

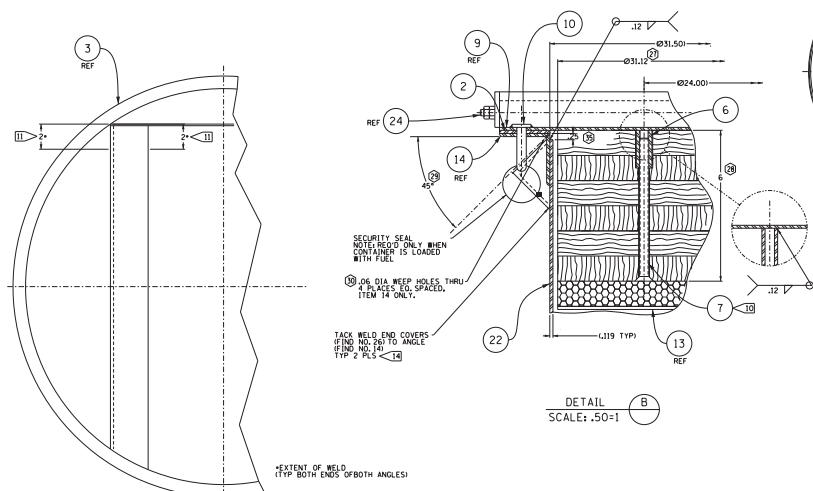
SPECIAL NOTE:

THE USE OF THESE SHIPPING CONTAINERS IS GOVERNED BY US/DOE CERTIFICATE OF COMPLIANCE FOR RADIOACTIVE PACKAGES NO. 5797.

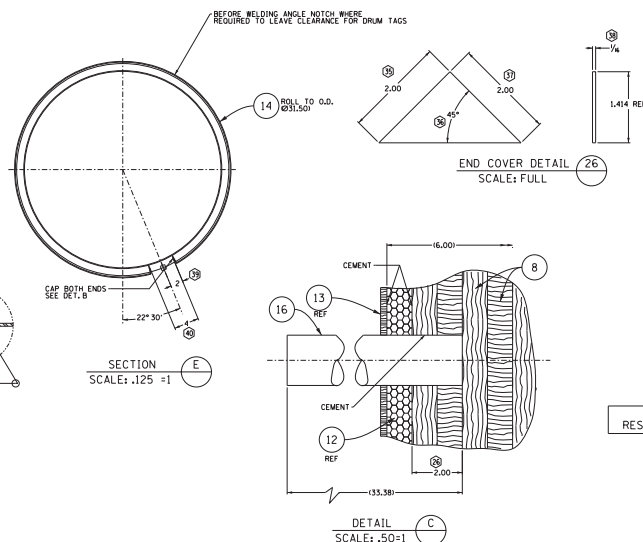
THIS DRAWING, OR THE CONTAINERS SHOWN THERE-ON, SHALL NOT BE ALTERED IN ANY MANNER WITHOUT WRITTEN APPROVAL OF THE RESEARCH REACTORS DIVISION COMPLIANCE MANAGER AND CONFIGURATION CONTROL MANAGER.

CONTAINER 1 40 - LAST
SCALE: .25=1

SECTION A
SCALE: .25" = 1'



SECTION
SCALE: .25" = 1'
(ROTATED 90°)

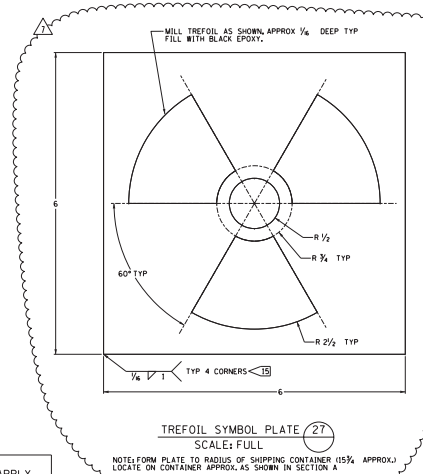


LICENSING
RESTRICTIONS APPLY

PARTS LIST				
PART	DWG. NO.	REQD.	DESCRIPTION	MATERIAL
1	THIS DRAWING	1	ASSY. CONTAINER, SHIPPING, OUTDOOR HFIR ELEMENT	
2	M-20978-EL-008	1	CHANNEL, CH#41	CARBON STEEL 1/2" X 3" X 1/8"
3	THIS DRAWING	1	CHANNEL, CH#41	CARBON STEEL 1/2" X 3" X 1/8"
4	THIS DRAWING	AR	PLATE, 6x6x6	CARBON STEEL 1/2" X 6" X 6"
5	THIS DRAWING	AR	ANGLE, 2x4x6	CARBON STEEL 1/2" X 2" X 4"
6	M-20978-EL-008	8	NUT	CARBON STEEL 1/2" X 3/4"
7	THIS DRAWING	8	MACHINE SCREW, 3/8-16X2-5/8	STEEL 3/8" X 2-5/8"
8	THIS DRAWING	AR	PLUMBING, FIP, THICKNESS AS REQUIRED FOR STACK UP	STEEL 1/2" X 3" X 1/8"
9	THIS DRAWING	AR	LID, 11 1/2"	STEEL 1/2" X 11 1/2"
10	M-20978-EL-008	1	FIN	STEEL 1/2" X 3" X 1/8"
11	M-20978-EL-008	1	NAME PLATE	STEEL 1/2" X 3" X 1/8"
12	THIS DRAWING	AR	POLYETHYLENE, 1" THICK	STEEL 1/2" X 3" X 1/8"
13	THIS DRAWING	AR	PLUMBING, FIP, 1/4" MAX SPECIFIC GRAVITY .521	STEEL 1/2" X 3" X 1/8"
14	THIS DRAWING	AR	ANGLE, 2x4x12	STEEL 1/2" X 2" X 4"
15	THIS DRAWING	AR	ANGLE, 1x1x12	STEEL 1/2" X 1" X 1"
16	THIS DRAWING	1	POST, 2" DIA. PINE	STEEL 1/2" X 3" X 1/8"
17	THIS DRAWING	1	BASE END, 10x10x1/4"	STEEL 1/2" X 3" X 1/8"
18	THIS DRAWING	1	BOX, 1/2" X 1/2" X 1/2" GRAB C	STEEL 1/2" X 3" X 1/8"
19	THIS DRAWING	16	NUT, HEX, 3/8-16 UNC, 28 GRAD C	CARBON STEEL 1/2" X 3/4"
20	THIS DRAWING	16	WASHER, LOCK, 3/8" NOMINAL	CARBON STEEL 1/2" X 3/4"
21	THIS DRAWING	16	LOCKWAS, FLAT, 3/8" NOMINAL	CARBON STEEL 1/2" X 3/4"
22	THIS DRAWING	1	CONTAINER BODY, 11 1/2"	CARBON STEEL 1/2" X 3" X 1/8"
23	THIS DRAWING	1	CONTAINER, BOTTOM, 11 1/2"	CARBON STEEL 1/2" X 3" X 1/8"
24	M-20978-EL-009	1	LID LIFTING, BOLLARD, 13 GA	CARBON STEEL 1/2" X 3" X 1/8"
25	THIS DRAWING	1	BASE END, 10x10x1/4"	CARBON STEEL 1/2" X 3" X 1/8"
26	THIS DRAWING	1	END COVER, DETAILS AS GA SPEC	CARBON STEEL 1/2" X 3" X 1/8"
27	THIS DRAWING	1	REFRIGIL SYMBOL, PLATE, 1/4" THICK	CARBON STEEL 1/2" X 3" X 1/8"

NOTES:

1. DRAWING PREPARED PER K/D 5744.
2. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.
3. DIMENSIONS ARE IN INCHES.
4. CALLS ALL VOIDS GREATER THAN .06 LARGEST DIMENSION IN JOINT BETWEEN WOOD AND OTHER CONTAINER.
5. PARTIAL FINISH INTERIOR & EXTERIOR SURFACE FINISHES ONE COAT PRIMER AND TWO COATS YELLOW GLOSS ENAMEL.
6. ☒ DENOTES FEATURES REQUIRING INSPECTION AND INSPECTION.
7. ☒ ALL PLUGS ARE TO BE DOUGLAS FIR UNLESS REPLACEMENT IS REQUIRED.
IF PLYWOOD IS TO BE REPLACED PER METHOD FOR PLYWOOD MADE TO PS-1 SPEC FROM GRP 1 AND 2 WOODS, REPLACEMENT OF PLYWOOD IS REQUIRED, OR IF NEW CONTAINERS ARE FABRICATED.
8. ☒ CONTAINER NOS. 1,3,5,7,9 AND 11 ARE WELDED ON 8" CENTERS, WELDS ON CONTAINER NO.13 AND FUTURE CONTAINERS ARE AS SHOWN.
9. ITEM 4, PLATE, USED TO ATTACH CONTAINER STATUS LABEL (EMPTY OR LOADED WITH.....)
10. ☒ X DRILL 1.5973 THRU PLYWOOD, ITEM C, 5/16" DIA X 1/8" DEEP, 6 PLACES EQUALLY SPACED TO MATCH ITEM 3.
11. ☒ PART NO. 3, WELDED TO PART NO. 23 AS SHOWN IN VIEW "D".
12. THE AS-BUILT CONDITION OF THESE CONTAINERS IS DOCUMENTED ON INSPECTION REPORTS. THE REPORTS & THE AS-BUILT DIMENSIONS ARE REPORTED ON PART IN ORN'S RESEARCH REACTOR DIVISION DESIGN FILE NO. "MFR-HR-OR-89-46".
13. PACKING AND/OR CUSHIONING MATERIALS TO BE LIMITED TO POLYETHYLENE BAGS AND POLYETHYLENE FOAM.
14. ☒ WELDS SHALL BE IN ACCORDANCE WITH WPS-103, WPS-104, WPS-107 AND WPS-114.
WELDS SHALL BE VISUALLY INSPECTED PER ORN-NDE-21 ON FLAGGED ITEMS ONLY. ☒ FOR FIRST TIME.
15. ☒ WELDING SHALL BE IN ACCORDANCE GTI18-IMP, WPS-21, VISUALLY INSPECTED FOR FIRST TIME.



REVISION
AS BUILT

MAY 12 2022

HFIR OUTER FUEL ELEMENT ASSEMBLY	E-42126
REFERENCE DRAWINGS	NUMBER



OAK RIDGE
National Laboratory
Managed by UT-Battelle for the US

RESEARCH REACTORS DIVISION	
FACILITY	H.F.I.R. BLDG. NO. 7900

SHIPPING CONTAINER FOR
UNIRRADIATED OUTER
HFIR ELEMENT ASSEMBLY

M	20978	EL	002	E	REV.	F
CONDITIONALLY AS BUILT						


GENERAL SPECIFICATION
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
REMOVE BURRS/BREAK EDGES

FRACTIONS	±	$\frac{3}{16}$
XX DECIMALS	±	.12
XXX DECIMALS	±	.005
ANGLES		1°
FILES	②	N/A
MACHINE	③	125
SCALE:		NOTED

CAUTION NUCLEAR EQUIPMENT:
 ANY PROCESS OR MATERIAL, INCLUDING PACKAGING AND SHIPPING MATERIALS, THAT HAS THE POSSIBILITY OF LEAVING A RESIDUE CONTAINING ANY OF THE FOLLOWING: URANIUM, PLUTONIUM, RADIUM, POLONIUM, THORIUM, RADIALLY ACTIVE ISOTOPES, COPPER, LEAD, NICKEL, SILVER, THORON AND THE GAS CARBON MONOXIDE, SHOULD BE CONSIDERED RADIOACTIVE. THE USER OF THIS EQUIPMENT SHALL NOT BE USED UNLESS IN ANY FORM SHALL BE SPECIFICALLY DESIGNED FOR SUCH PURPOSES. THIS EQUIPMENT IS NOT TO BE USED FOR PROCESSING AND MANUFACTURING OPERATIONS.

No representation or warranty, expressed or implied, is made as to the safety, completeness or usefulness of the information or statements contained in these drawings, or that the use or disclosure of any information, appearing in these drawings, in any form, for any purpose, by any person, or for others, by liability is assumed with respect to the use of, or for consequences of, the use of, or for disclosure of, the information appearing in these drawings. Drawings made available for information to the public, in any form, for any purpose, and are to be returned upon request of the issuing contractor.

F	SEE DCN 14061	OP/CEC	DLP	MAR	N/A	DEF
E	SEE DCN 10531	SECURITY	SECURITY	SECURITY	SECURITY	SECURITY
NO.	REVISIONS	SECURITY	SECURITY	SECURITY	SECURITY	SECURITY
DESIGNER	DATE	SAFETY ANALYST	DATE	APPROVED	DATE	
T.A. JOHNSON	05-24-12	M.B. SMITH	05-25-12	N/A		
TRC CHECKER	DATE	C.A. WARDEN	DATE	WANT	DATE	
D.L. PANNON	05-24-12	L.C. LATHAM	05-25-12	M.B. WESTON	05-25-12	
DESIGN REVIEWER	DATE	OP. CONTROL	DATE	OPERATIONS MGR	DATE	
G.L. HERTZ	05-24-12	V.S. KRON	05-25-12	E.L. FOGEL	05-25-12	

 OAK RIDGE National Laboratory Managed by UT-Battelle for the US Department of Energy RESEARCH REACTORS DIVISION		HIGH FLUX ISOTOPE REACTOR	
FACILITY		BLDG. NO. 7900	
SHIPPING CONTAINER FOR UNIRRADIATED OUTER HFIR ELEMENT ASSEMBLY			
M	20978	EL	002 E REV. F