

APPROVED BY
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LOADING AND BRACING* WITH RAPID ISO BRACING SYSTEM (RIBS) IN SIDE OPENING ISO CONTAINERS OF BLU-109 (2,000 POUND) BOMBS IN CNU-417 CONTAINERS

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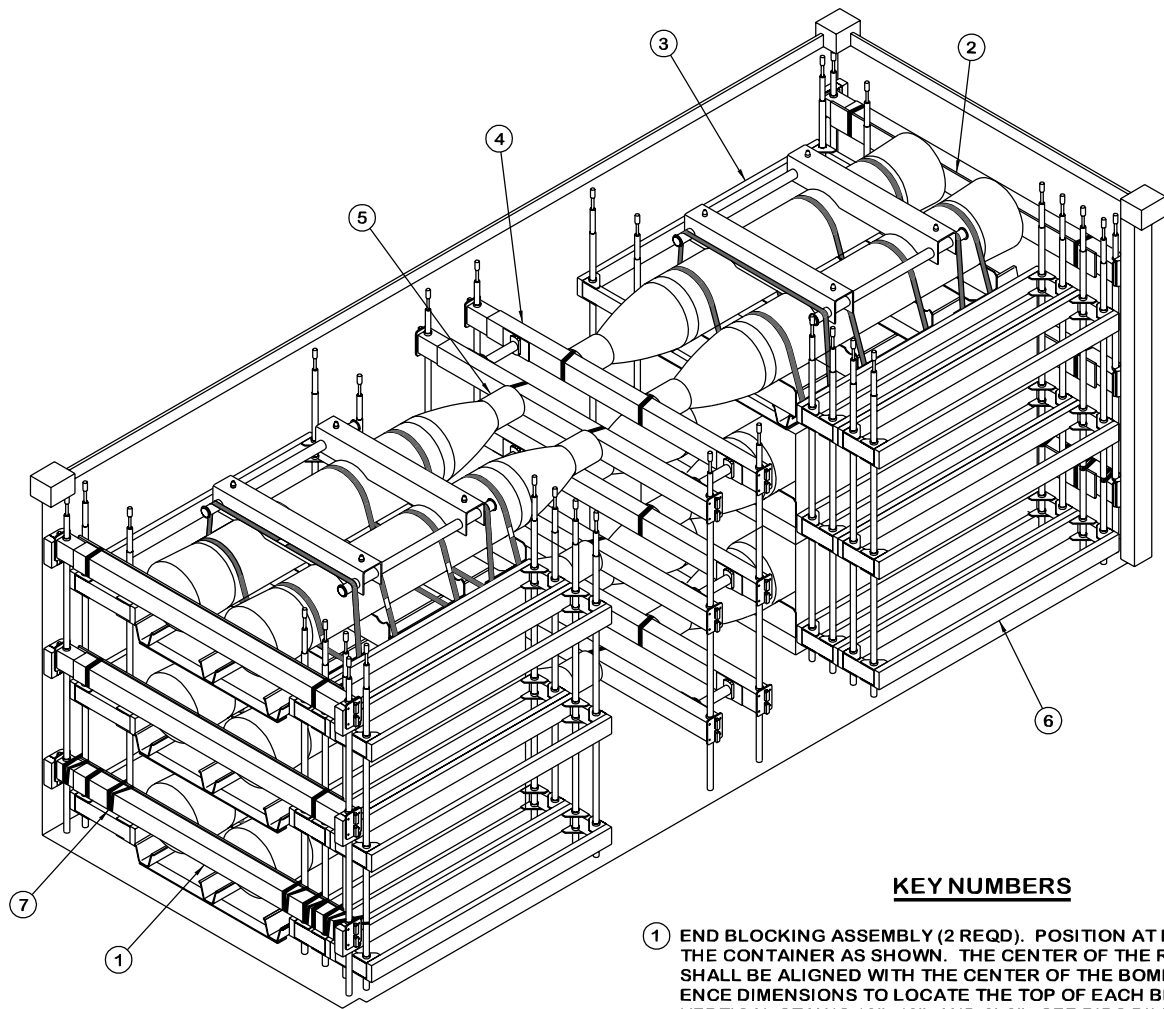
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- * LOADING AND BRACING SPECIFICATIONS SET FORTH WITHIN THIS DRAWING ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC) RAIL CARRIER SERVICE. THESE SPECIFICATIONS MAY ALSO BE USED FOR LOADS THAT ARE TO BE MOVED BY MOTOR OR WATER CARRIERS.

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY JOINT MUNITIONS COMMAND		CAUTION: VERIFY PRIOR TO USE AT WWW.DAC.ARMY.MIL/DET THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 4.			
<i>Patrick Dougherty</i>		DO NOT SCALE		DECEMBER 2006	
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APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND		TRANSPORTATION ENGINEERING DIVISION	<i>Patricia A. Jaffer</i>		
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ISOMETRIC VIEW

KEY NUMBERS

- ① END BLOCKING ASSEMBLY (2 REQD). POSITION AT EACH END OF THE CONTAINER AS SHOWN. THE CENTER OF THE RIBS BARS SHALL BE ALIGNED WITH THE CENTER OF THE BOMBS. REFERENCE DIMENSIONS TO LOCATE THE TOP OF EACH BEAM ON THE VERTICAL STAY IS 18", 46", AND 6'-2". SEE RIBS BILL OF MATERIAL AT LEFT AND GENERAL NOTE "F" ON PAGE 3.
- ② PLASTIC BUFFER (6 REQD). POSITION AGAINST THE FACE OF EACH RIBS BAR OF THE END BLOCKING ASSEMBLY. BUFFER PIECE SHALL ACT AS A LINER BETWEEN THE BASE OF THE BOMBS AND THE RIBS BARS. SECURE TO THE RIBS BARS WITH NYLON WEB STRAPS IN TWO LOCATIONS. SEE GENERAL NOTE "D" ON PAGE 3.
- ③ FAR SIDE CRADLE ASSEMBLY (2 REQD). POSITION AGAINST THE FAR WALL AND THE END BLOCKING ASSEMBLY. THE ASSEMBLY SHALL BE EXPANDED TO APPROXIMATELY 70" LONG BY 19" WIDE. THE BEARING PIECES SHALL BE LOCATED TO CONTACT THE SIDE OF THE PALLET UNITS ABOVE THE SKIDS. REFERENCE DIMENSIONS TO LOCATE THE TOP OF EACH LONG AND SHORT BEAM ON THE VERTICAL STAY IS 8", 36", AND 64". SECURE EACH ASSEMBLY TO A HORIZONTAL PIECE OF THE END BLOCKING ASSEMBLY WITH NYLON WEB STRAPS IN TWO LOCATIONS. SEE RIBS BILL OF MATERIAL AT LEFT.
- ④ CENTER FILL ASSEMBLY (1 REQD). POSITION BETWEEN ROWS OF BOMBS AS SHOWN. THE CENTER OF THE RIBS BARS SHALL BE ALIGNED WITH THE NOSE OF THE BOMBS. REFERENCE DIMENSIONS TO LOCATE THE TOP OF EACH BEAM ON THE VERTICAL STAY IS 18", 46", AND 6'-2". SEE RIBS BILL OF MATERIAL AT LEFT.
- ⑤ NOSE CONE (12 REQD). PLACE A NOSE CONE ON THE NOSE OF EACH BOMB. SECURE THE NOSE CONES TO THE RIBS BEAMS.
- ⑥ DOOR SIDE CRADLE ASSEMBLY (4 REQD). POSITION BETWEEN BOMB PALLETS ON THE DOOR SIDE AS SHOWN. THE ASSEMBLY SHALL BE EXPANDED TO APPROXIMATELY 70" LONG BY A WIDTH AS NECESSARY TO FILL THE AREA BETWEEN THE PALLETS AND THE DOOR. THE RIBS CRADLES ARE DOUBLED IN THIS AREA IN ORDER TO FILL THE VOID. THE BEARING PIECES SHALL BE LOCATED TO CONTACT THE SIDE OF THE PALLET UNITS ABOVE THE SKIDS. REFERENCE DIMENSIONS TO LOCATE THE TOP OF EACH LONG AND SHORT BEAM ON THE VERTICAL STAY IS 8", 36", AND 64". SECURE EACH ASSEMBLY TO A HORIZONTAL PIECE OF THE END BLOCKING ASSEMBLY WITH WIRE IN TWO LOCATIONS. SEE RIBS BILL OF MATERIAL AT LEFT.
- ⑦ NYLON WEB STRAP (24 REQD). USE TO SECURE CRADLE ASSEMBLY AND BUFFER PIECE TO THE RIBS BAR.

RIBS BILL OF MATERIAL (PER ASSEMBLY)				
PRT #	EQUIPMENT	END ASSY	CENTER FILL	CRADLE
A10	RIBS BAR	3	6	0
A20	VERTICAL STAY	2	4	4
A50	HDS STAY MED.	0	6	0
A80	CORNER CUSHION	8	0	0
	CRADLE BEAM			
A230	LONG	0	0	6
	CRADLE BEAM			
A210	SHORT	0	0	6
A90	NOSE CONE	0	12	0
A91	PLASTIC BUFFER	3	0	0
ASSEMBLY QUANTITY		2	1	6

BILL OF MATERIAL	
WEB STRAP, 1" WIDE, NYLON	24 REQD - - - - - 1 LB
RIBS COMPONENTS	- - - - - 2,295 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	6	26,820 LBS
DUNNAGE		2,296 LBS
CONTAINER		6,050 LBS
TOTAL WEIGHT		35,166 LBS (APPROX)

- J. CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENTS MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25.4MM AND ONE POUND EQUALS 0.454 KG.
- K. **MAXIMUM LOAD WEIGHT CRITERIA:**

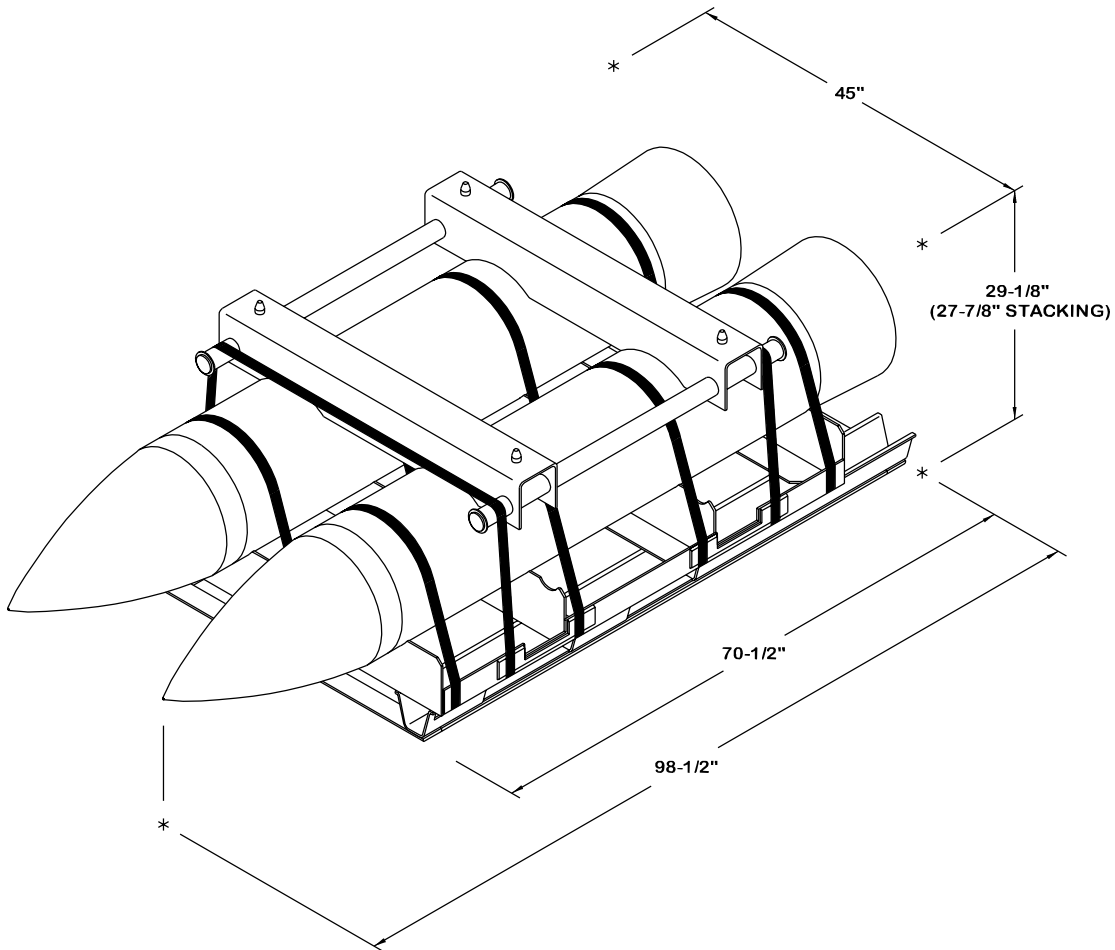
THE MAXIMUM LOAD WEIGHTS ARE CONTROLLED BY EQUIPMENT CAPABILITY FACTORS. ALTHOUGH THE HEAVIEST MAXIMUM LOADS ARE DELINEATED IN THE LOAD VIEW, PROVISIONS ARE INCLUDED WITHIN THIS DRAWING SO THAT THE BASIC LOADS CAN BE ADJUSTED TO SATISFY A LESSER QUANTITY OF LADING UNITS. DEPENDING ON TRANSPORTATION ROUTING, IT MAY BE NECESSARY TO REDUCE THE LOAD WEIGHT TO SATISFY "WEIGHT LAWS" OF CERTAIN STATES. ALSO, IT MAY BE NECESSARY TO REDUCE THE LOAD WEIGHT TO SATISFY OTHER WEIGHT RESTRICTIONS IMPOSED ON THE INTERMODAL CONTAINER SYSTEM.
- L. REQUIREMENTS CITED WITHIN THE ASSOCIATION OF AMERICAN RAILROADS (AAR) INTERMODAL LOADING GUIDE APPLY WHEN THE SHIPMENT MOVES BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC). SPECIAL T/COFC NOTES FOLLOW:
 - 1. A LOADED CONTAINER MUST BE ON A CHASSIS EQUIPPED WITH TWO BOGIE ASSEMBLIES WHEN BEING MOVED IN TOFC SERVICE.
 - 2. THE LOAD LIMIT OF A T/COFC RAILCAR MUST NOT BE EXCEEDED, NOR WILL A CAR BE LOADED SO THAT THE TRUCK UNDER ONE END OF THE CAR CARRIES MORE THAN ONE-HALF OF THE LOAD LIMIT FOR THAT CAR.
- M. DURING INTRASTATE AND/OR INTERSTATE MOVES BY MOTOR CARRIER, A PROPER CHASSIS OR MODIFIED FLATBED TRAILER MUST BE USED TO PRECLUDE VIOLATION OF ONE OR MORE "WEIGHT LAWS" APPLICABLE TO THE STATE OR STATES INVOLVED.
- N. WHETHER A CONTAINER IS FULL OR IS LOADED WITH A REDUCED QUANTITY OF LADING UNITS, THE LENGTHWISE CENTER OF GRAVITY OF THE LOAD MUST BE WITHIN 12", IN EITHER DIRECTION, OF THE MID-POINT OF THE CONTAINER.
- O. THE QUANTITY OF PALLET UNITS SHOWN IN THE LOAD ON PAGE 2 MAY BE REDUCED FOR SHIPMENT, IF DESIRED. THE LOAD MAY BE REDUCED BY TWO OR FOUR PALLET UNITS BY REMOVING LAYERS FROM THE TOP OF THE LOAD. LOADS OF FIVE OR THREE PALLET UNITS WILL UNBALANCE THE CONTAINER AND ARE PROHIBITED.
- P. IF THE PLASTIC BUFFERS, RIBS #A91, ARE NOT AVAILABLE, LINER ASSEMBLIES MUST BE INSTALLED BETWEEN THE BOMB BASES AND THE RIBS BARS. SEE THE DETAIL ON PAGE 4.

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1 AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. THE SPECIFIED OUTLOADING PROCEDURES ARE APPLICABLE TO THE BLU-109 (2,000 POUND) BOMBS IN CNU-417 CONTAINER. SUBSEQUENT REFERENCE TO THE PALLET UNIT HEREIN MEANS THE CNU-417 CONTAINER WITH THE BLU-109 BOMBS INSTALLED. THIS OUTLOADING PROCEDURE UTILIZES THE RAPID INTERNATIONAL ORGANIZATION FOR STANDARDIZATION BRACING SYSTEM (RIBS) DEVELOPED BY MOBILE SHELTER SYSTEMS. THE RIBS COMPONENTS USED IN THIS OUTLOADING PROCEDURE PROVIDE END BLOCKING, CRADLE FILL, AND CENTER FILL RESTRAINT OF THE LOAD. SEE PAGE 4 FOR DETAIL OF THE PALLET UNIT. CAUTION: REGARDLESS OF THE QUANTITY OF PALLET UNITS TO BE SHIPPED, THE "MAXIMUM GROSS WEIGHT" OF THE SIDE OPENING ISO CONTAINER MUST NOT BE EXCEEDED.
- C. THE LOAD AS SHOWN IS BASED ON A 6,050 POUND 20' LONG BY 8' WIDE BY 8'-6" HIGH SIDE OPENING ISO CONTAINER WITH INSIDE DIMENSIONS OF 19'-4" LONG BY 89" WIDE BY 88" HIGH AND A MAXIMUM GROSS WEIGHT OF 52,910 POUNDS. THE LOAD IS DESIGNED FOR TRAILER/CONTAINER-ON-FLATCAR (T/COFC) SHIPMENT; HOWEVER, THE LOAD AS DESIGNED CAN ALSO BE MOVED BY MOTOR OR WATER CARRIERS. NOTICE: OTHER CONTAINERS OF THE SAME DESIGN CONFIGURATION CAN ALSO BE USED.
- D. WHEN LOADING THE BOMB PALLET UNITS, THEY ARE TO BE POSITIONED SO AS TO ACHIEVE A TIGHT LOAD (TIGHT AGAINST THE RIBS COMPONENTS). THE UNBLOCKED SPACE ACROSS THE WIDTH OF A LOAD BAY IS NOT TO EXCEED 1-1/2". EXCESSIVE SLACK CAN BE ELIMINATED FROM A LOAD BY ADJUSTMENT OF THE RIBS COMPONENTS. NOTE: METAL TO METAL CONTACT BETWEEN BOMB BODIES AND/OR RIBS COMPONENTS IS PROHIBITED; THEREFORE, A BUFFER PIECE IS POSITIONED BETWEEN THE BASE OF THE BOMBS AND RIBS COMPONENTS. THE NOSE OF EACH BOMB SHALL BE PROTECTED BY A RIBS NOSE CONE. THE CRADLE ASSEMBLIES DO NOT REQUIRE A LINER BETWEEN THE SIDE OF THE PALLET UNITS AND THE CRADLE ASSEMBLY. INSTALLATION OF RIBS COMPONENTS SHALL BE IN ACCORDANCE WITH MOBILE SHELTER SYSTEMS INSTRUCTION MANUAL FOR ASSEMBLY OF RAPID ISO BRACING SYSTEM (RIBS 01015). CONTACT INFORMATION: MOBILE SHELTER SYSTEMS USA, 3527 S. FEDERAL WAY, SUITE 103 #337, BOISE, ID 83705, PH# 208-869-4490 OR WWW.MSSNO.COM.
- E. DUNNAGE LUMBER SPECIFIED IS OF NOMINAL SIZE. FOR EXAMPLE, 1" X 4" MATERIAL IS ACTUALLY 3/4" THICK BY 3-1/2" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE.
- F. THE END BLOCKING ASSEMBLIES MUST BE POSITIONED SO THAT THE LOAD WILL TRANSFER TO THE CONTAINER CORNER POSTS. THIS MAY BE ACCOMPLISHED BY USE OF THE RIBS CORNER CUSHIONS. DO NOT ALLOW THE RIBS HORIZONTAL PIECES TO CONTACT THE CONTAINER ENDWALLS. ONLY THE CORNER POSTS OF THE CONTAINER SHOULD BE USED FOR LONGITUDINAL BLOCKING.
- G. CAUTION: DO NOT NAIL DUNNAGE MATERIAL TO THE CONTAINER WALLS OR FLOOR. ALL NAILING WILL BE WITHIN THE DUNNAGE.
- H. PORTIONS OF THE CONTAINER DEPICTED WITHIN THIS DRAWING, SUCH AS THE SIDEWALL, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.

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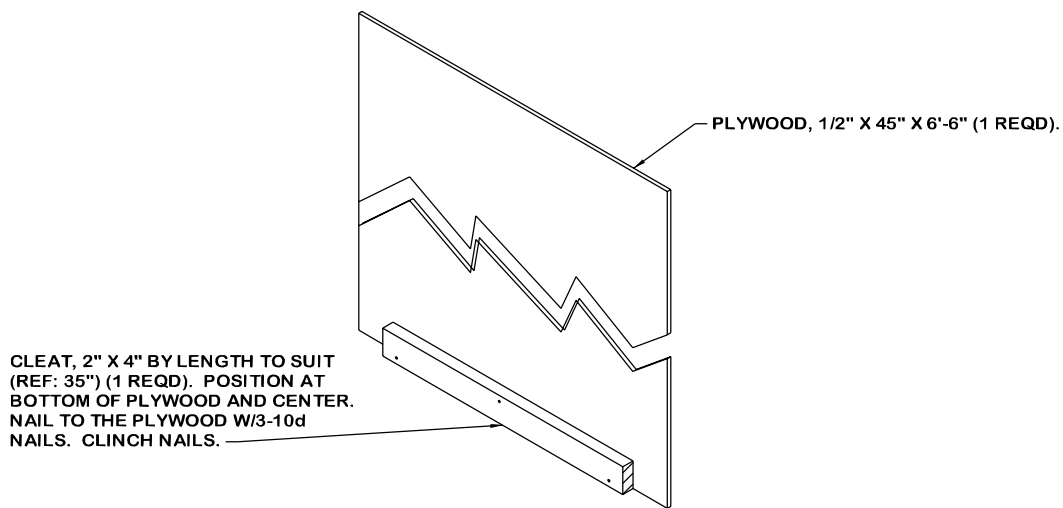
MATERIAL SPECIFICATIONS

- RIBS - - - - - -: MOBILE SHELTER SYSTEMS INSTRUCTION MANUAL FOR ASSEMBLY OF RAPID ISO BRACING SYSTEM (RIBS), RIBS 01015.
- LUMBER - - - - - -: SEE TM 743-200-1 (DUNNAGE LUMBER) AND VOLUNTARY PRODUCT STANDARD PS 20.
- PLYWOOD - - - - - -: COMMERCIAL ITEM DESCRIPTION A-A-55057, INDUSTRIAL PLYWOOD, INTERIOR WITH EXTERIOR GLUE, GRADE C-D. IF SPECIFIED GRADE IS NOT AVAILABLE, A BETTER INTERIOR OR AN EXTERIOR GRADE MAY BE SUBSTITUTED.
- NAILS - - - - - -: ASTM F1667; COMMON STEEL NAIL (NLCMS OR NLCMMS).
- WIRE, CARBON STEEL -: ASTM A853; ANNEALED AT FINISH, BLACK OXIDE FINISH, 0.0800" DIA, GRADE 1006 OR BETTER.
- STRAP, WEB, COMMERCIAL - - - - -: WEB SLING AND TIEDOWN ASSOCIATION RECOMMENDED STANDARD SPECIFICATION FOR SYNTHETIC WEB TIEDOWNS, REVISED 1998.



BLU-109 BOMBS IN CNU-417 CONTAINER

GROSS WEIGHT - - - - - 4,470 LBS (APPROX)
 CUBE - - - - - 74.8 CU FT (APPROX)



LINER ASSEMBLY

NOTE: LINER ASSEMBLY REQUIRED IF PLASTIC BUFFER PIECES ARE NOT AVAILABLE. SEE GENERAL NOTE "P" ON PAGE 4.