

STORAGE IN APPROVED MAGAZINES OF AMRAAM MISSILES PACKED IN CNU-415 (AIM-120) OR CNU-555 (CATM-120) SHIPPING AND STORAGE CONTAINERS

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U.S. ARMY MATERIEL COMMAND DRAWING

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GENERAL NOTES

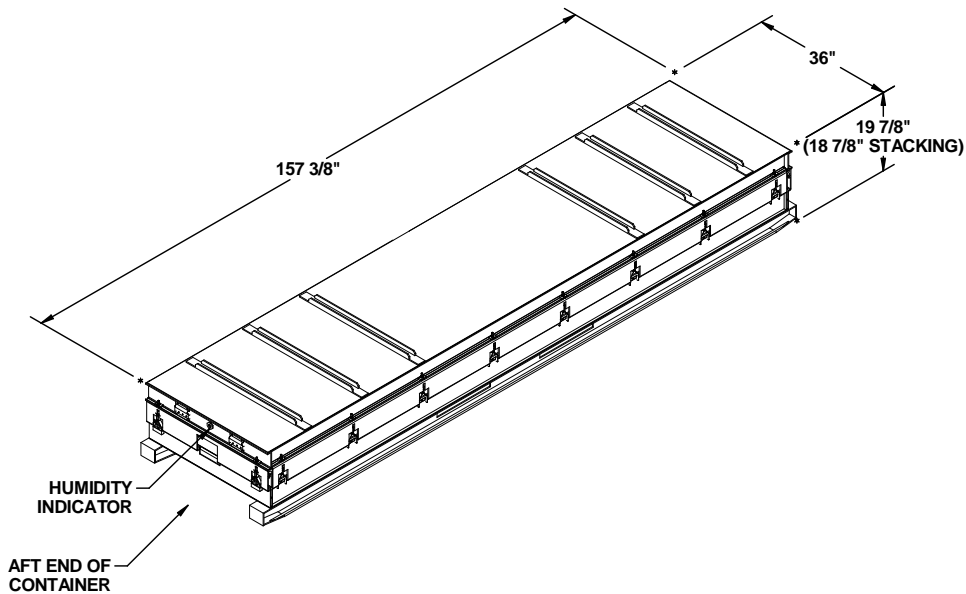
(GENERAL NOTES CONTINUED)

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1 AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. THE STORAGE PROCEDURES DEPICTED WITHIN THIS DOCUMENT ARE APPLICABLE FOR STORAGE IN VARIOUS TYPES AND SIZES OF MAGAZINES. THE STORAGE PROCEDURES DEPICTED FOR THE SPECIFIC TYPES OF MAGAZINES MAY ALSO BE UTILIZED TO STORE AMRAAM MISSILES PACKED IN CNU-415 (AIM-120) OR CNU-555 (CATM-120) CONTAINERS IN OTHER TYPES OF APPROVED MAGAZINES. MINOR ADJUSTMENTS MAY BE MADE TO FACILITATE STORAGE IN OTHER TYPES OF MAGAZINES; HOWEVER, THE BASIC PRINCIPLES AS DEPICTED HEREIN WILL BE FOLLOWED.
- C. THE STORAGE PROCEDURES SPECIFIED IN THIS DRAWING ARE APPLICABLE TO AMRAAM MISSILES PACKED IN CNU-415 (AIM-120) OR CNU-555 (CATM-120) CONTAINERS. SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS CONTAINER WITH AMMUNITION ITEMS. **CAUTION:** THIS ITEM IS IN A "PROPULSIVE STATE" WITH MISSILES INSTALLED IN TWO ORIENTATIONS, AND MUST BE STORED WITH THE FORWARD AND AFT ENDS FACING TOWARD A SIDEWALL AS INDICATED BY THE DIRECTIONAL ARROWS IN THE STORAGE VIEWS. SEE PAGE 3 AND NAVY DRAWING 6214480 FOR DETAILS OF THE CONTAINER.
- D. **CAUTION:** THE ALLOWABLE "EXPLOSIVE LIMIT" ESTABLISHED FOR A MAGAZINE IS NOT TO BE EXCEEDED. THIS LIMITATION MAY REQUIRE A QUANTITY REDUCTION FROM THE STORAGE AS SHOWN.
- E. STORED CONTAINERS MUST NOT CONTACT THE SIDES OF A MAGAZINE. THEREFORE, CONTAINERS MUST BE STORED A MINIMUM OF 6" FROM THE SIDEWALL OR CURVATURE OF THE MAGAZINE AS APPLICABLE. TO PROVIDE FOR THIS MANDATORY CLEARANCE REQUIREMENT, CONTAINERS MAY BE ELIMINATED FROM THE DEPICTED STORAGE PATTERN AS NECESSARY.
- F. AISLE DIMENSION SHOWN FOR STORAGE PROCEDURES IN MAGAZINES MAY BE ADJUSTED TO SUIT LOCAL CONDITIONS, VARIATIONS IN CONTAINER DIMENSIONS, AND/OR AVAILABLE MATERIAL HANDLING EQUIPMENT (MHE). HOWEVER, A 24" MINIMUM INSPECTION AISLE MUST BE MAINTAINED AT THE AFT END OF THE CONTAINERS WHERE HUMIDITY INDICATORS ARE LOCATED.
- G. THE MAXIMUM FLOOR LOAD FOR A MAGAZINE AS PRESCRIBED WILL NOT BE EXCEEDED.
- H. IF AVAILABLE MHE PERMITS, ADDITIONAL CONTAINERS MAY BE STORED WITHIN THE MHE AREA AND/OR OTHER AVAILABLE AREA OF THE MAGAZINE.
- J. THE HEIGHT OF THE PACKAGE GUARD ON SOME FORKLIFT TRUCKS MAY NOT PERMIT PLACEMENT OF SOME TOP LAYER CONTAINERS IN THE STACKS SHOWN IN THE STORAGE VIEWS HEREIN, UNLESS TWO UPPER CONTAINERS ARE HANDLED AS ONE LIFT OR THE PACKAGE GUARD IS REMOVED (TINE CARRIAGE WILL IN MOST INSTANCES PROVIDE ADEQUATE PACKAGE GUARD PROTECTION). ONLY A FORKLIFT TRUCK OF ADEQUATE CAPACITY WILL BE USED WHEN LIFTING TWO CONTAINERS AS ONE LIFT.
- K. THE USE OF NOMINAL SIZE 1" X 6" X 36" OR 2" X 6" X 36" FLOOR DUNNAGE UNDER EACH END OF EACH FIRST-LAYER CONTAINER IS OPTIONAL, ALTHOUGH THE USE OF THIS TYPE OF DUNNAGE IS DELINEATED WITHIN THIS STORAGE PROCEDURE DRAWING. THE PURPOSE OF FLOOR DUNNAGE IS TO HELP KEEP THE RUNNERS OF THE CONTAINERS DRY, THUS AIDING IN PREVENTING DETERIORATION DUE TO CORROSION. THEREFORE, FLOOR DUNNAGE SHOULD BE USED WHEN STORING IN A MAGAZINE THAT IS KNOWN TO HAVE A "DAMP" FLOOR. IN IGLOO, ARCH TYPE AND STRADLEY MAGAZINES WHICH HAVE FLOOR SLOPING TOWARD THE SIDEWALLS; THE DEPICTED STORAGE PATTERNS INCLUDE CONTAINER-STACKS WHICH STRADDLE THE RIDGE OF THE FLOOR AT THE CENTER OF THE MAGAZINE. THEREFORE, IN LIEU OF USING TWO-INCH THICK FLOOR DUNNAGE AS SPECIFIED, THE USE OF THINNER FLOOR DUNNAGE MAY BE REQUIRED, AND SHOULD BE USED, TO ACHIEVE THE DESIRED OBJECTIVE. STACK STABILIZING DUNNAGE IN THE FORM OF SHIMS WILL BE USED IF REQUIRED TO ACHIEVE SOUND AND ACCEPTABLE STABLE STACKS FROM THE FLOOR TO THE TOP OF THE STACK. SHIM MATERIAL OF VARYING THICKNESSES OR THICKER FLOOR DUNNAGE WILL BE USED AS REQUIRED UNDER THE LOAD BEARING LOCATIONS AT THE ENDS OF THE FIRST-LAYER CONTAINERS. **NOTE:** SOME VIEWS WITHIN THIS DRAWING WILL NOT DEPICT ALL FLOOR DUNNAGE THAT IS REQUIRED WHEN DUNNAGE IS USED. SEE THE "FLOOR DUNNAGE AND SHIM LOCATION DETAILS" ON PAGE 12 FOR A TYPICAL INSTALLATION.
- L. WHEN LOCAL STORAGE CONDITIONS ARE SUCH THAT AN AMMUNITION STORAGE MAGAZINE NET EXPLOSIVE WEIGHT LIMIT WILL BE REACHED BEFORE ALL AVAILABLE STORAGE SPACE WILL BE UTILIZED, A COMBINATION OF THE VARIOUS STORAGE PATTERNS DELINEATED HEREIN MAY BE USED IN LIEU OF BLOCK STORAGE PATTERNS TO FACILITATE INVENTORY, INSPECTION, THE USE OF MATERIAL HANDLING EQUIPMENT, SURVEILLANCE, ETC., OF THE AMMUNITION TO BE STORED WITHIN THE MAGAZINE.
- M. ANY "LIGHT" CONTAINER THAT DOES NOT CONTAIN A FULL QUANTITY OF MISSILES WILL NOT BE BURIED IN STORAGE, IT MUST BE POSITIONED ADJACENT TO AN AISLE, PREFERABLY IN FRONT OF THE LOT.
- N. A PRODUCTION OR STORAGE FACILITY IS AUTHORIZED TO HAVE ONE INCOMPLETE, PARTIAL CONTAINER PER LOT IN A STORAGE STRUCTURE. THE CONTAINER MUST BE RE-PACKED AS THE ORIGINAL LOAD.
- O. CONTAINERS PRESENTLY STORED IN ACCORDANCE WITH A PRIOR APPROVED DRAWING NEED NOT BE RE-STORED SOLELY TO CONFORM TO THE PROCEDURES SPECIFIED IN THIS DOCUMENT.
- P. OTHER COMPATIBLE ITEMS MAY BE STORED IN A MAGAZINE, WHICH IS PARTIALLY FILLED WITH THE DESIGNATED ITEM.
- Q. PORTIONS OF THE MAGAZINES, SUCH AS SIDEWALLS, END WALLS, AND ROOFS HAVE NOT BEEN SHOWN IN THE STORAGE VIEWS FOR CLARITY PURPOSES.
- R. DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING 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.
- S. CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES, AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENT MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25.4MM, AND ONE POUND EQUALS 0.454 KG.

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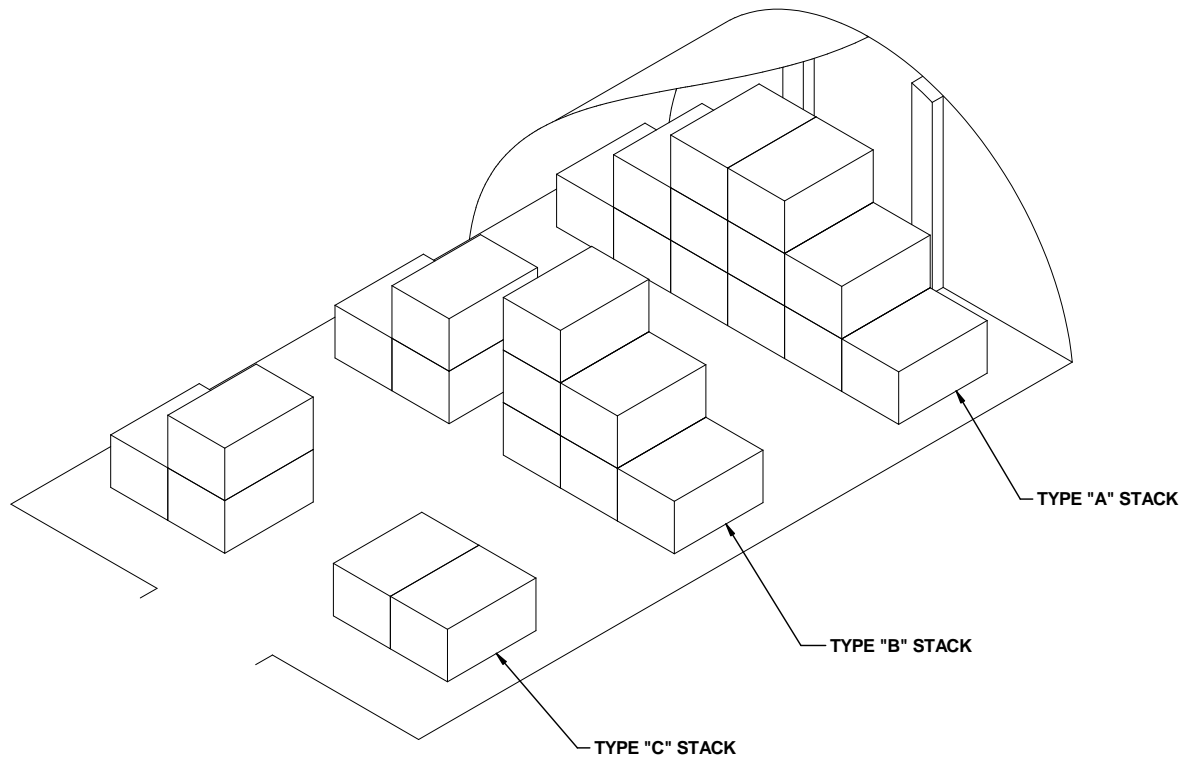
MATERIAL SPECIFICATIONS

LUMBER - - - - - : SEE TM 743-200-1 (DUNNAGE LUMBER) AND VOLUNTARY PRODUCT STANDARD PS 20.



CNU-415 OR CNU-555 CONTAINER

GROSS WEIGHT - - - - - 2,191 LBS
 CUBE - - - - - 65.2 CU FT

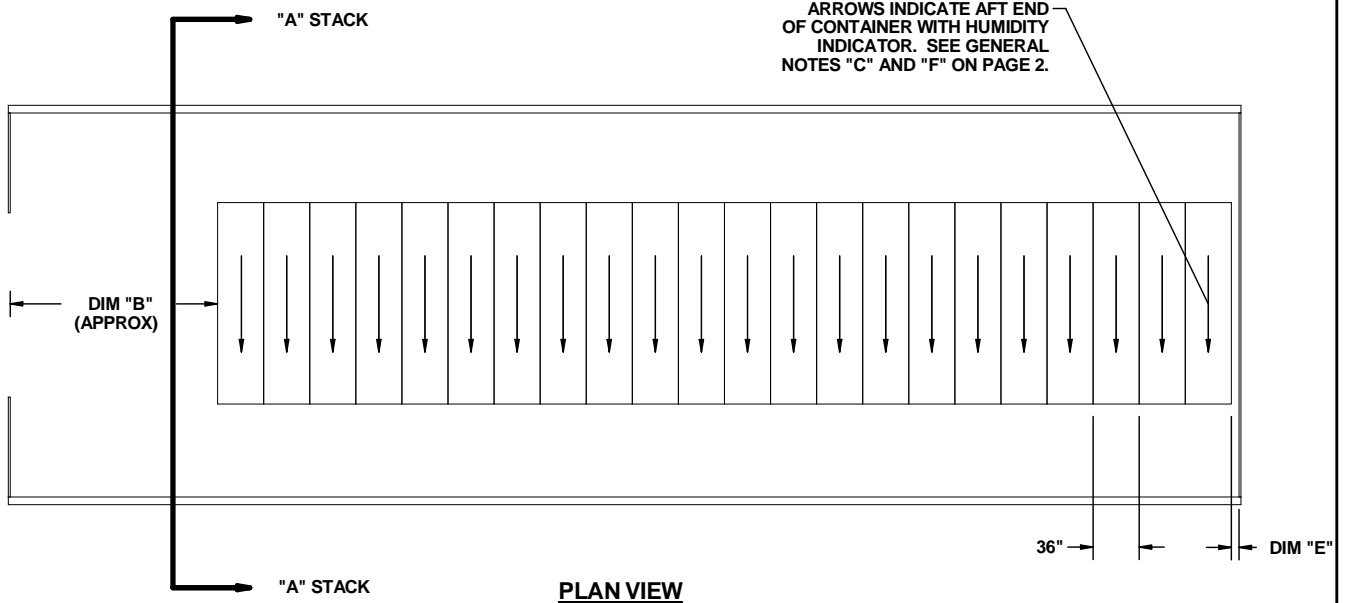


STACK IDENTIFICATION

A TYPE "A" STACK IS IDENTIFIED AS A GROUP OF ITEMS /UNITS WHICH EXTENDS FULL WIDTH AND HEIGHT OF THE MAGAZINE, AND IS ONE ITEM/UNIT LONG IN THE LENGTH OF THE MAGAZINE.

A TYPE "B" STACK IS IDENTIFIED AS A GROUP OF ITEMS/UNITS WHICH EXTEND FULL WIDTH AND HEIGHT OF THE MAGAZINE, AND IS ONE UNIT/ITEM LONG, BUT HAS AN AISLE AT OR NEAR THE CENTER OF THE WIDTH OF THE STACK.

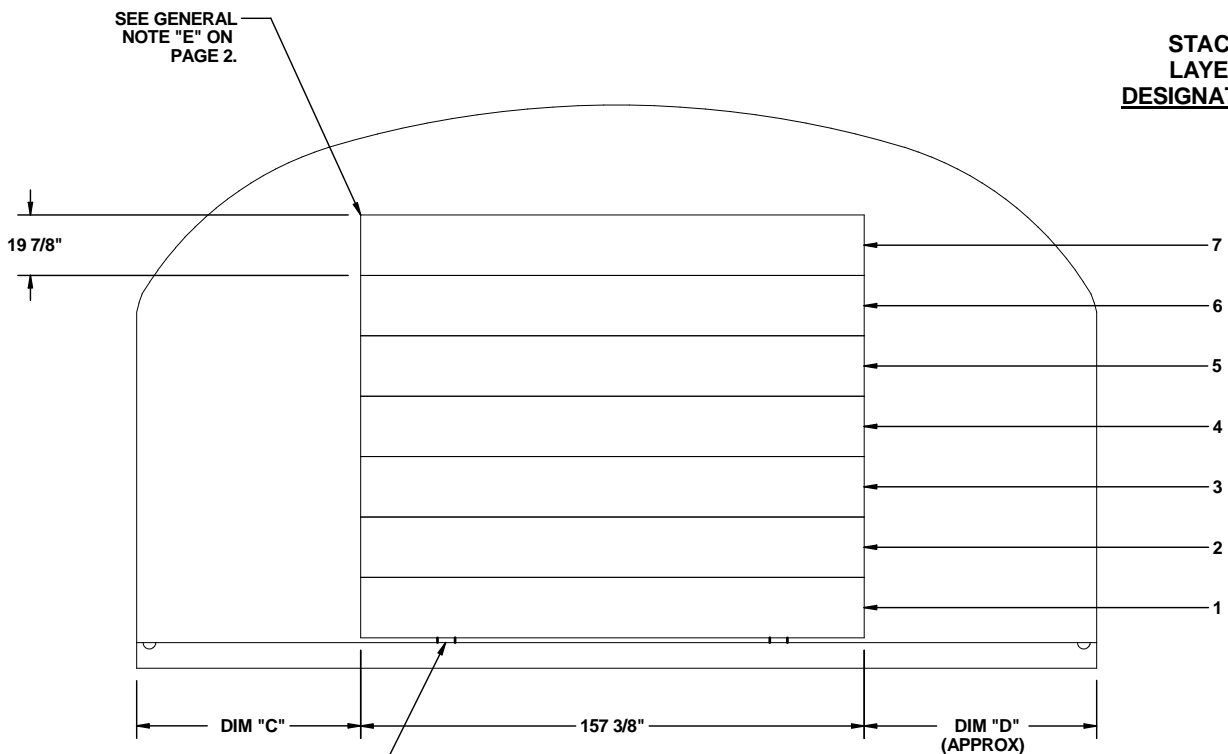
A TYPE "C" STACK IS IDENTIFIED AS A GROUP OF ITEMS/UNITS WHICH IS ONE UNIT/ITEM LONG AND CONSISTS OF PARTIAL STACKS ON EACH SIDE OF THE MAGAZINE, USUALLY ONE ITEM/UNIT HIGH ON ONE SIDE OF THE MAGAZINE.



NOTE: FOR IDENTIFICATION OF LETTERED DIMENSIONS REFER TO CHART 1 ON PAGE 5.

STACK COLUMN DESIGNATIONS

STACK LAYER DESIGNATIONS



FLOOR DUNNAGE, 2" X 6" X 36"
(2 REQD PER FIRST LAYER UNIT).
SEE GENERAL NOTE "K" ON PAGE 2.

"A" STACK

(SEE "STACK IDENTIFICATION" ON PAGE 3
AND "CHART 2 - STACK CONFIGURATION"
ON PAGE 7. FLOOR DUNNAGE IS SHOWN
AS AN EXAMPLE)

SPECIAL NOTES:

1. THE FOLLOWING NOTES, CHART 1 ON THIS PAGE AND CHART 2 ON PAGE 7 ARE PRESENTED AS GUIDANCE IN THE SELECTION OF A STORAGE PATTERN, AND IN DETERMINING THE QUANTITY OF CONTAINERS WHICH CAN BE STORED IN THE STORAGE MAGAZINES LISTED IN THESE CHARTS.
2. CHART 1 ON THIS PAGE DESCRIBES THE STORAGE MAGAZINE GENERAL DIMENSIONS AND THE DIMENSIONS OF THE CONTAINER SPACING WITHIN THE STORAGE MAGAZINES.
3. DIMENSION "A" HAS BEEN OMITTED TO AVOID CONFUSION WITH STACKS "A".
4. CHART 2 ON PAGE 7 DETAILS THE QUANTITY OF CONTAINERS IN EACH TYPE OF MAGAZINE AND THE LAYOUT OF THE STACKS FOR EACH TYPE OF MAGAZINE. THE CHART SHOWS THE NUMBER OF CONTAINERS IN EACH STACK LAYER AND THE LOCATION OF THE CONTAINER ON EACH LAYER.

(CONTINUED AT RIGHT)

EXAMPLE:

CHART 2 – "A" STACK CONFIGURATION
MAGAZINE: STRADLEY

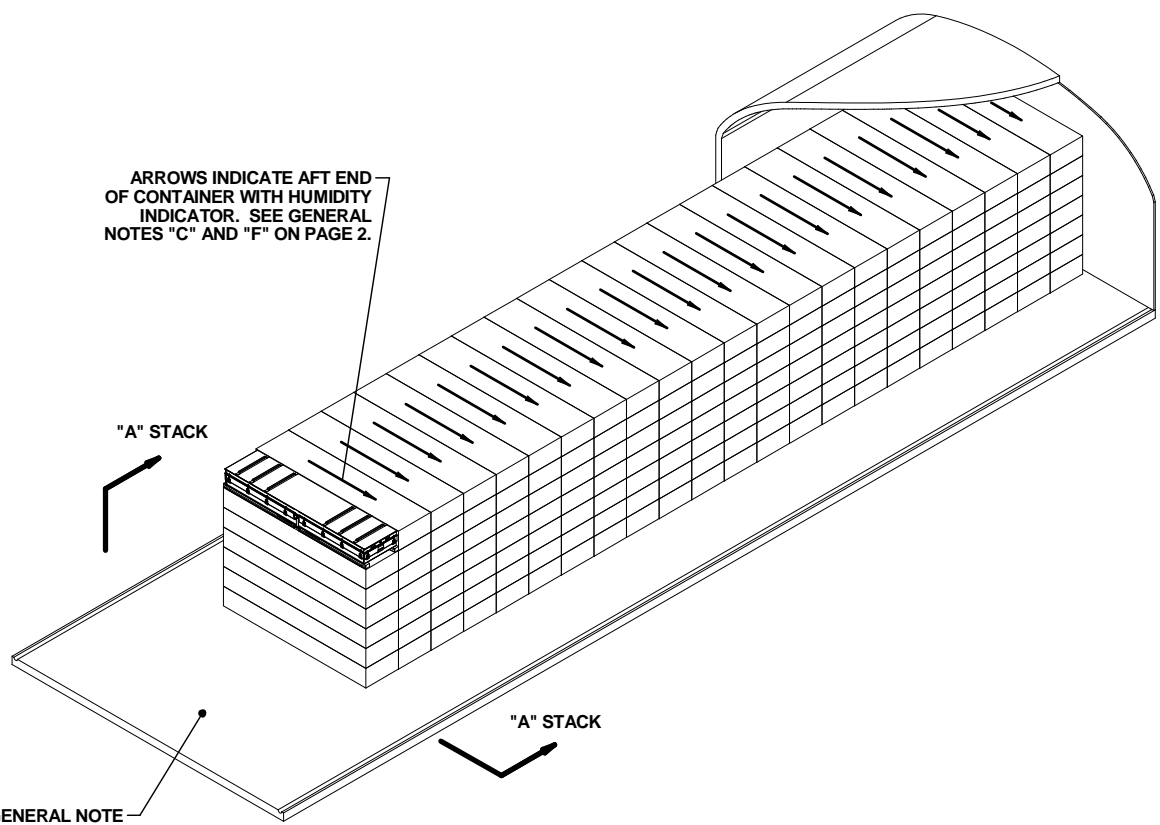
- LAYER NUMBER 1: 1
- LAYER NUMBER 2: 1
- LAYER NUMBER 3: 1
- LAYER NUMBER 4: 1
- LAYER NUMBER 5: 1
- LAYER NUMBER 6: 1
- LAYER NUMBER 7: 1

EXPLANATION:

- LAYER 1 (BOTTOM LAYER) HAS ONE CONTAINER.
- LAYER 2 (ON TOP OF LAYER 1) HAS ONE CONTAINER.
- LAYER 3 (ON TOP OF LAYER 2) HAS ONE CONTAINER.
- LAYER 4 (ON TOP OF LAYER 3) HAS ONE CONTAINER.
- LAYER 5 (ON TOP OF LAYER 4) HAS ONE CONTAINER.
- LAYER 6 (ON TOP OF LAYER 5) HAS ONE CONTAINER.
- LAYER 7 (ON TOP OF LAYER 6) HAS ONE CONTAINER.

CHART 1 - DIMENSIONS

MAGAZINE DIMENSIONS	MAGAZINE TYPE														
	IGLOO			ARCH 12'			ARCH 11'		ARCH 10'		OVAL ARCH	STRADLEY	STEEL ARCH		
	40'-4"	60'-8"	81'-0"	26'-6"	81'-2"	40'-0"	80'-0"	40'-0"	80'-0"	40'-0"	80'-0"	89'-0"	80'-0"	59'-0"	89'-0"
LENGTH	40'-4"	60'-8"	81'-0"	26'-6"	81'-2"	40'-0"	80'-0"	40'-0"	80'-0"	40'-0"	80'-0"	89'-0"	80'-0"	59'-0"	89'-0"
WIDTH	26'-6"			26'-6"	25'-0"	25'-0"	25'-0"		25'-0"		24'-10"	25'-0"	25'-0"	24'-11"	
HEIGHT	12'-9"			12'-1-3/4"			11'-0"		10'-0"		14'-5"	14'-0"	14'-0"	13'-6"	
DIMENSIONS	CONTAINER SPACING DIMENSIONS														
DIM "B" (MHE AISLE APPROX)	12'-10"	12'-2"	11'-6"	11'-0"	12'-6"	12'-10"	11'-10"	12'-10"	12'-6"	13'-6"	13'-6"	13'-6"	13'-6"	13'-6"	
DIM "C" ("A" STACK LEFT)	6'-8"	6'-8"	6'-8"	6'-8"	70"	70"	70"	70"	70"	70"	70"	70"	70"	71"	
DIM "D" ("A" STACK RIGHT)	6'-8"	6'-8"	6'-8"	6'-8"	6'-0"	6'-0"	6'-0"	6'-0"	6'-0"	6'-0"	70"	6'-0"	71"	70"	
DIM "E" ("A" STACK BACK)	6"	6"	6"	14"	6"	14"	14"	14"	6"	6"	6"	6"	6"	6"	

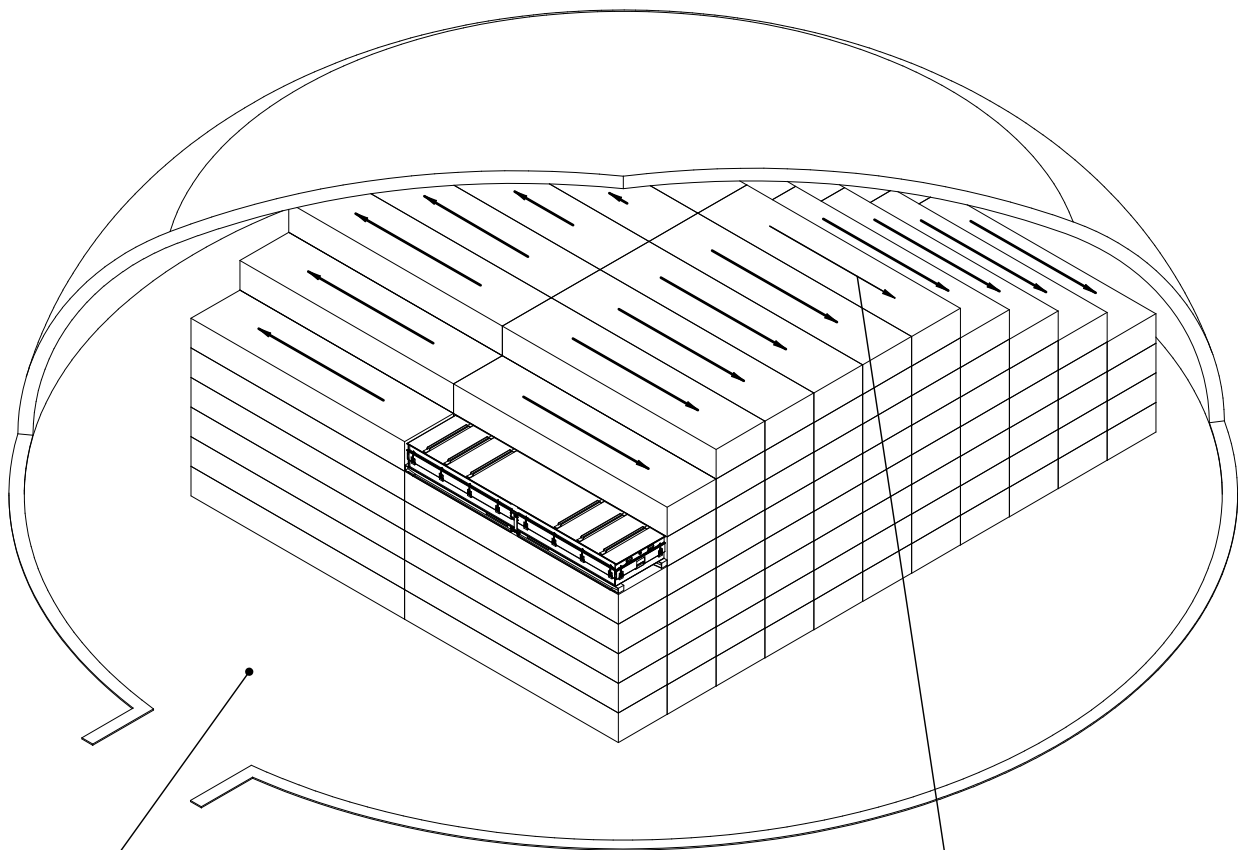


ISOMETRIC VIEW

STRADLEY MAGAZINE SHOWN AS TYPICAL.

CHART 2 - STACK CONFIGURATION

MAGAZINE TYPE														
QUANTITY PER MAGAZINE	IGLOO			ARCH 12'	ARCH 12' X 25' W		ARCH 11'		ARCH 10'		OVAL ARCH	STRADLEY	STEEL ARCH	
	40'-4" L	60'-8" L	81'-0" L	26'-6" W	40'-0" L	80'-0" L	40'-0" L	80'-0" L	40'-0" L	80'-0" L			59'-0" L	89'-0" L
	54	96	138	138	54	132	45	110	36	88	200	154	105	175
"A" STACK CONFIGURATION														
LAYER	CONTAINERS PER LAYER													
1	1			1	1		1		1		1	1		1
2	1			1	1		1		1		1	1		1
3	1			1	1		1		1		1	1		1
4	1			1	1		1		1		1	1		1
5	1			1	1		1		0		1	1		1
6	1			1	1		0		0		1	1		1
7	0			0	0		0		0		1	1		1
8	0			0	0		0		0		1	0		0
SINGLE STACK TOTAL	6			6	6		5		4		8	7	7	
NUMBER OF STACKS	9	16	23	23	9	22	9	22	9	22	25	22	15	25
"A" STACK TOTAL	54	96	138	138	54	132	45	110	36	88	200	154	105	175



SEE GENERAL
NOTE "H" ON
PAGE 2.

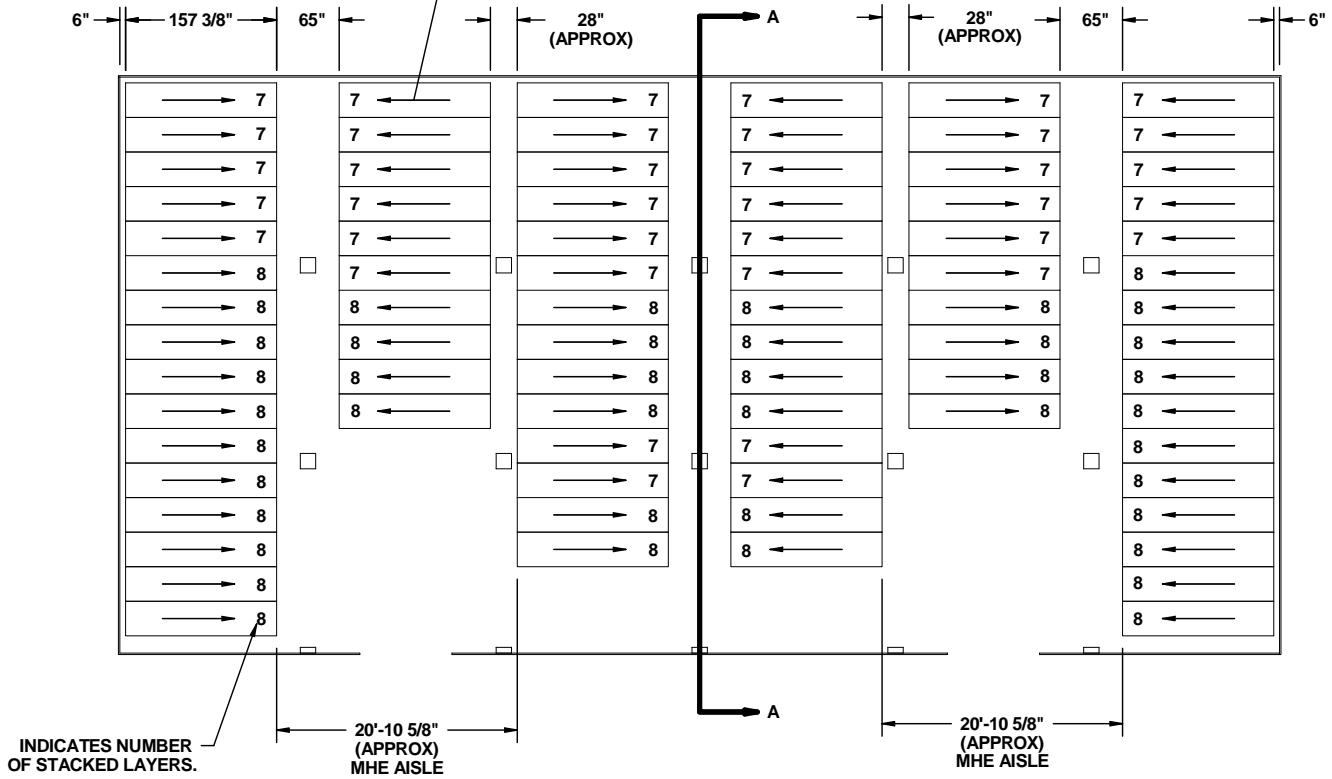
ARROWS INDICATE AFT END
OF CONTAINER WITH HUMIDITY
INDICATOR. SEE GENERAL
NOTES "C" AND "F" ON PAGE 2.

ISOMETRIC VIEW
(52' - 0" DIA MAGAZINE)

**STORAGE IN RECTANGULAR
MAGAZINE**

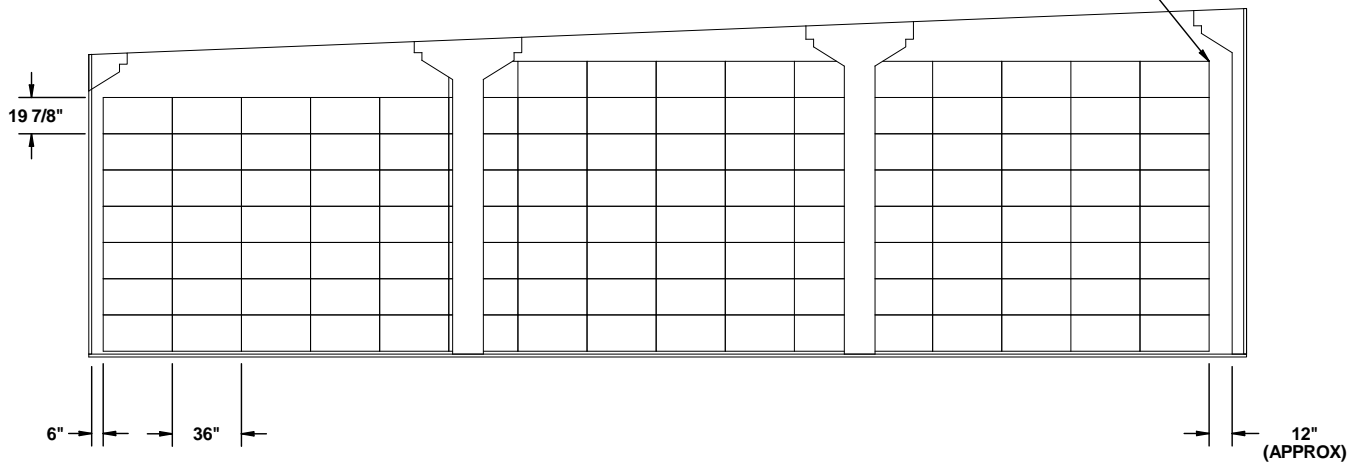
ITEM QUANTITY
CONTAINER 602

ARROWS INDICATE AFT END
OF CONTAINER WITH HUMIDITY
INDICATOR. SEE GENERAL
NOTES "C" AND "F" ON PAGE 2.

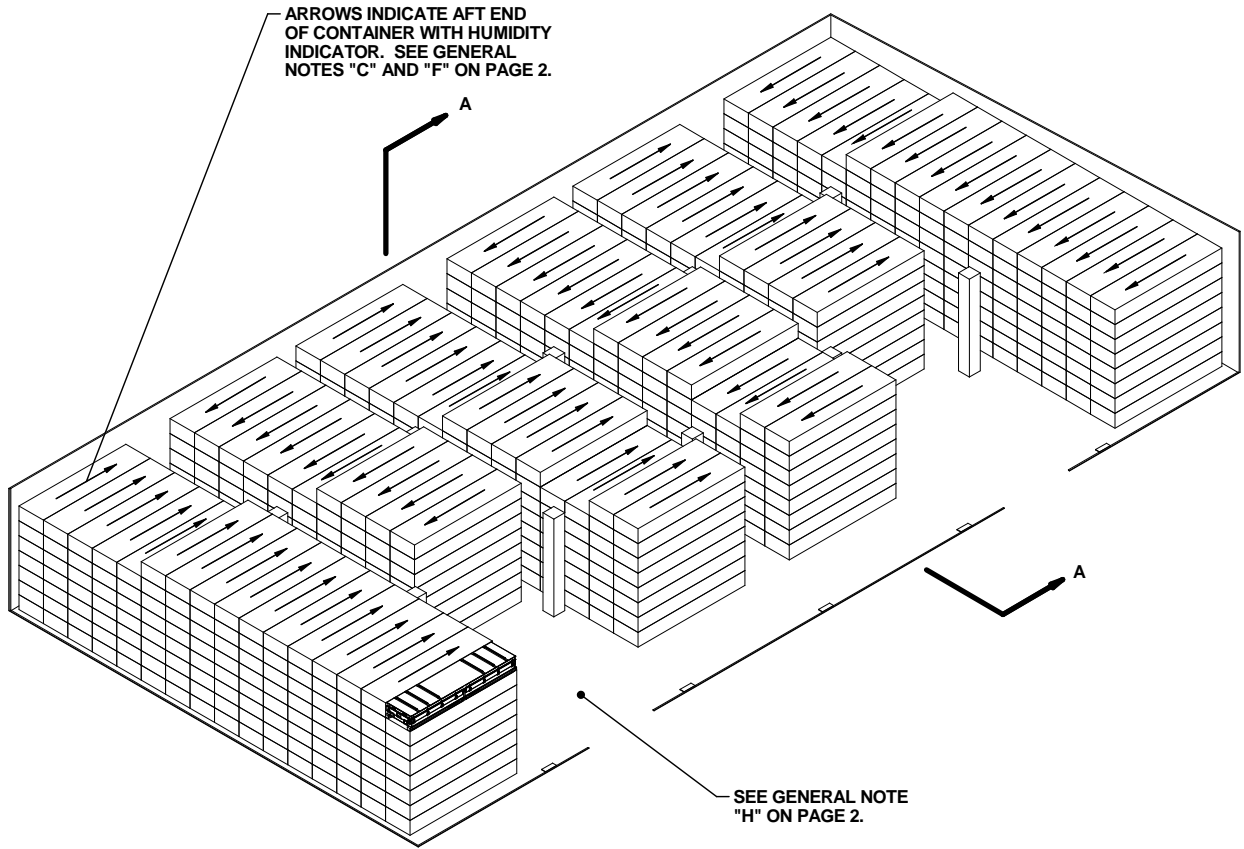


PLAN VIEW

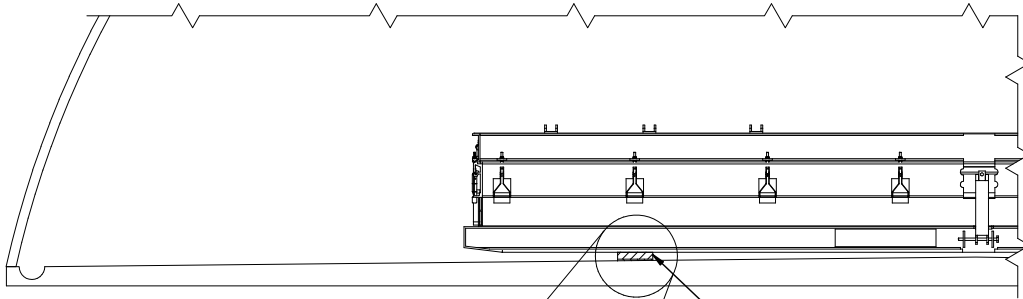
SEE GENERAL NOTE "E"
ON PAGE 2.



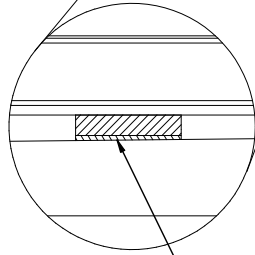
SECTION A-A



ISOMETRIC VIEW



FLOOR DUNNAGE, 1" OR 2" X 6" X 36" (2 REQD PER FIRST LAYER CONTAINER). SEE GENERAL NOTE "K" ON PAGE 2.



SHIM (AS REQD TO PROVIDE A LEVEL BEARING SURFACE FOR THE FIRST LAYER CONTAINERS). POSITION UNDER CONTAINER SKIDS. SEE GENERAL NOTE "K" ON PAGE 2.