



Transport
Roads & Maritime
Services

Test method T1171

Flow properties of hot poured joint sealant

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Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
		Reformatted and Revision Summary Added	D. Dash	June 2001
Ed 2/ Rev 0	All	Reformatted RMS template	J Friedrich	November 2012

Note that Roads and Maritime Services is hereafter referred to as 'RMS'.

The most recent revision to Test method T1171 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T1171

Flow properties of hot poured joint sealant

1. Scope

This test method describes the procedure for determining the resistance of joint sealants to flow at temperature of 60°C.

2. Apparatus

- (a) Three open top moulds of 1 mm mild steel sheet, having internal dimensions 50 mm long by 25 mm deep by 13 mm wide, with a tolerance of ± 0.25 mm on each dimension. The top of the mould is provided with a flange on either side as shown in Fig.1.

A slot 6.35 mm wide, with a tolerance of ± 0.05 mm, is to be cut along the centre of the base from end to end. The corners of the slot are to be square and the edges are to be machined truly vertical and all burrs removed without rounding the edges. Each mould is to be stamped on the flange with suitable identification mark.
- (b) A frame so designed that three moulds can be hung by their flanges and with a clearance of at least 125 mm below the flanges.
- (c) An oven with forced air circulation, thermostatically controlled to maintain a temperature of $60 \pm 1^\circ\text{C}$ at all effective positions and with capacity for at least three specimens in their frame.
- (d) A balance of capacity not less than 50g readable and accurate to 0.01 g.
- (e) A stiff metal spatula approximately 150 mm long and 25 mm wide.
- (f) Glazed ceramic base plate 150 mm x 150 mm x 10 mm thick.

3. Preparation

- (a) Determine the mass of three moulds and record their masses to the nearest 0.01 g. (M_2).
- (b) Heat the sample of joint sealant as set out in Test Method T1170.
- (c) Preheat three of the moulds and the ceramic base plate coated with a release agent such as soft soap to the temperature recommended by the manufacturer for the molten sealant material. Place the moulds on the base plate and fill with sufficient molten sealant to give an excess of compound above the level of the mould when cool.
- (d) Cool the poured sealant for one hour in air at a temperature of 16-26°C, level the sealant in the mould by removing the excess with a heated spatula. Determine and record the masses of the three moulds to the nearest 0.01 g. (M_2).

4. Procedure

- (a) Place the frame in the oven at $60 \pm 1^\circ\text{C}$ for 30 minutes before beginning the test.
- (b) Remove the three specimens from the ceramic plate and place them in the frame in the oven.
When the oven has returned to $60 \pm 1^\circ\text{C}$, record the time and allow the specimens to be subjected to this temperature for five hours.
- (c) After five hours, remove the assembly from the oven and immediately cut away the sealant which has flowed out the slot, level with the lowest face of each mould, with a heated spatula. Cool and determine the mass of each mould to the nearest 0.01 g. (M_3).

5. Calculation and Reporting

Calculate the percentage of material which flows out of each of the moulds during the test as follows:-

$$\text{Flow percent} = \frac{M_2 - M_3}{M_2 - M_1} \times 100$$

Where M_1 = Mass of the empty mould (g)

M_2 = Mass of the mould before flow occurs (g)

M_3 = Mass of the mould after flow has been removed (g)

Report the percentage flow at 60 C as the mean of the three determinations to the nearest whole number.

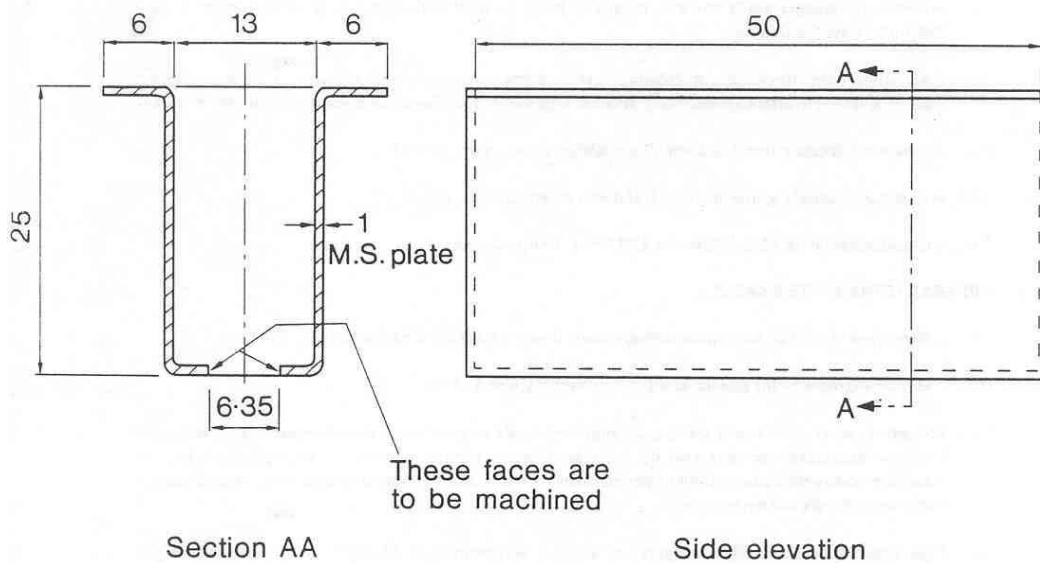


Figure 1: Mould for testing the flow properties of Hot Poured Joint Sealing Compound Test Method No. T1171

(All dimensions are in millimetres)