

UNITIZATION PROCEDURES FOR ABRAMS ARMOR TILE SET SPARE PARTS ON 4-WAY ENTRY PALLETS

ARMOR TILE SET, XM19, PACKED ONE PER
WOODEN BOX, UNITIZED 18 BOXES PER
40" X 48" PALLET; APPROX BOX SIZE
20" L X 15-3/4" W X 11-3/16" H

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U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY FIELD SUPPORT COMMAND <i>David A. Portnow</i> AMSRD-AAR-AIL-TP		CAUTION: VERIFY PRIOR TO USE AT WWW.DAC.ARMY.MIL THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 4.			
		DO NOT SCALE		JULY 2006	
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND <i>Scott Carter</i> AMSFS-ST		ENGINEER OR TECHNICIAN	BASIC REV.	LAURA A. FIEFFER	
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND <i>[Signature]</i> U.S. ARMY DEFENSE AMMUNITION CENTER		TRANSPORTATION ENGINEERING DIVISION	<i>[Signature]</i>	TESTED	
		VALIDATION ENGINEERING DIVISION	<i>[Signature]</i>	CLASS	DIVISION
		ENGINEERING DIRECTORATE	<i>[Signature]</i>	DRAWING	FILE
				19	48
				4221/17	20PA1009

PROJECT CA 234/17-86

PALLET UNIT DATA				
ITEMS INCLUDED		● HAZARD CLASS AND DIVISION	● COMPAT-IBILITY GROUP	APPROX WEIGHT LBS
NSN	DODIC			
1375-01-541-9564	MP15	1. 1	D	1, 809

● 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).

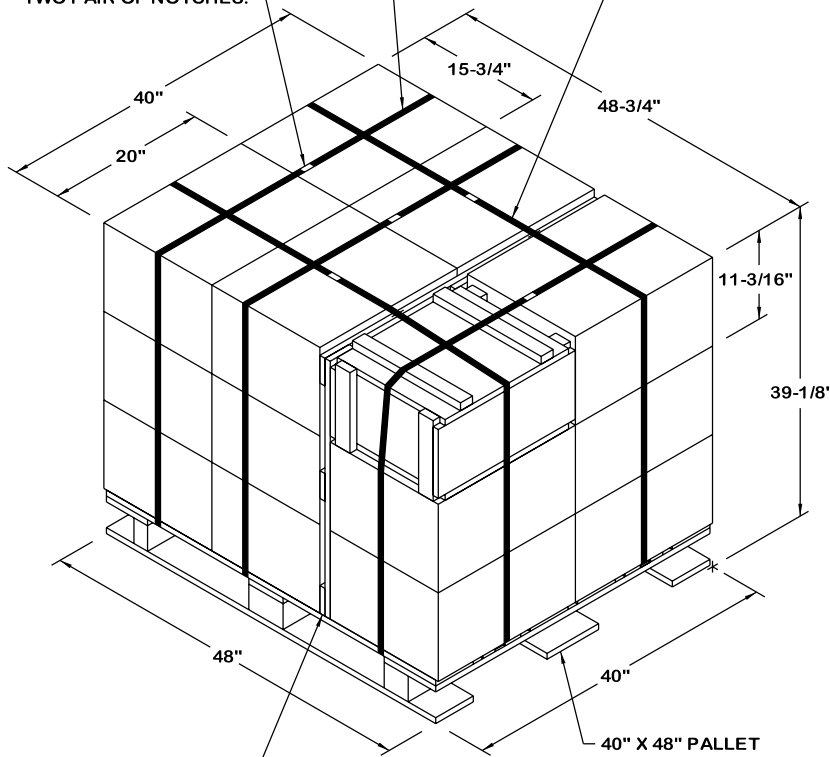
MATERIAL SPECIFICATIONS

- LUMBER - - - - - -: SEE TM 743-200-1 (DUNNAGE LUMBER) AND VOLUNTARY PRODUCT STANDARD PS 20.
- NAILS - - - - - -: ASTM F1667; COMMON STEEL NAIL (NLCMS OR NLCMMS).
- PALLET - - - - - -: MIL SPEC MIL-P-15011; 4-WAY ENTRY, STYLE 1, TYPE I, CLASS 1, PRESERVATIVE AND HEAT TREATED. SEE GENERAL NOTE "O".
- STRAPPING, STEEL - -: ASTM D3953; FLAT STRAPPING, TYPE 1, HEAVY DUTY, FINISH B (GRADE 2), SIZE 3/4" OR 1-1/4" X .035" OR .031", NOTE: BRITTE OR SLIT EDGES SHALL HAVE A FINISH A OVERLAY..
- SEAL, STRAP - - - -: ASTM D3953; CLASS H, FINISH B (GRADE 2), DOUBLE NOTCH TYPE, STYLE I, II, III, OR IV. ALTERNATIVE SEAL FINISH: SIGNODE OR DELTA PAINTED SEALS MAY BE USED AS AN ALTERNATIVE IF ALL SURFACES ARE PAINTED. GRITTED BACKING IS NOT PERMITTED.
- STAPLE - - - - - -: ASTM F1667; STFCs-189 OR STFCs-207, 15/16" OR 1" CROWN WIDTH X 3/4" LEG LENGTH.

TIEDOWN STRAP, 3/4" X .035" OR .031" X 13'-5" LONG STEEL STRAPPING (3 REQD). SEE GENERAL NOTE "D" AT RIGHT.

SEAL FOR 3/4" STRAPPING (5 REQD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES.

LOAD STRAP, 3/4" X .035" OR .031" X 14'-10" LONG STEEL STRAPPING (2 REQD). SEE GENERAL NOTE "C" AT RIGHT.



SPACER GATE (1 REQD). SEE THE DETAIL ON PAGE 4. STAPLE LOAD STRAPS TO GATE W/1 STAPLE EACH LOCATION.

PALLET UNIT

SEE GENERAL NOTE "B" AT RIGHT.

18 BOXES OF ARMOR TILES (1 PER BOX) @ 95 LBS - - - 1,710 LBS (APPROX)
 DUNNAGE - - - - - 19 LBS
 PALLET - - - - - 80 LBS

TOTAL WEIGHT - - - - - 1,809 LBS (APPROX)
 CUBE - - - - - 44.2 CU FT (APPROX)

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" x 4"	18.19	6.06
NAILS	NO. REQD	POUNDS
6d (2")	18	0.11
PALLET, 40" X 48" - - - - -	1 REQD - - - - -	80 LBS
STEEL STRAPPING, 3/4" - - - - -	69.92' REQD - - - - -	6.25 LBS
SEAL FOR 3/4" STRAPPING - - - - -	5 REQD - - - - -	NIL
STAPLE, 15/16" X 3/4" - - - - -	2 REQD - - - - -	NIL

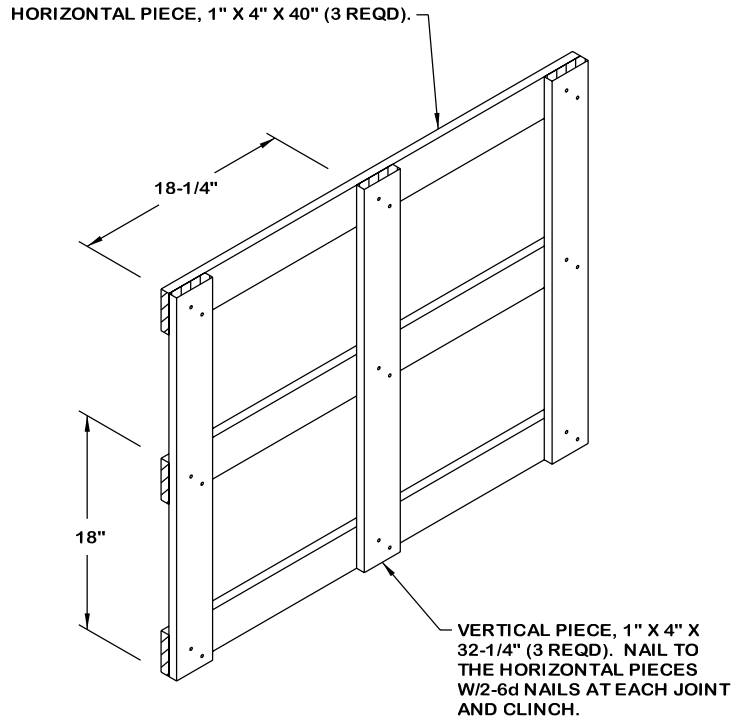
GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1, AND AUGMENTS TM 743-200-1 (CHAPTER 5) AND CONFORMS TO MIL-STD-1660.
- 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. THE LOAD STRAPS MAY BE THREADED THROUGH THE STRAP SLOTS OF A PALLET OR PRE-POSITIONED ON THE PALLET DECK PRIOR TO PLACING THE BOXES ON THE PALLET. LOAD 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 LOAD STRAPS HAVE BEEN TENSIONED AND SEALED.
- E. THE FOLLOWING AMC DRAWINGS ARE APPLICABLE FOR OUTLOADING AND STORAGE OF THE ITEMS COVERED BY THIS APPENDIX.
 - CARLOADING - - - - 19-48-4115-5PA1002
 - TRUCKLOADING - - - - 19-48-4117-11PA1003
 - STORAGE - - - - 19-48-4118-1-2-3-4-14-22PA1002
 - END OPENING ISO CONTAINER - - - - 19-48-4153-15PA1002
 - MIL VAN - - - - 19-48-4166-15PA1003
 - SIDE OPENING ISO CONTAINER - - - - 19-48-4267-15PA1009
- F. IF ITEMS COVERED HEREIN ARE UNITIZED PRIOR TO ISSUANCE OF THIS DRAWING, THE BOXES NEED NOT BE REUNITIZED SOLELY TO CONFORM TO THIS APPENDIX.
- G. THE UNITIZATION PROCEDURES DEPICTED HEREIN MAY ALSO BE USED FOR UNITIZING ARMOR TILES WHEN IDENTIFIED BY DIFFERENT NATIONAL STOCK NUMBERS (NSN) THAN WHAT IS SHOWN ON PAGE 2, 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.
- H. THE STYLE 1 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 ITEMS COVERED BY THIS APPENDIX.
- J. WHEN APPLYING ANY STRAP, CARE MUST BE EXERCISED TO ASSURE THAT THE END OF THE STRAP ON THE UNDERSIDE OF THE JOINT EXTENDS AT LEAST 6" BEYOND THE SEAL. THIS EXTRA MINIMUM LENGTH OF STRAP IS REQUIRED TO PERMIT SUBSEQUENT TIGHTENING OF LOOSENED STRAPPING. RETENSIONING CAN BE ACCOMPLISHED WITHOUT REPLACING STRAPPING OR SPLICING STRAPPING THROUGH THE USE OF A MANUAL OR PNEUMATIC FEEDWHEEL TYPE TENSIONING TOOL AND THE APPLICATION OF ONE ADDITIONAL SEAL.
- K. IN ORDER TO OBTAIN COMPACT (SOUND) UNITS, ALL STRAPS SHALL BE LOCATED IN PROPER ALIGNMENT AND TENSIONED UNTIL THEY CUT INTO THE EDGE OF THE PALLET DECK. AFTER TENSIONING, ALL STRAPS WILL BE SECURED USING ONE SEAL AND TWO PAIR OF NOTCHES.
- L. A PLUS OR MINUS 1/4" IS ALLOWED ON OVERALL DIMENSIONS OF ANY DUNNAGE ASSEMBLY. HOWEVER, SIMILAR PIECES IN AN ASSEMBLY MUST BE WITHIN 1/8" OF THE SAME DIMENSION.
- M. DIMENSIONAL LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF A NOMINAL SIZE UNLESS OTHERWISE SPECIFIED, FOR EXAMPLE, 1" X 4" MATERIAL IS ACTUALLY 3/4" THICK BY 3-1/2" WIDE AND 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE.

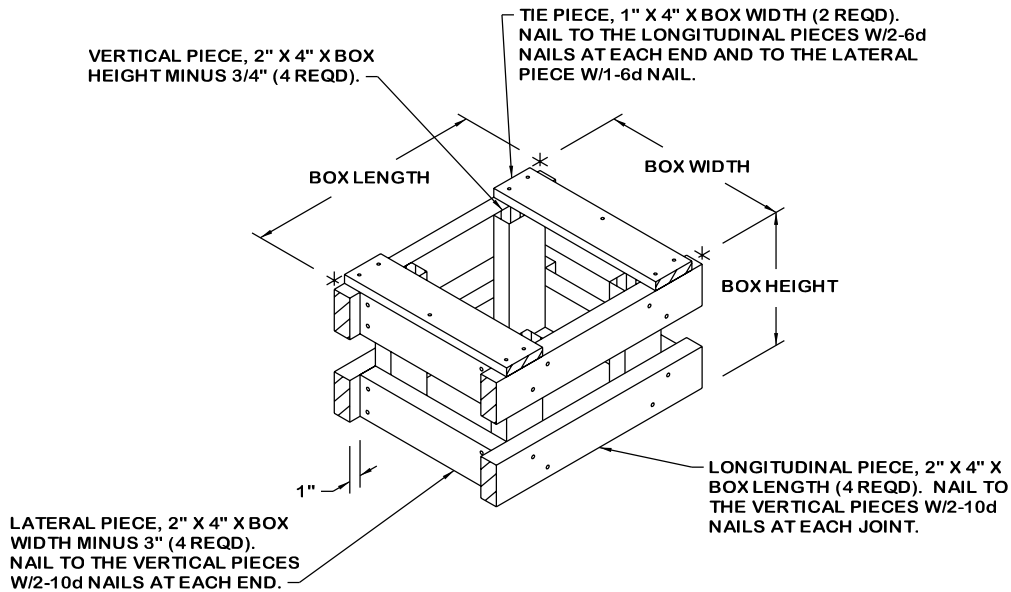
(CONTINUED ON PAGE 4)

(GENERAL NOTES CONTINUED FROM PAGE 3)

- N. ALL WOODEN DUNNAGE AND PALLETS MUST BE PRESERVATIVE TREATED IN ACCORDANCE WITH THE PROCEDURES SPECIFIED IN MIL-B-2427 FOR CLEATED WOODEN BOXES. IF THE DUNNAGE CONSISTS OF MORE THAN ONE COMPONENT, IT MUST BE ASSEMBLED PRIOR TO TREATMENT. THE LETTERS PA DENOTING PQ56 (COPPER-8-QUINOLINOLATE), PB DENOTING M-GARD W550 (ZINC NAPHTHANATE EMULSIFIABLE) OR PC DENOTING M-GARD W510 OR CUNAPSOL 5 (COPPER NAPHTHANATE) MUST BE APPLIED TO THE WOOD DUNNAGE IN LETTERS AT LEAST ONE-INCH HIGH.
- O. ALL NON-MANUFACTURED WOOD USED IN THE PALLETIZED LOAD SHALL BE HEAT TREATED TO A CORE TEMPERATURE OF 56 DEGREES CELSIUS FOR A MINIMUM OF 30 MINUTES. THE PALLET MANUFACTURER AND THE MANUFACTURER OF WOOD TO BUILD FILLER ASSEMBLIES AND DUNNAGE ASSEMBLIES FOR THE PALLETIZED LOAD SHALL BE AFFILIATED WITH AN INSPECTION AGENCY ACCREDITED BY THE U.S. DEPARTMENT OF AGRICULTURE. THE PALLET MANUFACTURER AND THE MANUFACTURER OF WOOD USED TO BUILD FILLER ASSEMBLIES AND DUNNAGE ASSEMBLIES FOR THE PALLETIZED LOAD SHALL ENSURE TRACEABILITY TO THE ORIGINAL SOURCE OF HEAT TREATMENT. EACH PALLET, FILLER ASSEMBLY, OR DUNNAGE ASSEMBLY SHALL BE MARKED TO SHOW THE CONFORMANCE TO THE INTERNATIONAL PLANT PROTECTION CONVENTION STANDARD. PALLETS, FILLER ASSEMBLIES, AND DUNNAGE ASSEMBLIES MADE OF NON-MANUFACTURED WOOD SHALL BE HEAT TREATED AND MARKED APPROPRIATELY. THE QUALITY MARK FOR THE PALLET SHALL BE PLACED ON TWO OPPOSITE END POST ON THE SAME SIDE AS THE PRESERVATIVE MARKING. THE QUALITY MARK FOR THE FILLER ASSEMBLIES AND DUNNAGE ASSEMBLIES SHALL BE PLACED ON TWO OPPOSITE SIDES.
- P. DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES, AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENT MAY BE CALCULATED ON THE BASIS THAT ONE INCH EQUALS 25.4MM AND ONE POUND EQUALS 0.454 KG.
- Q. FOR DETAILS OF THE MIL-B-2427 WOODEN BOX SEE ARDEC DRAWING 13009492.



SPACER GATE



FILLER ASSEMBLY
(FOR MINUS ONE BOX)