

METHOD STATEMENT



ASPHALTIC PLUG JOINT (ESOFLEX)

1. The width of joint is first mark out on the asphalt surface and saw cut to provide a trench in the carriageway of width and depth as specified in the contract.
2. The excavated area is cleaned and dried the recess in the verge with a compressed air and wire brush.
3. The prepared area is wire brushed to remove loose asphalt and concrete material. Other fine loose are remove by air blowing.
4. The expansion gap is caulk with expanded polyethylene foam or mayan rope and the M.S plate will be nailed centrally. The vertical and horizontal surface is primed with the binder.
5. After completion of the tanking procedure, the joint is constructed in layer.
6. The aggregates are dried and cleaned in a mixer drum by heating.
7. The temperature of the aggregate shall be checked by a good operator with experience will be able to attain the correct temperature. It is important that the stone is heated throughout.
8. Heated binder ($200 \pm 20^{\circ}\text{C}$) is added to the aggregate in the approximate proportions of the mixing guide below and when the mix is homogeneous, the material is poured into the trench and raked level. Further binder is then slowly poured into the trench, fully saturating the matrix. Air will continue to escape from the matrix and the correct appearance will be with the aggregate partially raised above the binder level. It is important that this flooding is carried out before the joint appreciably cools, without flooding other parts of the open trench.

A typical mixing guide is shown below when using a mini-mixer, modified to withstand high temperatures :-

	AGGREGATE	HEAT BINDER
First Layer	60Kg	25Kg
Second Layer	60Kg	25Kg
Final Layer	50Kg	10Kg

The above guide is suitable for joint depth at 100mm and above installed in three layers. For joint depth below 100mm, only first layer and final layer is necessary.

The above is an approximate guide, which may be adjusted accordingly. Too much binder to the mix initially may cause segregation in the trench and lead to an undesirably “soft” joint. The desired volume ratio of aggregate and binder is typically $75 \pm 5\%$ Aggregate : $25 \pm 5\%$ Binder.

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9. The temperature of the binder is checked at regular intervals using the probe thermometer.

10. The second layer of joint construction may proceed in a similar manner to the first, as soon as the lower layer has been fully saturated with binder.

11. The final layer is constructed by adding binder to the heated aggregate as indicated in the mixing guide above. The aggregate is brought approximately 5mm above the road surface and compacted to surface level using a vibrating plate before the layer is flooded.

12. The first application of binder to the compacted layer should be screed flush with the top of the joint, masking into the carriageway each side of the saw cut to provide an aesthetically pleasing finish.

13. The joint is allowed to cool to ambient temperature and may be trafficked in 1 – 2 hours.

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