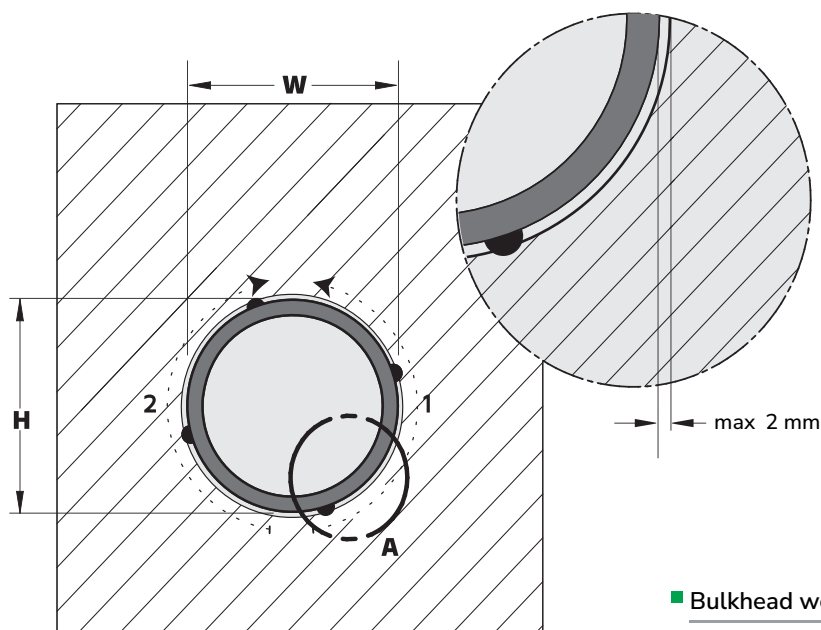
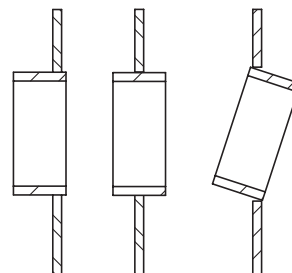


## SLEEVES WELDING INSTRUCTIONS

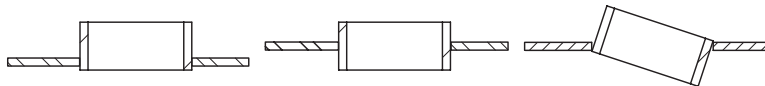
1. Check the measures of the precut hole and external dimensions of the frame. Recommended gap around the frame is in between 1mm and 2mm (0.5-1mm on every side of the frame).



### Bulkhead welding positions

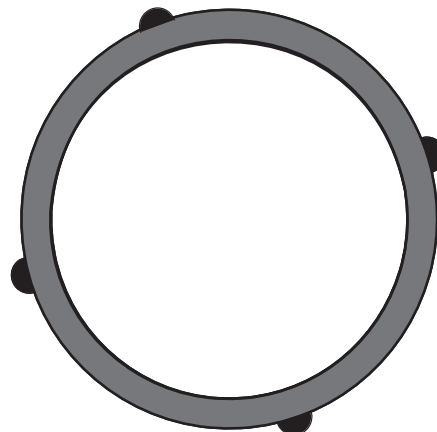
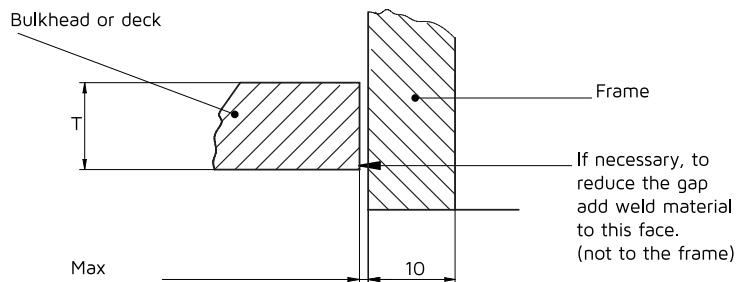


### Deep welding positions



2. Tack weld on the front side, centring the frame onto the cut-out hole:

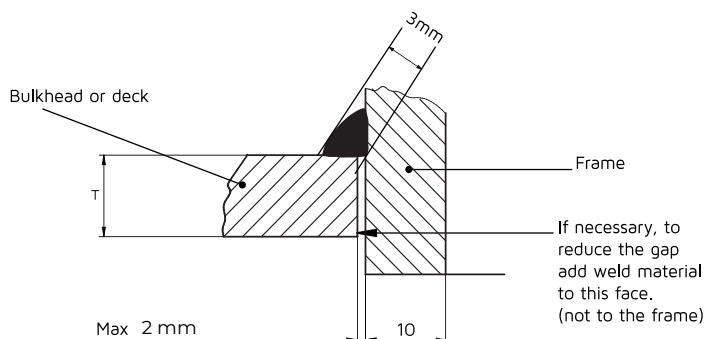
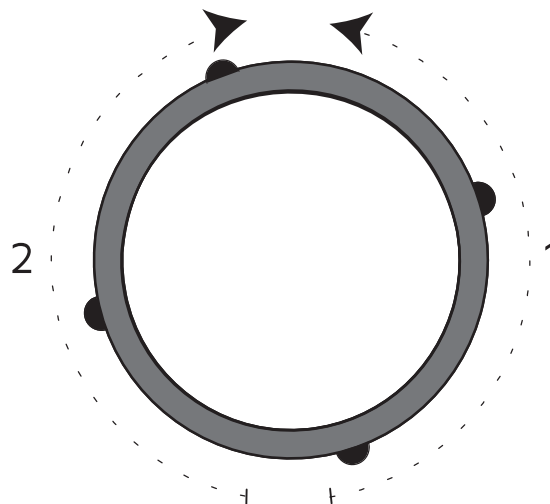
Check the gap measures all around the frame are maintained. If necessary, add weld material to the bulkhead/deck to reduce the gap (not to the frame)



- Start welding the frame with a sealing fillet weld on the backside. Follow appropriate welding sequence. This welding throat should not exceed 3mm.

The interpass temperature should not exceed 200°C for mild steel and aluminium and 150°C for stainless steel.

■ Max Run Length	Mild Steel	200 mm
	Stainless Steel	150 mm
	Aluminum	200 mm



$$\text{Heat Input (KJ/mm)} = \frac{V \cdot I \cdot \eta}{\text{vel} \cdot 1000} \quad \eta = \begin{cases} 1 & \text{SMAW} \\ 0,8 & \text{GMAW / FCAW} \\ 0,6 & \text{GTAW} \end{cases}$$

$V = \text{volts} / I = \text{amperes} / \text{vel} = \text{mm/s}$

	Máx. Heat Input (KJ/mm)		
	Mild Steel	Stainless Steel	Aluminium
$a = 3 \text{ mm}$	1,2	1,1	2

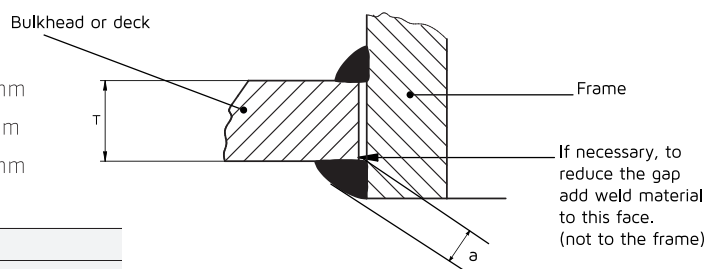
- Grind off weld tacks before start filled weld. Weld runs should not start or stop at a tack weld but should run over a tack.

Follow same welding sequence for correct procedure.  
The interpass temperature should not exceed 200°C for mild steel and aluminium and 150°C for stainless steel.

This welding throat should not exceed following values:

$T > 7 \text{ mm}$	$a = 5 \text{ mm}$
$T \leq 7 \text{ mm}$	$a = 4 \text{ mm}$

■ Max Run Length	Mild Steel	200 mm
	Stainless Steel	150 mm
	Aluminum	200 mm



	Máx. Heat Input (KJ/mm)		
	Mild Steel	Stainless Steel	Aluminium
$a = 4 \text{ mm}$	1,2	1,1	2
$a = 5 \text{ mm}$	1,4	1,1	2