

# APPENDIX 93

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

**BURSTER, INCENDIARY, M4, PACKED 20 PER WOODEN  
BOX, UNITIZED 36 BOXES PER 35" X 45 $\frac{1}{2}$ " PALLET;  
APPROX BOX SIZE 13 $\frac{1}{4}$ " L X 11 $\frac{1}{4}$ " W X 14 $\frac{7}{8}$ " H**

PALLET UNIT DATA						
ITEMS INCLUDED		HAZARD CLASSIFICATION <sup>ⓐ</sup>				WEIGHT
NSN	DODIC	DOT CLASS	CG CLASS	Q/D CLASS	COMP GROUP	( LBS )
1345-00-690-7338	K010	A	X-A	1.1	D	1,891

ⓐ 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).

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

REVISIONS																															
			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">DRAWN <i>RSK</i></td> <td style="font-size: small;">PROJ ENG <i>RSK</i></td> </tr> <tr> <td style="font-size: small;">CHECKER <i>RSK</i></td> <td style="font-size: small;">LOS ENGINE OFFICE <i>John Boyd</i></td> </tr> <tr> <td colspan="2" style="font-size: x-small;">APPROVED, U. S. ARMY ARMAMENT, BURNINGS AND CHEMICAL COMMAND</td> </tr> <tr> <td style="font-size: small;"><i>John Boyd</i></td> <td style="font-size: small;"><i>John Boyd</i></td> </tr> <tr> <td style="font-size: x-small;">DESIGN - 100</td> <td style="font-size: x-small;">OR ENG - 100</td> </tr> <tr> <td colspan="2" style="font-size: x-small;">APPROVED BY ORDER OF COMMANDING GENERAL, U. S. ARMY MATERIAL DEVELOPMENT AND READINESS COMMAND (DARCOM)</td> </tr> <tr> <td colspan="2" style="font-size: x-small;"><i>John X. Boyd</i></td> </tr> <tr> <td colspan="2" style="font-size: x-small;">U. S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL</td> </tr> <tr> <td colspan="2" style="text-align: center;">U. S. ARMY DARCOM DRAWING</td> </tr> <tr> <td colspan="2" style="text-align: center;">NOVEMBER 1983</td> </tr> <tr> <td style="font-size: x-small;">CLASS</td> <td style="font-size: x-small;">DIVISION</td> <td style="font-size: x-small;">DRAWING</td> <td style="font-size: x-small;">FILE</td> </tr> <tr> <td style="text-align: center;">19</td> <td style="text-align: center;">48</td> <td style="text-align: center;">4116/93</td> <td style="text-align: center;">20PA 1002</td> </tr> </table>	DRAWN <i>RSK</i>	PROJ ENG <i>RSK</i>	CHECKER <i>RSK</i>	LOS ENGINE OFFICE <i>John Boyd</i>	APPROVED, U. S. ARMY ARMAMENT, BURNINGS AND CHEMICAL COMMAND		<i>John Boyd</i>	<i>John Boyd</i>	DESIGN - 100	OR ENG - 100	APPROVED BY ORDER OF COMMANDING GENERAL, U. S. ARMY MATERIAL DEVELOPMENT AND READINESS COMMAND (DARCOM)		<i>John X. Boyd</i>		U. S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL		U. S. ARMY DARCOM DRAWING		NOVEMBER 1983		CLASS	DIVISION	DRAWING	FILE	19	48	4116/93	20PA 1002
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**DO NOT SCALE**

LOAD STRAP, 3/4" X .035" OR .031" X 16'-4" LONG STEEL STRAPPING (3 REQD). SEE GENERAL NOTE "C" AT RIGHT.

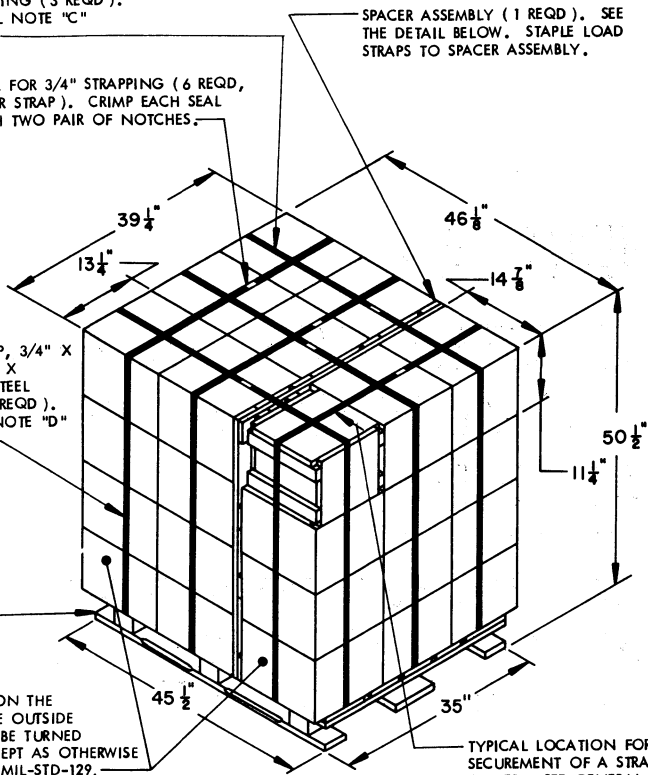
SEAL FOR 3/4" STRAPPING (6 REQD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES.

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

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

35" X 45-1/2" PALLET.

TOP CLEATS ON THE BOXES IN THE OUTSIDE STACKS WILL BE TURNED INWARD, EXCEPT AS OTHERWISE SPECIFIED IN MIL-STD-129.



**PALLET UNIT**

SEE GENERAL NOTE "B" AT RIGHT.

36 BOXES OF BURSTERS (20 PER BOX) @ 50 LBS	1,800 LBS (APPROX)
DUNNAGE	26 LBS
PALLET	65 LBS

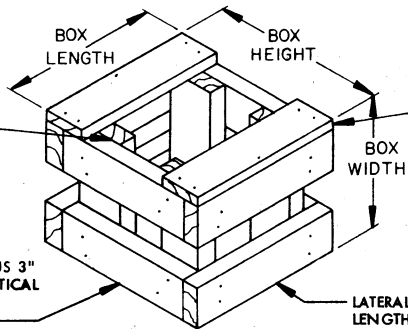
TOTAL WEIGHT	1,891 LBS (APPROX)
CUBE	52.9 CU FT (APPROX)

**BILL OF MATERIAL**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	28.25	9.42
NAILS	NO. REQD	POUNDS
6d (2")	32	0.19
PALLET, 35" X 45-1/2"	1 REQD	65 LBS
STEEL STRAPPING, 3/4"	94.75 REQD	8.77 LBS
SEAL FOR 3/4" STRAPPING	6 REQD	NIL
STAPLE	3 REQD	NIL

VERTICAL PIECE, 2" X 4" X BOX WIDTH MINUS 3/4" (4 REQD).

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

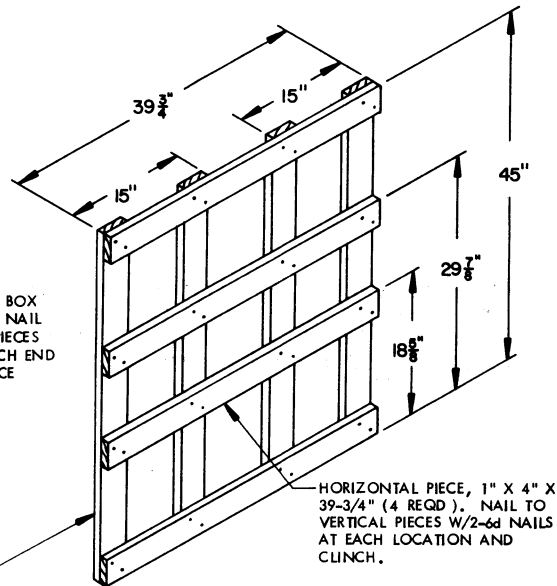


**FILLER ASSEMBLY**

(FOR MINUS ONE BOX)

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

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



HORIZONTAL PIECE, 1" X 4" X 39-3/4" (4 REQD). NAIL TO VERTICAL PIECES W/2-6d NAILS AT EACH LOCATION AND CLINCH.

**SPACER ASSEMBLY**

(1 REQD)

VERTICAL PIECE, 1" X 4" X 45" (4 REQD).

**GENERAL NOTES**

- 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.
- 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.
- THE LOAD STRAPS WILL BE PRE-POSITIONED ON THE PALLET DECK PRIOR TO PLACING BOXES ON THE PALLET. LOAD STRAPS MUST BE TENSIONED AND SEALED PRIOR TO APPLICATION OF TIEDOWN STRAPS.
- 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 LOAD STRAPS HAVE BEEN TENSIONED AND SEALED.
- 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 19-48-4118-1-2-3-4-14-22 PA1002
- 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 CONFORM TO THIS APPENDIX.
- THE UNITIZATION PROCEDURES DEPICTED HEREIN MAY ALSO BE USED FOR UNITIZING BURSTERS 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.
- 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'-4", LOAD STRAP LENGTHS MUST BE DECREASED TO 14'-5", AND THE SPACER ASSEMBLY MUST BE MODIFIED. SPACER ASSEMBLY MODIFICATIONS INCLUDE CHANGING VERTICAL PIECE LENGTH TO 33'-3/4" ELIMINATING THE HORIZONTAL PIECES LOCATED AT THE 29'-7/8" 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 39'-1/4", A GROSS UNIT WEIGHT OF 1,436 POUNDS, AND A UNIT CUBE OF 41.6 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.