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BETATRON VACUUM IMPROVEMENT - SLIP AND INTERMEDIATE BEAM STOCK

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Author

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Lawrence Berkeley Laboratory

UNIVERSITY OF CALIFORNIA

Engineering & Technical Services Division

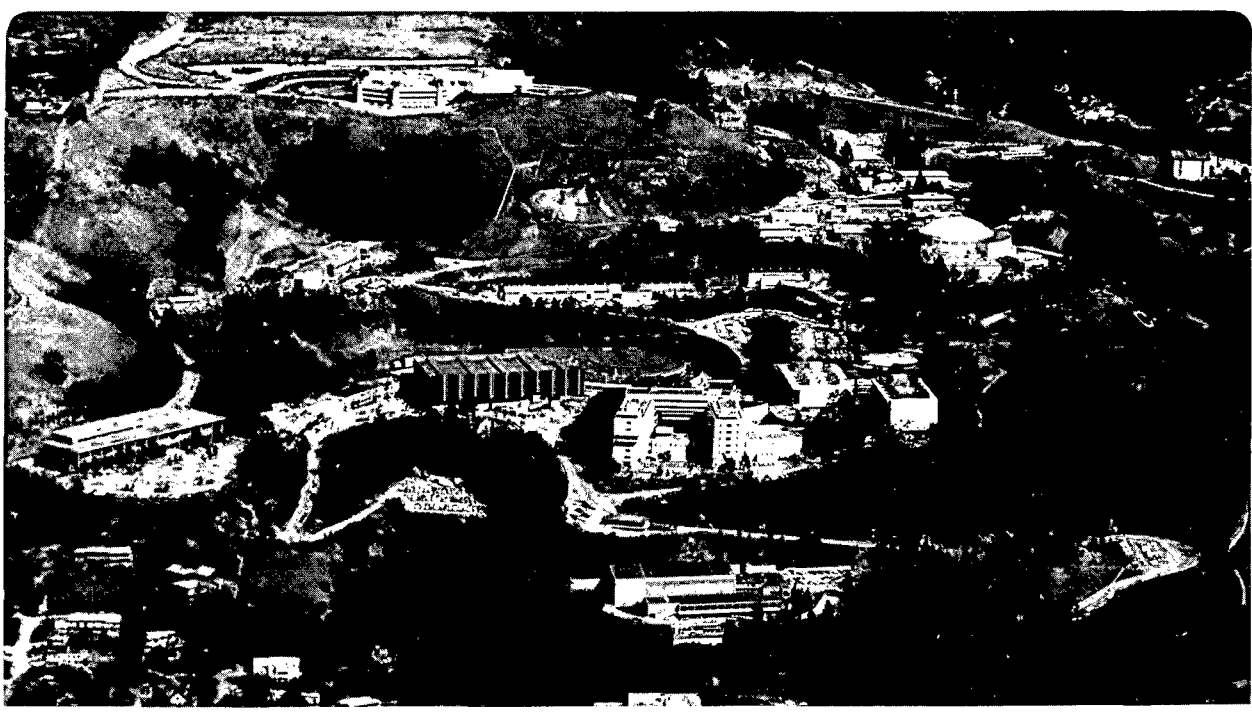
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LAWRENCE BERKELEY LABORATORY - UNIVERSITY OF CALIFORNIA		CODE	SERIAL	PAGE	
ENGINEERING NOTE		BW 7811	M5572	1 OF 11	
AUTHOR	DEPARTMENT	LOCATION	DATE		
E. FONG	ME.	BERK	8-26-80		
PROGRAM - PROJECT - JOB					
BEVATRON VACUUM IMPROVEMENT					
QUADRANT, $6\frac{2}{3}^\circ$ QUAD, TRANSITION, WEST TANGENT $\frac{1}{2}$ SPECIAL SECTIONS					
TITLE					
SLIP AND INTERMEDIATE BEAM STOCK					
<p>THIS NOTE LISTS THE PULTRUDED BEAM STOCK FOR STANDARD QUAD 10° SECTIONS, $6\frac{2}{3}^\circ$ QUAD SECTION, 7 STANDARD TRANSITION SECTIONS, 1 SPECIAL TRANSITION SECTION, WEST TANGENT SECTION $\frac{1}{2}$ 2 SPECIAL $11\frac{2}{3}^\circ$ QUAD SECTIONS AS SHOWN ON PAGE 3.</p>					
ITEM NO. SEE PGS	STOCK FOR	SEE PGS FOR REF	DWG NO.	NO. REQD	MATERIAL DESCRIPTION
1	33 EA. STD 10° QUADRANT SECTIONS	4	20B1353-1	132	$\frac{1}{2}$ " x 2" x 44.000
			20B1343-1	132	$\frac{1}{2}$ " x $2\frac{1}{4}$ " x 44.200
			20B1353-2	132	$\frac{1}{2}$ " x 2" x 46.580
			20B1343-2	132	$\frac{1}{2}$ " x $2\frac{1}{4}$ " x 46.780
			20B1353-3	330	$\frac{1}{2}$ " x 2" x 47.720
2	1 EA $6\frac{2}{3}^\circ$ QUADRANT SECTION	5	20B1353-1	2	$\frac{1}{2}$ " x 2" x 44.000
			20B1343-1	4	$\frac{1}{2}$ " x $2\frac{1}{4}$ " x 44.200
			20B1353-2	2	$\frac{1}{2}$ " x 2" x 46.580
			20B1343-2	4	$\frac{1}{2}$ " x $2\frac{1}{4}$ " x 46.780
			20B1353-3	8	$\frac{1}{2}$ " x 2" x 47.720
3	4 EA STD TRANSITION SECTIONS 3 EA. PROBE TRANSITION SECTIONS	6 & 7	20B1353-1	14	$\frac{1}{2}$ " x 2" x 44.000
			20B1343-1	28	$\frac{1}{2}$ " x $2\frac{1}{4}$ " x 44.200
			20B1353-2	14	$\frac{1}{2}$ " x 2" x 46.580
			20B1343-2	28	$\frac{1}{2}$ " x $2\frac{1}{4}$ " x 46.780
			20B1353-3	42	$\frac{1}{2}$ " x 2" x 47.720
4	1 EA WEST TANGENT SECTION	8	20B1353-4	6	$\frac{1}{2}$ " x 2" x 60.000
			20B1343-3	4	$\frac{1}{2}$ " x $2\frac{1}{4}$ " x 60.000
			20B1353-4	6	$\frac{1}{2}$ " x 2" x 60.000
			20B1343-3	4	$\frac{1}{2}$ " x $2\frac{1}{4}$ " x 60.000
			20B1353-4	16	$\frac{1}{2}$ " x 2" x 60.000
5	2 EA SPECIAL QUADRANT SECTIONS	9	20B1353-4	12	$\frac{1}{2}$ " x 2" x 60.000
			20B1343-3	8	$\frac{1}{2}$ " x $2\frac{1}{4}$ " x 60.000
			20B1353-4	12	$\frac{1}{2}$ " x 2" x 60.000
			20B1343-3	8	$\frac{1}{2}$ " x $2\frac{1}{4}$ " x 60.000
			20B1353-4	32	$\frac{1}{2}$ " x 2" x 60.000

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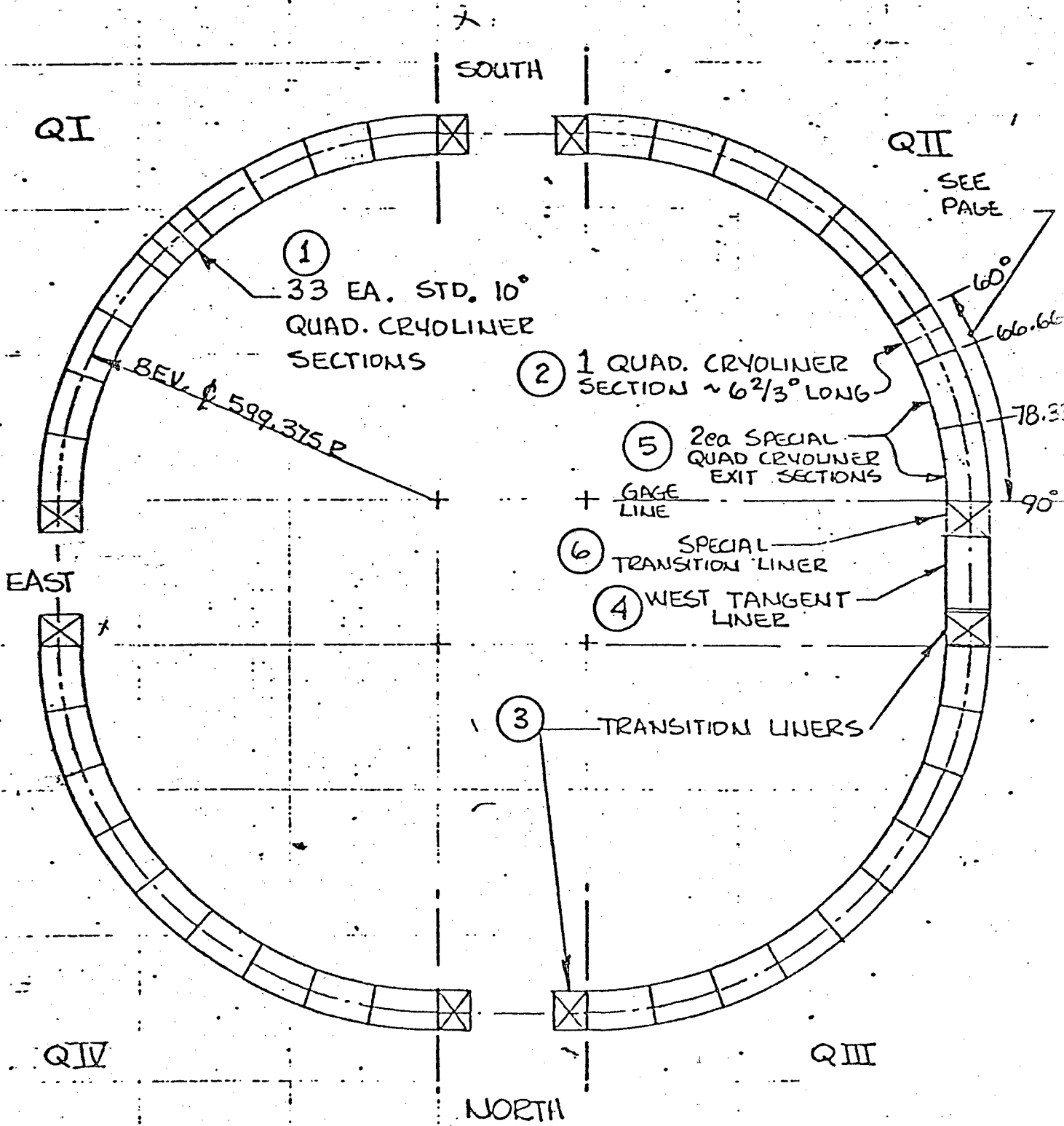
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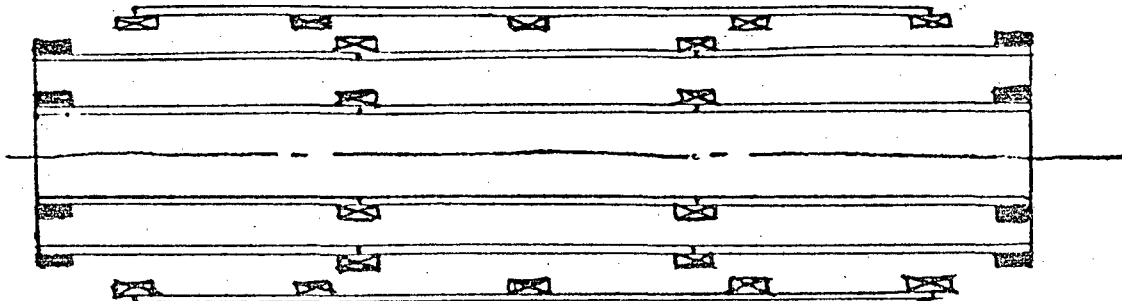
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



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① STANDARD QUADRANT LINERS (10°)
(33 REQ'D)



BOX	NAME	PART N.O.	NO. REQ'D	MATERIAL LENGTH
HELIUM	 BEAM - TOP & BOT. - INTERM.	20B1353-1	4	1/2" x 2" x 44.000
	 BEAM - TOP & BOT. SLIP	20B1343-1	4	1/2" x 2 1/4" x 44.200
LN	 BEAM - TOP & BOT. - INTERM.	20B1353-2	4	1/2" x 2" x 46.580
	 BEAM - TOP & BOT. SLIP	20B1343-2	4	1/2" x 2 1/4" x 46.780
RT	 BEAM - INTERM. & END	20B1353-3	10	1/2" x 2" x 47.720

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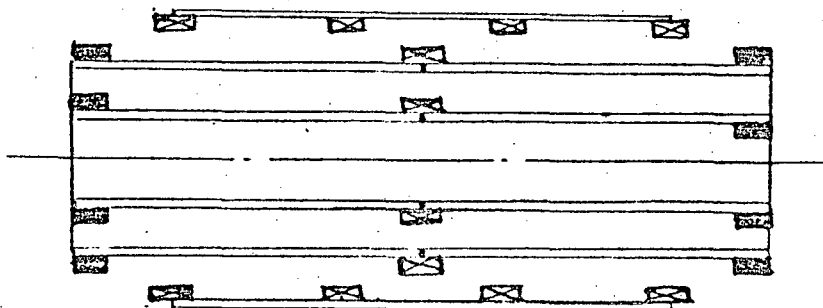
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


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② $6\frac{2}{3}$ QUADRANT LINER
(1 EA. REQ'D)



BOX	NAME	PART NO.	NO. REQ'D	MATERIAL LENGTH
HELIUM	 BEAM - TOP & BOT. - INTERM.	20B1353-1	2	$\frac{1}{2}$ " x 2" x 44.000
	 BEAM - TOP & BOT. - SLIP	20B1343-1	4	$\frac{1}{2}$ " x $2\frac{1}{4}$ " x 44.200
LN	 BEAM - TOP & BOT. - INTERM.	20B1353-2	2	$\frac{1}{2}$ " x 2" x 46.580
	 BEAM - TOP & BOT. - SLIP	20B1343-2	4	$\frac{1}{2}$ " x $2\frac{1}{4}$ " x 46.780
RT	 BEAM - INTERM. & END	20B1353-3	8	$\frac{1}{2}$ " x 2" x 47.720

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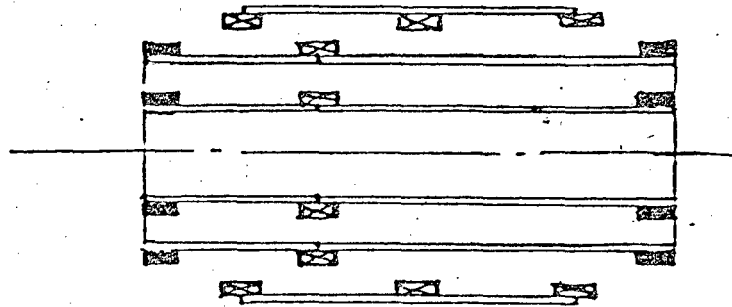
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③ TRANSITION LINERS
STANDARD LINER
(4 EA. REQUIRED)



BOX	NAME	PART NO	NO. REQ'D	MATERIAL LENGTH
HELIUM	<input checked="" type="checkbox"/> BEAM-TOP & BOT. INTERM.	20B1353-1	2	1/2" x 2" x 44.000
	<input checked="" type="checkbox"/> BEAM-TOP & BOT. - SLIP	20B1343-1	4	1/2" x 2 1/4" x 44.200
LN	<input checked="" type="checkbox"/> BEAM-TOP & BOT - INTERM.	20B1353-2	2	1/2" x 2" x 46.580
	<input checked="" type="checkbox"/> BEAM-TOP & BOT. - SLIP	20B1343-2	4	1/2" x 2 1/4" x 46.780
RT	<input checked="" type="checkbox"/> BEAM - INTERM & END	20B1353-3	6	1/2" x 2" x 47.720

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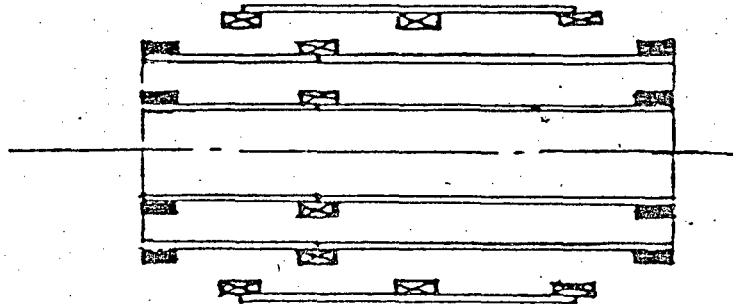
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③ TRANSITION LINERS (CONT'D)

PROBE LINER
(3 EA. REQUIRED)



BOX	NAME	PART NO	NO. REQ'D	MATERIAL LENGTH
HELIUM	<input checked="" type="checkbox"/> BEAM-TOP & BOT. INTERM.	20B1353-1	2	1/2" x 2" x 44.000
	<input checked="" type="checkbox"/> BEAM-TOP & BOT. - SLIP	20B1343-1	4	1/2" x 2 1/4" x 44.200
LN	<input checked="" type="checkbox"/> BEAM-TOP & BOT. - INTERM.	20B1353-2	2	1/2" x 2" x 46.580
	<input checked="" type="checkbox"/> BEAM-TOP & BOT. - SLIP	20B1343-2	4	1/2" x 2 1/4" x 46.780
RT	<input checked="" type="checkbox"/> BEAM - INTERM & END	20B1353-3	6	1/2" x 2" x 47.720

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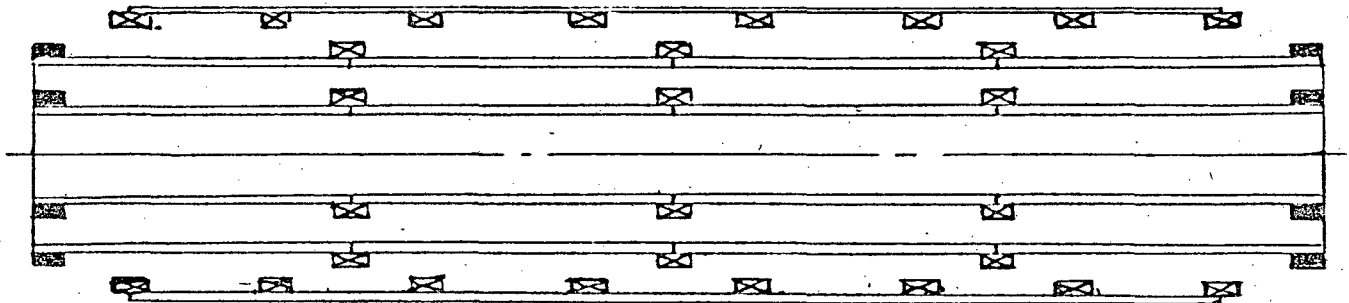
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


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④ WEST TANGENT LINER
(1 EA REQ'D)



BOX	NAME	PART NO.	NO. REQ'D.	MATERIAL LENGTH
HELIUM	 BEAM-TOP & BOT.-INTERM.	20B1353-4	6	1/2" x 2" x 60.000
	 BEAM-TOP & BOT.-SLIP	20B1343-3	4	1/2" x 2 1/4" x 60.000
LN	 BEAM-TOP & BOT.-INTERM.	20B1353-4	6	1/2" x 2" x 60.000
	 BEAM-TOP & BOT.-SLIP	20B1343-3	4	1/2" x 2 1/4" x 60.000
RT	 BEAM-INTERM. & END	20B1353-4	16	1/2" x 2" x 60.000

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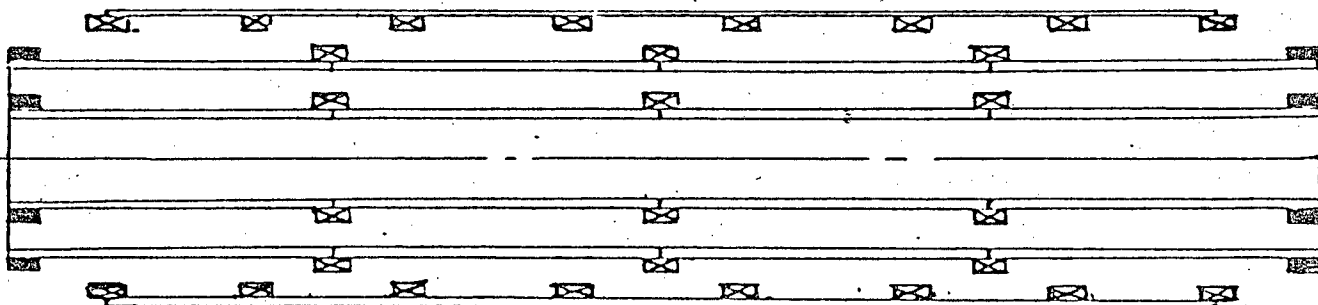
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

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⑤ SPECIAL QUADRANT LINERS ($11\frac{2}{3}^\circ$)
(2 EA REQ'D)



BOX	NAME	PART NO.	NO. REQ'D.	MATERIAL LENGTH
HELIUM	 BEAM-TOP & BOT.-INTERM.	20B1353-4	6	$\frac{1}{2}$ " x 2" x 60.000
	 BEAM-TOP & BOT.-SLIP	20B1343-3	4	$\frac{1}{2}$ " x 2 $\frac{1}{4}$ " x 60.000
LN	 BEAM-TOP & BOT.-INTERM.	20B1353-4	6	$\frac{1}{2}$ " x 2" x 60.000
	 BEAM-TOP & BOT.-SLIP	20B1343-3	4	$\frac{1}{2}$ " x 2 $\frac{1}{4}$ " x 60.000
RT	 BEAM-INTERM. & END	20B1353-4	16	$\frac{1}{2}$ " x 2" x 60.000

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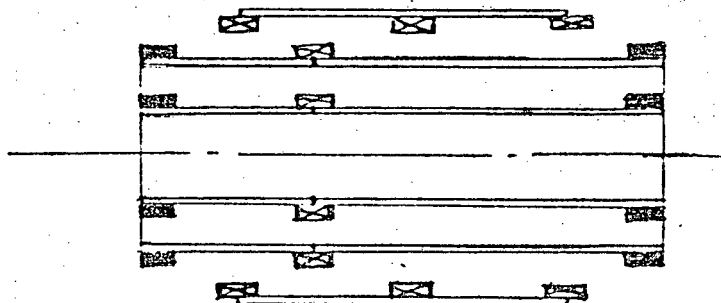
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⑥ TRANSITION LINERS (CONT'D)

SPECIAL LINER
(1 EA. REQUIRED)



BOX	NAME	PART NO	NO. REQ'D	MATERIAL LENGTH
HELIUM	<input checked="" type="checkbox"/> BEAM-TOP & BOT. INTERM.	20B1353-4	2	1/2" x 2" x 60.000
	<input checked="" type="checkbox"/> BEAM-TOP & BOT. - SLIP	20B1343-3	4	1/2" x 2 1/4" x 60.000
LN	<input checked="" type="checkbox"/> BEAM-TOP & BOT - INTERM.	20B1353-4	2	1/2" x 2" x 60.000
	<input checked="" type="checkbox"/> BEAM-TOP & BOT. - SLIP	20B1343-3	4	1/2" x 2 1/4" x 60.000
RT	<input checked="" type="checkbox"/> BEAM - INTERM & END	20B1353-4	6	1/2" x 2" x 60.000

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APPROX. COST OF MATERIAL

$$\frac{1}{2}'' \times 2\frac{1}{4}'' \text{ STOCK} \times 1600.37 \text{ FT.} @ \$1.88/\text{FT}$$

$$= \$3008.70$$

$$\frac{1}{2}'' \times 2'' \text{ STOCK} \times 3421.21 \text{ FT} @ \$1.92/\text{FT}$$

$$= \$6568.73$$

$$\text{GRANDMOTHER MOLD COST} = 2 \$3000.00$$

3009.00

6569.00

TOTAL\$12,578.00

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