

Welding instructions

Welding method

Shielded metal arc welding (SMAW),
Flux Core Arc Welding (FCAW)

Welders qualification

Welders to be qualified according to
AWS D1.1 latest edition.

Consumable SMAW (AWS7016, AWS7018) FCAW(AWSE-71-T5)

Consumable to be handled and treated ac-
cording to manufacturers recommendation.

Preparation and fit

The prepared joint and surrounding areas
shall be clean and free from moisture, oil,
grease, oxides or any protective coating except
weldable primers.

Maximum allowed root gap for fillet welds
is 2 mm (see Figure 1).

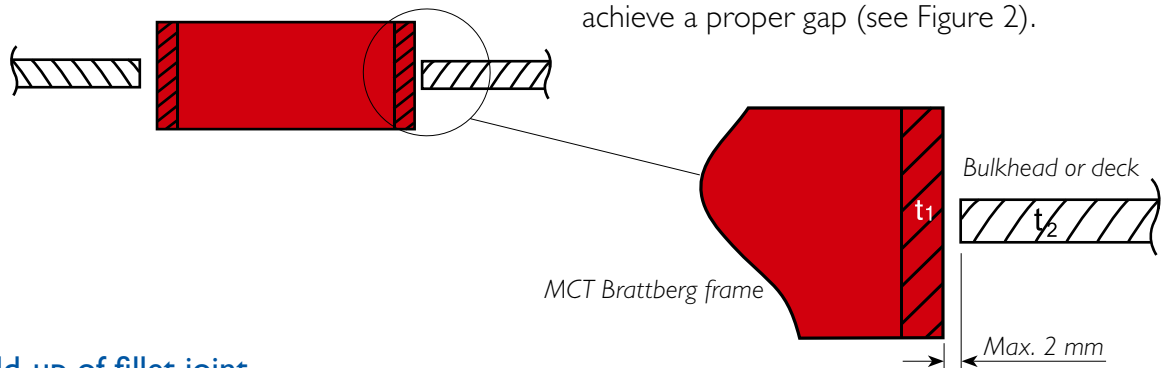
Preheat and interpass temperature

To avoid hydrogen cracking, joints must be
pre-heated to the temperature shown in the
table below.

The minimum preheat temperature must
be established for a minimum of 75 mm on
either side of the joint. The inter-pass tem-
perature must not exceed 250°C.

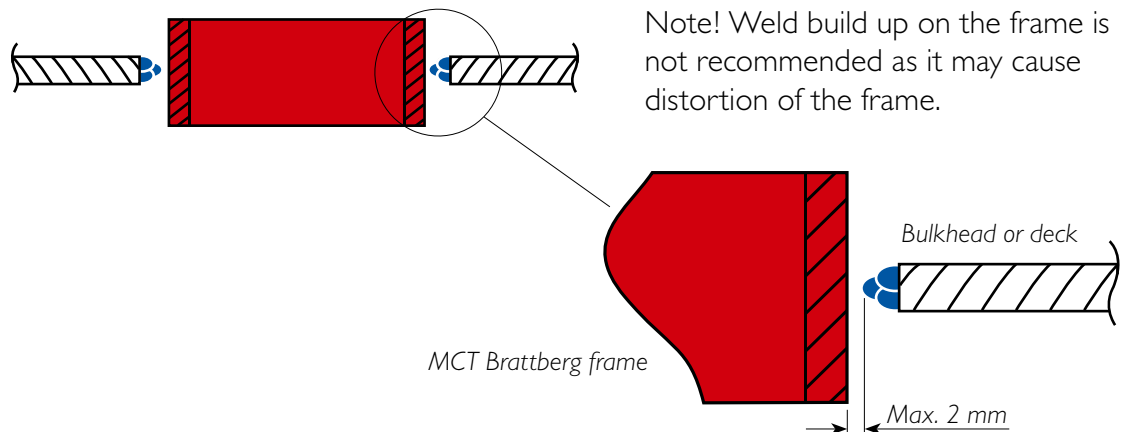
Maximum allowable root gap for fillet joint

Figure 1



Build-up of fillet joint

Figure 2

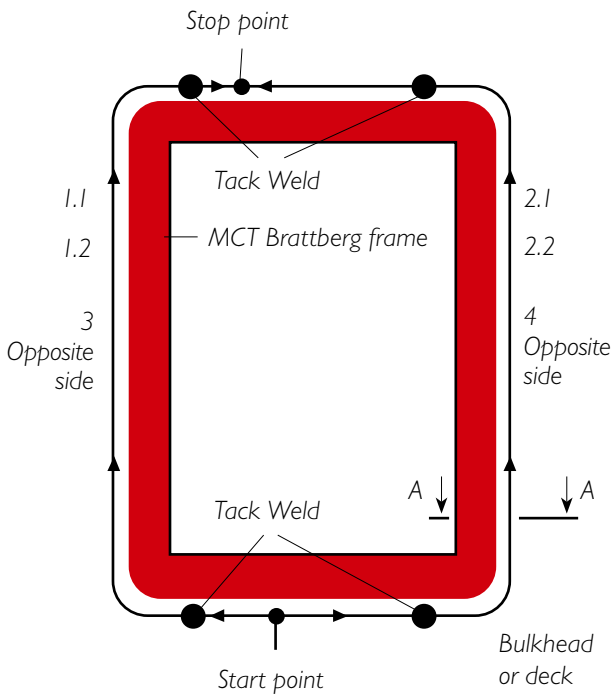


Welding sequence

Welding to be performed according to Figure 3 & 4. Weld pass 3 is not to be started until welds 1 & 2 are completed.

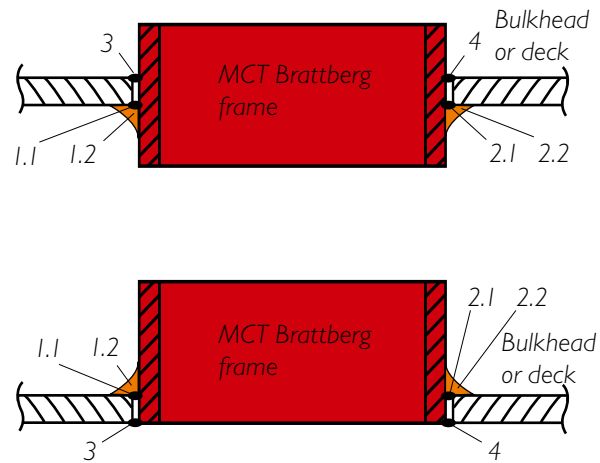
Welding sequence of a two-pass fillet weld

Figure 3



Welding sequence

Figure 4



- 1.1 Root weld 1.2 Fillet weld 3 Seal weld
- 2.1 Root weld 2.2 Fillet weld 4 Seal weld

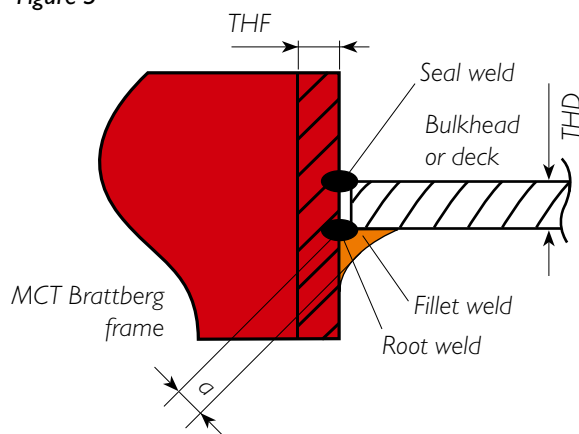
Weld size

Fillet weld size (throat thickness) is to be $0.5 \times$ plate thickness of the bulkhead or deck plate (THD). However fillet weld size is not to be greater than $0.7 \times$ frame plate thickness (THF). See fig 5.

Thus a
 $0.5 \times \text{THD}$ $0.7 \times \text{THF}$

Fillet weld size for a centre-placed frame

Figure 5



- a = Fillet size (throat thickness)
- THD = Thickness deck plate
- THF = Thickness frame plate
- Note! Multi-pass welding is required if $a \geq 5 \text{ mm}$