRST REDUCED PALLET UNIT IS INSUFFICIENT TO SATISFY THE TOTAL REDUCTION NEEDED. USING TWO PALLET UNITS TO SATISFY THE PALLETIZATION CRITERIA APPLICABLE TO LESS-THAN-FULL PALLET UNITS 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 UNIT.



**SPACER ASSEMBLY**

(ONE REQD)

HORIZONTAL PIECE, 2" X 4" X 36-1/4" (3 REQD). NAIL TO VERTICAL PIECES W/2-10d NAILS AT EACH LOCATION.