

UNITIZATION PROCEDURES FOR BULK EXPLOSIVES WHEN PACKAGED IN A 14-1/2" DIAMETER BY 28" HIGH FIBERBOARD DRUM, OVERPACKED SIX PER PALLET UNIT (48" L X 40" W X 35-1/2" H) REQUIRING 40" X 48", 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" OR LESS IN HEIGHT CAN BE TRIPLE-TIERED WITHIN A PALLET UNIT AND THOSE THAT ARE NOT MORE THAN 23" HIGH CAN BE DOUBLE-TIERED.

REVISIONS				DRAFTSMAN GREG/MSK	PROJ ENG JNW/KSW
				CHECKER DR/BZB	LOG ENGRG OFFICE JWB
				APPROVED Willie H. Kinton	
				APPROVED BY ORDER OF COMMANDING GENERAL U. S. ARMY MATERIEL COMMAND USAMC AMMO CENTER	
				U.S. ARMY MATERIEL COMMAND	
				OCTOBER 1975	
				CLASS	DIVISION
				19	48
				DRAWING	FILE
				4134	20PN 1006

DO NOT SCALE

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.

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

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

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

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

END PANEL (2 REQD., 1 LEFT HAND
AND 1 RIGHT HAND). SEE THE DETAIL
ON PAGE 3.

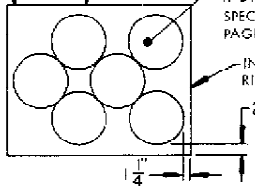
PALLET (1 REQD.) 40" X 48".

INDICATES PALLET
DECK.

INDICATES LOCATION OF
RIGHT HAND SIDE PANEL.

INDICATES DRUM. SEE
SPECIAL NOTE 4 ON
PAGE 3.

INDICATES LOCATION OF
RIGHT HAND END PANEL.



DRUM PLACEMENT ON PALLET

PALLET UNIT (BASED ON NITROGUANADINE)

6 DRUMS @ 57 LBS	342 LBS
PANEL MATERIALS	279 LBS
PALLET	80 LBS
TOTAL WEIGHT	701 LBS (APPROX)
CUBE	39.4 CU FT

EXPLOSIVE CLASSIFICATION*

(BASED ON NITROGUANADINE)

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

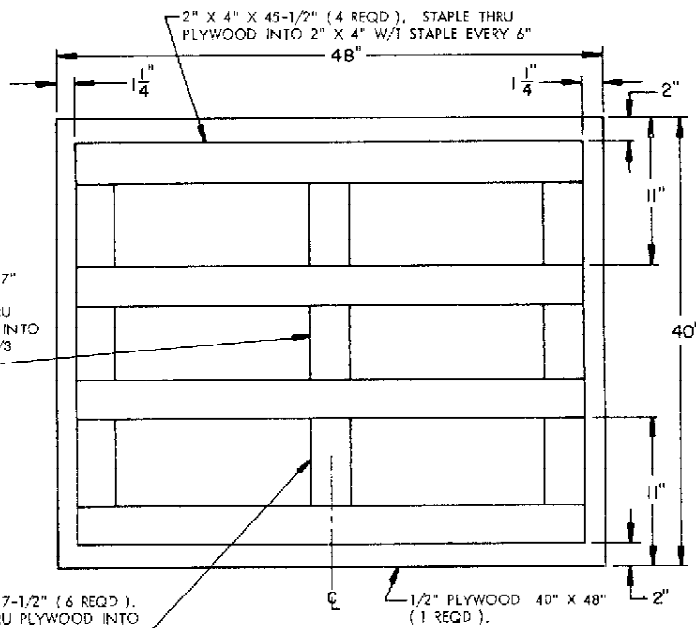
* THE EXPLOSIVE CLASSIFICATION OF OTHER
DRUM-PACKED BULK EXPLOSIVES MAY BE
DIFFERENT THAN THAT SHOWN.

MATERIAL SPECIFICATIONS

PALLET	4-WAY ENTRY, SIZE 40" X 48", MIL-P-15011, STYLE 1, SOFTWOOD NSN 3970-00-926-3008 (FORMERLY FSN 3970-926-3608), HARDWOOD NSN 3970-00-141-7261 (FORMERLY FSN 3909-141-7261).
LUMBER	SEE MIL-STD-731, CLASS 2, GROUP II, III, OR IV.
PLYWOOD	GROUP 3 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 1, TYPE I OR IV, HEAVY DUTY, FINISH B, GRADE 2, FED SPEC QQ-S-781.
STAPLE, 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.

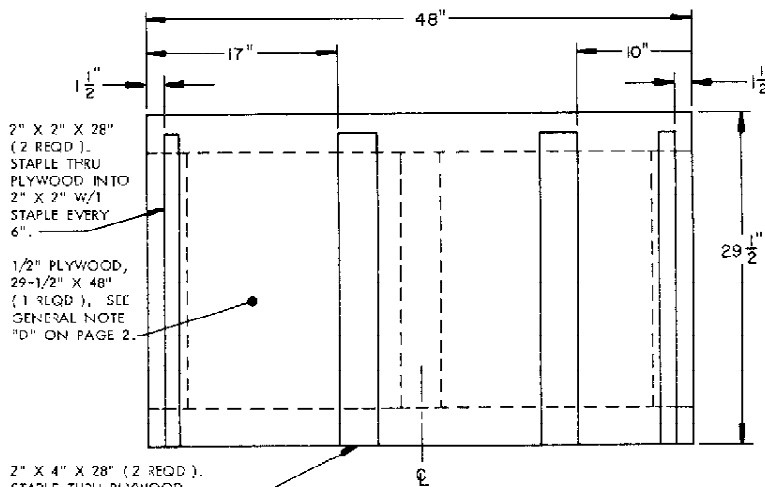
GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1 AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. DATA FOR FIBERBOARD DRUM WHEN PACKED WITH NITROGUANADINE:
DIMENSIONS ----- 14-1/2" DIAMETER BY 28" HIGH.
GROSS WEIGHT ----- 57 POUNDS (APPROX).
- C. 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.
- D. 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.



TOP PANEL

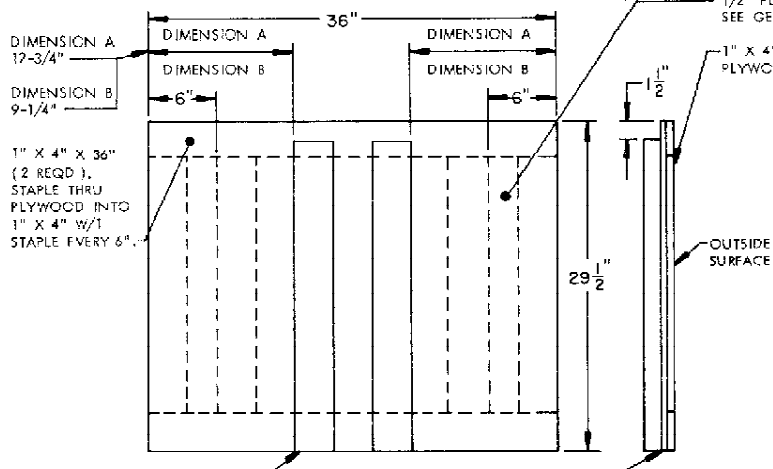
BOTTOM OF PANEL SHOWN



SIDE PANEL

2 REQD., 1 LEFT HAND AS SHOWN AND 1 RIGHT HAND (REVERSED).

(CLEATS ON OUTSIDE SURFACE ARE SHOWN IN DASHED LINES)



END PANEL

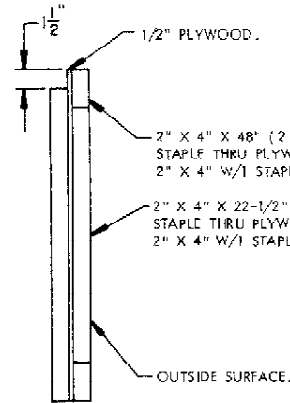
2" X 4" X 28" (2 REQD.), STAPLE THRU PLYWOOD INTO 2" X 4" W/1 STAPLE EVERY 6".

2 REQD., 1 RIGHT HAND AS SHOWN USING DIMENSION A AND 1 LEFT HAND USING DIMENSION B.

(CLEATS ON OUTSIDE SURFACE ARE SHOWN IN DASHED LINES)

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 .065" 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 1 OR - 1/4" IS ALLOWED ON ALL DIMENSIONS. ALTHOUGH A 1 OR - 1/2" TOLERANCE IS ALLOWED, ALL DIMENSIONED LUMBER MEMBERS IN A SET, SUCH AS THE VERTICAL 2" X 4" CLEATS ON 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 6 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 DRUM(S) 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 MEMBER OF AN END PANEL, TO TEMPORARILY HOLD PANELS IN PLACE PRIOR TO APPLYING STRAPPING.



END VIEW OF SIDE PANEL

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	44	15
2" X 2"	10	4
2" X 4"	46	31
PALLET, 40" X 48"	1 EA	80 LBS
PLYWOOD, 1/2"	48 SQ FT	66 LBS
STEEL STRAPPING, 3/4" X .031"	69 FT REQD	6 LBS
SEAL, STRAPPING, 3/4"	5 REQD	NIL
STAPLES*	175 REQD	2 LBS

* 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 GAGE OR HEAVIER.