

UNITIZATION PROCEDURES FOR BULK EXPLOSIVES WHEN PACKAGED IN A 14-1/2" DIAMETER BY 28" HIGH FIBERBOARD DRUM, OVERPACKED SIX PER PALLET UNIT (45-1/2"L X 35"W X 35-1/2"H) REQUIRING 35" X 45-1/2" 4-WAY ENTRY PALLET

● THE PALLET UNIT DATA DISPLAYED HEREIN IS BASED ON DRUM PACKED NITROGUANADINE. HOWEVER, THE SPECIFIED UNITIZATION PROCEDURES ARE ALSO APPLICABLE TO OTHER DRUM-PACKED BULK EXPLOSIVES WHICH ARE PACKED IN THE SAME SIZE OR NEARLY THE SAME SIZE FIBERBOARD DRUM, PROVIDING THE GROSS WEIGHT OF A COMPLETE PALLET UNIT DOES NOT EXCEED 2,200 POUNDS. HEIGHT ADJUSTMENTS TO THE PALLET UNIT WILL BE MADE DURING FABRICATION AS REQUIRED TO COMPENSATE FOR DRUMS THAT VARY SLIGHTLY IN SIZE FROM THE DESIGNATED DIMENSIONS OF 14-1/2' BY 28'. THE SPECIFIED PROCEDURES ARE APPLICABLE TO DRUMS WHICH HAVE DIAMETERS FROM 14-1/4' TO 14-1/2' AND HEIGHTS OF NOT MORE THAN 46". DRUMS WHICH ARE 15-1/2' IN HEIGHT CAN BE TRIPLE TIERED WITHIN A PALLET UNIT AND THOSE THAT ARE NOT MORE THAN 23' HIGH CAN BE DOUBLE-TIERED.

DO NOT SCALE

REVISIONS			DRAFTSMAN	PROJ. ENG.
			<i>[Signature]</i>	<i>[Signature]</i>
			CHECKER	LOG. ENGINEER
			<i>[Signature]</i>	<i>[Signature]</i>
			APPROVED	
			<i>[Signature]</i>	
			U. S. ARMY ARMAMENT COMMAND	
			APPROVED BY ORDER OF COMMANDING GENERAL	
			U. S. ARMY MATERIEL COMMAND	
			<i>[Signature]</i>	
			USAMC AMMO CENTER	
			U. S. ARMY MATERIEL COMMAND	
			OCTOBER 1975	
			CLASS	DIVISION
			19	48
			DRAWING	FILE
			4132	20PN 1004

SEAL FOR 3/4" STRAPPING (5 REQD., 1 PER STRAP), DOUBLE CRIMP EACH SEAL.

TOP PANEL (1 REQD.), SEE THE DETAIL ON PAGE 3.

35"

45 1/2"

STEEL STRAPPING, 3/4" X .031" X 15'-0" (2 REQD.). PRE-POSITION STRAP THRU SLOT IN PALLET DECK. SEE SPECIAL NOTE 1 ON PAGE 3.

SIDE PANEL (2 REQD.), SEE THE DETAIL ON PAGE 3.

35 1/2"

STEEL STRAPPING, 3/4" X .031" X 13'-0" (3 REQD.). SEE SPECIAL NOTE 1 ON PAGE 3.

END PANEL (2 REQD.), SEE THE DETAIL ON PAGE 3.

PALLET (1 REQD.), 35" X 45-1/2".

INDICATES PALLET DECK.

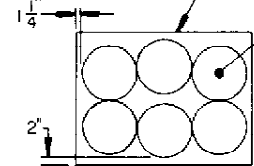
INDICATES DRUM, SEE SPECIAL NOTE 4 ON PAGE 3.

PALLET UNIT (BASED ON NITROGUANADINE)

6 DRUMS @ 57 LBS ----- 342 LBS
 PANEL MATERIALS ----- 192 LBS
 PALLET ----- 65 LBS

TOTAL WEIGHT ----- 599 LBS (APPROX.)

CUBE ----- 32.7 CU. FT.



DRUM PLACEMENT ON PALLET

EXPLOSIVE CLASSIFICATION*
 (BASED ON NITROGUANADINE)

DOI CLASS -----	A
COAST GUARD CLASS -----	IX-B
Q D CLASS -----	7
COMPATIBILITY GROUP -----	I

* THE EXPLOSIVE CLASSIFICATION OF OTHER DRUM-PACKED BULK EXPLOSIVES MAY BE DIFFERENT THAN THAT SHOWN.

GENERAL NOTES

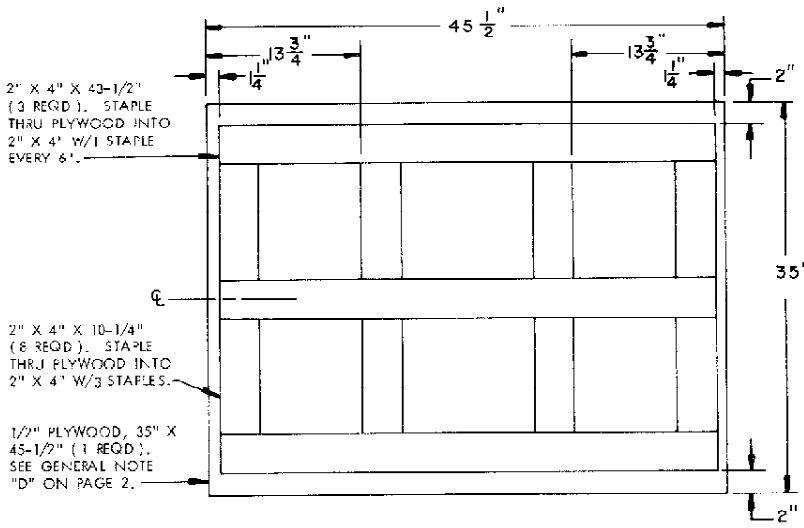
- THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1, AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- DATA FOR FIBERBOARD DRUMS WHEN PACKED WITH NITROGUANADINE:
 DIMENSIONS ----- 14-1/2" DIAMETER BY 28" HIGH.
 GROSS WEIGHT ----- 57 POUNDS (APPROX.).
- PALLET UNIT DETAILS ARE BASED ON THE DIMENSIONS IDENTIFIED ABOVE. ANY VARIATION IN THE SIZE OF THE FIBER DRUMS ACTUALLY USED WILL REQUIRE A CORRESPONDING ADJUSTMENT IN THE UNIT DETAILS TO COMPENSATE. FOR EXAMPLE, IF THE DRUMS SHOULD ACTUALLY BE 27-1/2" HIGH, THE HEIGHT OF THE UNIT SIDE PANELS AND END PANELS WILL BE ADJUSTED ACCORDINGLY.
- WHERE PLYWOOD PANELS ARE SPECIFIED FOR VARIOUS LOCATIONS, THE DIMENSIONS ARE BASED ON USING ONE SOLID PIECE OF PLYWOOD FOR EACH PANEL. HOWEVER, IT IS PERMITTED TO ASSEMBLE SIDE PANELS FROM TWO PIECES PROVIDED THE CONSTRUCTED PANEL MEETS ALL SPECIFIED DIMENSIONAL CRITERIA. ONLY A HORIZONTAL BUTT JOINT IS PERMITTED, AND NOT MORE THAN ONE JOINT PER SIDE PANEL. NEITHER PIECE OF PLYWOOD ON A PANEL WILL BE LESS THAN TWELVE INCHES (12") WIDE. WHEN TWO STRIPS OF PLYWOOD ARE USED ON A SIDE PANEL, EXTRA STAPLES WILL BE USED; ONE (1) NOT MORE THAN ONE INCH (1") FROM THE JOINT ON EACH SIDE OF THE BUTT JOINT AT EACH SPECIFIED STAPLING LOCATION.

MATERIAL SPECIFICATIONS

- PALLET** ----- : 4-WAY ENTRY, SIZE 35" X 45-1/2", MIL-P-15011, STYLE 1A. (SOFTWOOD OR HARDWOOD PALLET).
- LUMBER** ----- : SEE MIL-STD-731, CLASS 2, GROUP II, III, OR IV.
- PLYWOOD** ----- : GROUP B OR C, GRADE C-D (EXTERIOR); FED SPEC NN-P-530.
 NOTE: A BETTER GRADE MAY BE SUBSTITUTED.
- NAILS** ----- : COMMON, CEMENT COATED OR CHEMICALLY ETCHED; FED SPEC FF-N-105.
 ALT: ANNULAR-RING TYPE NAIL OF THE SAME SIZE.
- STRAPPING, STEEL** ----- : CLASS I, TYPE I OR IV, HEAVY DUTY, FINISH 3, GRADE 2, FED SPEC QQ-S-781.
- STAPLE FOR LUMBER** ----- : TYPE III, STYLE 3, FED SPEC FF-N-105.
- SEAL, STRAP** ----- : TYPE D, STYLE I, II, OR IV, CLASS H, FED SPEC QQ-S-781.

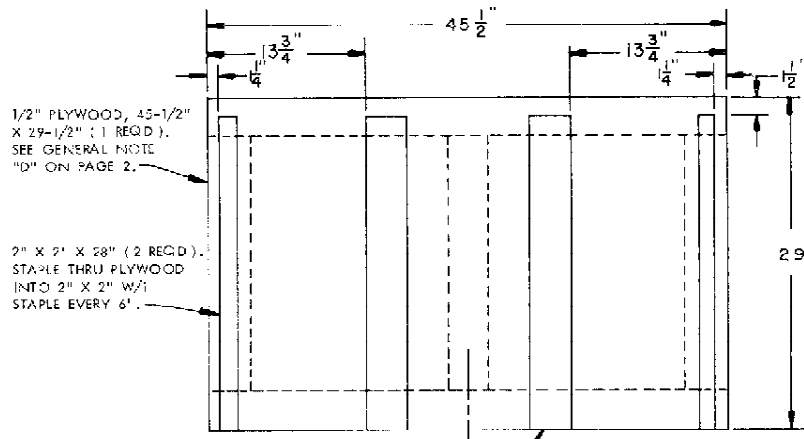
SPECIAL NOTES:

1. THE STEEL STRAPPING SPECIFIED IN THE PALLET UNIT DETAIL ON PAGE 2 IS 3/4" WIDE BY .031" THICK. FOR AN ALTERNATIVE, 3/4" WIDE BY .035" THICK STEEL STRAPPING MAY ALSO BE USED. ALL STRAPPING MUST BE STRAIGHT WITHIN TWO INCHES (2") ON ANY SURFACE OF THE UNITIZED LOAD; I.E., TOP, BOTTOM, SIDES OR ENDS THAT IT ENCOMPASSES. EACH STRAP WILL BE TENSIONED SUFFICIENTLY TO SLIGHTLY CRUSH THE EDGES OF THE PALLET UNIT.
2. A MANUFACTURING TOLERANCE OF + OR - 1/4" IS ALLOWED ON ALL DIMENSIONS. ALTHOUGH A + OR - 1/4" TOLERANCE IS ALLOWED, ALL DIMENSIONED LUMBER MEMBERS IN A SET, SUCH AS THE VERTICAL 2" X 4" CLEATS ON THE EXTERIOR OF A SIDE PANEL, MUST BE WITHIN 1/8" OF THE SAME LENGTH.
3. DIMENSIONAL LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE. FOR EXAMPLE, 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3 1/2" WIDE.
4. IF LESS THAN 8 DRUMS ARE LOADED INTO A PALLET UNIT, A BOX TYPE ASSEMBLY CONSTRUCTED FROM DIMENSIONAL LUMBER AND PLYWOOD MUST BE INSTALLED TO OCCUPY THE VOID CREATED BY THE ELIMINATION OF A DRUM OR DRUMS. THE SPACE-OCCUPYING ASSEMBLY MUST BE AS STRONG OR STRONGER THAN THE DRUMS REPLACED.
5. IF DESIRED DURING ASSEMBLY OF A PALLET UNIT, ONE (1) 10d NAIL CAN BE DRIVEN THROUGH A SIDE PANEL AT EACH CORNER INTO AN INTERNAL FRAME OF AN END PANEL, TO TEMPORARILY HOLD PANELS IN PLACE PRIOR TO APPLYING STRAPPING.

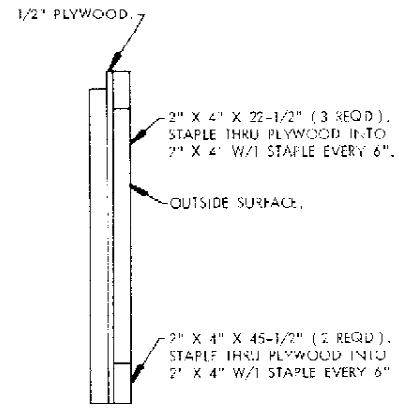


TOP PANEL

BOTTOM OF PANEL SHOWN

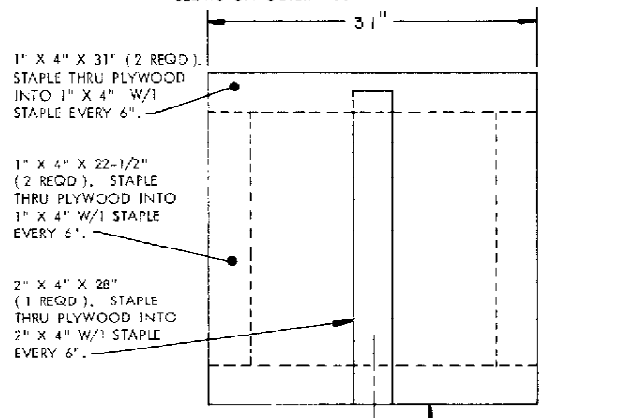


SIDE PANEL



END VIEW OF SIDE PANEL

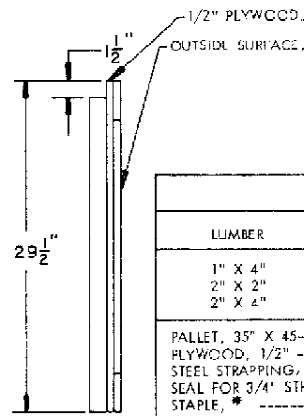
CLEATS ON OUTSIDE SURFACE ARE SHOWN IN DASHED LINES.



END PANEL

1/2" PLYWOOD, 31" X 29-1/2" (1 REQD). SEE GENERAL NOTE "D" ON PAGE 2.

CLEATS ON OUTSIDE SURFACE ARE SHOWN IN DASHED LINES.



END VIEW OF END PANEL

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	18	5
2" X 2"	10	4
2" X 4"	59	40
PALLET, 35" X 45-1/2"	1 EA	65 LBS
PLYWOOD, 1/2"	43 SQ FT	60 LBS
STEEL STRAPPING, 3/4" X .031"	69 FT REQD	6 LBS
SEAL FOR 3/4" STRAPPING	5 REQD	NIL
STAPLE, *	HH REQD	1 LB.

* STAPLES TO BE USED SHOULD BE OF A TYPE USED IN PNEUMATIC OR MECHANICAL GUNS FOR FASTENING WOOD. LEG LENGTH WILL BE ONE INCH (1") AND THE CROWN WIDTH WILL BE 1/2" MINIMUM TO 1" MAXIMUM. THE WIRE GAGE OF THE STAPLE SHOULD BE SIXTEEN (16) GAGE OR HEAVIER.