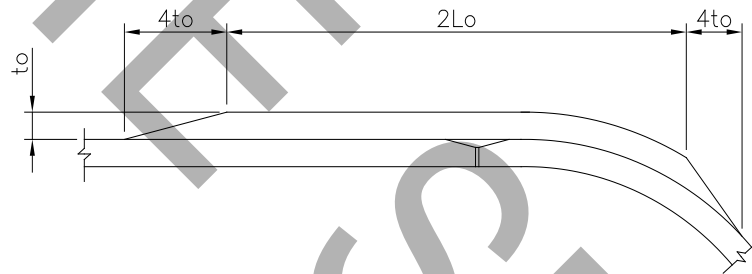


HEAD TO SHELL JOINT OVERLAY

[ASME X RD-1175.2]

1. DESIGN CONDITION

P : DESIGN PRESS. (INT.) INCLUDE STATIC HEAD PRESS.	=	119.57 psi
R : RADIUS OF SHELL	=	2.94 in
t : THICKNESS OF SHELL	=	0.366 in
E2 : CIRCUMFERENTIAL SECONDARY TENSILE MODULUS	=	6,671,700 psi
F : DESIGN FACTOR	=	10
Ss : SECONDARY BOND STRENGTH IN SHEAR (MAX. 1000 psi)	=	1000 psi



2. STRENGTH CALCULATION

1) THICKNESS OF OVERLAY

$$t_o = \frac{P (R + t)}{0.001 \times E2} = 0.03 \text{ in } (0.75 \text{ mm }) \text{ USED } 5 \text{ mm}$$

2) LENGTH OF OVERLAY

$$L_o = \frac{PR}{2 S_s / F} = 1.76 \text{ in } (44.69 \text{ mm }) \text{ USED } 45 \text{ mm}$$