

## Roadmender Elastomac: Installation Method Statement - Code of Practice

*For a more elaborate list of DOs and DON'Ts with a detailed Q&A, please refer the Elastomac Mastic Training presentation on the Technical page of our website: [roadmenderasphalt.com](http://roadmenderasphalt.com)*

### PRODUCT APPLICATIONS

Shallow surface defects repairs, potholes repairs, surfacing repairs around ironworks, footway surface course, utility reinstatements, airfield repairs, patching, local repairs, in laid crack repairs and any other similar use including narrow trenches.

- MCHW SHW Volume 1 Clause 946, amendment July 2019
- Department for Transport – New Roads and Street Works Act 1991 Specification for the Reinstatement of Openings in Highways (SROH) Fourth Edition 2020
- RSTA ADEPT HE Code of Practice for Ironwork Systems Installation and Refurbishment, May 2017

### 4mm and 6mm Mastic Preparation and Use

- The operator should be familiar with pre-heating the drum of the mixer to warm the equipment if starting from cold and should use equipment as per manufacturers' guidelines.
- After pre-heating the mixer, add the required number of 20kg bags of Mastic, pouring the contents into the mastic mixer.
- Mix the material initially up to a maximum of 170°C and then continue to mix thoroughly for ½ to ¾ hour to ensure the mastic is fully liquid and homogenous.
- Next increase the temperature and bring the material up to a maximum 195°C ready for discharge and laying.
- Regularly crosscheck accuracy of machine temperature gauges by using a laser temperature gun aimed at material as it is discharged from the mixer hatch.
- The installation should not be trafficked until the newly laid material has reached ambient temperature to ensure product is set sufficiently to accept vehicle loading.
- Cooling time is approximately 1 minute per mm depth.

### Health, Safety and Environmental

- Please ensure that appropriate PPE is used when preparing, mixing and applying products.
- Always wash your hands before consuming food and make sure that materials are kept safely out of reach of children and animals.
- Please dispose of packaging and waste responsibly and in accordance with local authority requirements. A full material datasheet relating to this product is available from Roadmender Asphalt.
- Please ensure Hot Works warning signs are displayed when the boiler is in use.

## Quality Assurance

- All products are manufactured in a plant whose quality management system is certified/ registered as being in conformity with BS EN ISO 9001:2015.

## Technical

- Hot applied, polymer modified mastic asphalt.
- Unit Size: 20kg bag. 50 units /pallet (1000kg)
- Appearance as supplied: Dry, pourable granular aggregate & rubber bitumen pellet mix.
- Appearance in use: Black, molten, free flowing, granular, hot mastic.
- Application Temp: 185°C to 195°C.

## Preparation

- The pavements surfaces are to be reasonably clean and dry, loose material and standing water is best removed with a heated air lance or similar. Please make sure cones and signs are set out to ensure that members of the public are kept at a safe distance whilst the heated air lance is in use.

## Material

- The 20kg bags of granular 4mm mastic or 6mm mastic are poured into the pre-heated mastic mixer and brought to a temperature of no more than 195°C and mixed for a further 30 minutes to ensure the mixture is fully homogenous.
- At this stage the mastic will be fully fluid and ready to be discharged into wooden / metal mastic buckets or metal wheelbarrows.



## Installation Method Statement - Code of Practice

- Installation shall only be carried out in dry conditions, at ambient temperatures above -5°C.
- The pavements surfaces are to be reasonably clean and dry, loose material and standing water is best removed with a heated air lance or similar. Please make sure cones and signs are set out to ensure that members of the public are kept at a safe distance whilst the heated air lance is in use.
- Any large loose material is to be removed by hand.
- Roadmender Elastomac is a patching material designed to deliver fast, cost effective and sustainable patching solutions for patches ranging from 100mm to 3 metres wide. It is not designed for full width resurfacing of roads or footways where it may not be possible to maintain the camber designed and engineered into the road or footway.

## Alligator cracking

- The pavements surfaces are to be reasonably clean and dry, loose material and standing water is best removed with a heated air lance or similar. Please make sure cones and signs are set out to ensure that members of the public are kept at a safe distance whilst the heated air lance is in use.
- Any large loose material is to be removed by hand.
- For sections of cracking greater than 10mm depth the repair is to be built up in layers.
- A thin layer of mastic is to be placed over the failing area of the defect this is then chipped with bitumen coated aggregate.
- Rate of spread 8-12kg per m<sup>2</sup>
- Continue to build up layers allowing 2-3 minutes between each layer for the material to solidify until you are approximately 1mm below the required finished surface level.
- The surface layer should then be laid through a heated shoe to a maximum depth of 7mm.
- The material should be chipped to meet local skid resistance requirements with either 1mm-3mm high PSV granite or calcined bauxite. For optimum performance please ensure the chipping aggregate is kept dry.

## Surface defects and Potholes

- The pavements surfaces are to be reasonably clean and dry, loose material and standing water is best removed with a heated air lance or similar. Please make sure cones and signs are set out to ensure that members of the public are kept at a safe distance whilst the heated air lance is in use.
- Any large loose material is to be removed by hand.
- For defects greater than 10mm in depth, the repair is to be built up in layers.
- A thin layer of mastic is to be placed over the failing area of the defect this is then chipped with bitumen coated aggregate.
- Rate of spread 8-12kg per m<sup>2</sup>.
- Continue to build up layers allowing 2-3 minutes between each layer for the material to solidify until you are approximately 1mm below the required finished surface level.
- Patches may also be based up using conventional 6 or 10mm hot mix asphalt which is cheaper and faster than basing with mastic as you don't have to wait for the mastic to go off.
- The surface layer should then be laid through a heated shoe to a maximum depth of 7mm.

- The material should be chipped to meet local skid resistance requirements with either 1mm-3mm high PSV granite or calcined bauxite. For optimum performance please ensure the chipping aggregate is kept dry.

## **Kerb channels**

- The kerb channel is to be reasonably clean and dry, loose material may need to be raked out with handheld tools before a heated air lance is used to remove small loose debris and any water. Please make sure cones and signs are set out to ensure that members of the public are kept at a safe distance whilst the heated air lance is in use.
- Any large loose material is to be removed by hand.
- For defects greater than 10mm in depth, the repair is to be built up in layers.
- A thin layer of mastic is to be placed over the failing area of the defect this is then chipped with bitumen coated aggregate.
- Rate of spread 8-12kg per m<sup>2</sup>.
- Continue to build up layers allowing 2-3 minutes between each layer for the material to solidify until you are approximately 1mm below the required finished surface level.
- Patches may also be based up using conventional 6 or 10mm hot mix asphalt which is cheaper and faster than basing with mastic as you don't have to wait for the mastic to go off.
- The surface layer should then be laid through a heated shoe to a maximum depth of 7mm.
- The material should be chipped to meet local skid resistance requirements with either 1mm-3mm high PSV granite or calcined bauxite. For optimum performance please ensure the chipping aggregate is kept dry.

## **Joints transverse and longitudinal**

- The joints are to be reasonably clean and dry, loose material may need to be raked out with handheld tools before a heated air lance is used to remove small loose debris and any water. Please make sure cones and signs are set out to ensure that members of the public are kept at a safe distance whilst the heated air lance is in use.
- Any large loose material is to be removed by hand.
- Joints 40mm wide or less can be fill and finished by applying the material through a heated drag box
- For joints wider than 40mm, a thin layer of mastic is to be placed over the failing area of the defect this is then chipped with bitumen coated aggregate.
- Rate of spread 8-12kg per m<sup>2</sup>.
- Continue to build up layers allowing 2-3 minutes between each layer for the material to solidify until you are approximately 1mm below the required finished surface level.
- Patches may also be based up using conventional 6 or 10mm hot mix asphalt which is cheaper and faster than basing with mastic as you don't have to wait for the mastic to go off.
- The surface layer should then be laid through a heated shoe to a maximum depth of 7mm.
- The material should be chipped to meet local skid resistance requirements with either 1mm-3mm high PSV granite or calcined bauxite. For optimum performance please ensure the chipping aggregate is kept dry.



## Trench repairs

Utility and highway trenches with edge fretting, edge depression and minor settlement.

- The trench and immediate surrounding area are to be reasonably clean and dry loose material and standing water is best removed with a heated air lance or similar. Please make sure cones and signs are set out to ensure that members of the public are kept at a safe distance whilst the heated air lance is in use.
- Particular attention is to be paid to the interface between the trench and the exiting pavement.
- For areas of the defect greater than 10mm depth the repair is to be built up in layers.
- A thin layer of mastic is to be placed over the failing area of the defect this is then chipped with bitumen coated aggregate.
- Rate of spread 8-12kg per m<sup>2</sup>.
- Continue to build up layers allowing 2-3 minutes between each layer for the material to solidify until you are approximately 1mm below the required finished surface level.
- The surface layer should then be laid through a heated shoe to a maximum depth of 7mm.
- The material should be chipped to meet local skid resistance requirements with either 1mm-3mm high PSV granite or calcined bauxite. For optimum performance please ensure the chipping aggregate is kept dry.



**DETAILED GUIDELINES (DOs and DON'Ts)**

1. While Elastomac can be laid over the top of repairs previously carried out using permanent cold lay materials, you cannot use cold lay to base out the patches at the same time as installing the mastic, as the mastic will melt the fresh cold lay and take a long time to go off.
2. Always install the material across the patch sideways rather than along the patch lengthways - choosing the shortest distance keeping a hot edge perpendicular to the edge of the patch. This avoids installing hot mastic against cold mastic which would leave uneven lines and notches in the finished repair.
3. Ideally, the operatives should empty the bags of calcined bauxite into a wheelbarrow or bucket to be placed at the side of the repair. This makes it easier for the operatives to apply a uniform chipping coverage without fumbling around with bags.
4. Always ensure there is an empty bucket to the side of each patch for the tape to go into. This will stop wet mastic dripping onto the road as the tape is being peeled up.
5. When peeling tape up that is bordering a patch, please make sure to always PULL the tape directly away from the patch to ensure you get a nice crisp clean edge on the patch.
6. **Chipping:** When applying calcined bauxite to the surface layer, operatives should aim to apply a uniform spread of chips across the entire patch.
7. The sooner the chips can be sprinkled across the freshly shoe'd mastic the better, as the hotter it is the better they will bed into the material.
8. While there is no limit to the length of a patch, it is recommended the operatives restrict each drag to no more than 2 metres wide. If the defect is wider than 2 metres, simply place some masking tape along the inside edge of the freshly laid patch 5mm back from the edge and proceed to lay an additional patch alongside the original drag. The thermoplastic material will weld together to create a joint-free repair once the tape is removed.
9. While patches take on average 1mm per minute to cure, they can be driven over far sooner than they can be parked on. You should be able to drive over a patch within 8 minutes of completion. However, during summer months it may take slightly longer before you can park on a freshly laid patch. In some instances, it is impossible to stop cars driving over or parking on a freshly laid patch which will ultimately leave a tyre print in the patch. If this does happen, the mastic is very forgiving – simply warm it up with a gas lance, roll out the tyre print and re-chip the area prior to leaving site.
10. When applying the mastic, operatives should take care not to step on the fresh mastic as it is being applied, as this would leave a footprint in the repair similar to a car parking on a patch prior to it going off.
11. When selecting precoated chipping materials always use chips with a 65+ PSV and a low aggregate abrasion value (AAV) as the more cubical the chippings are, the better they will embed into the mastic.
12. **NOTE:** a crack or joint sealing shoe is different to the shoes we use for patch repairs. The patch repair shoes have no grind and can be used to rough up the material as it is being installed. The



crack & joint repair shoes typically have a 6mm grind on the back edge. This is so the shoe can be used to drag the material in a single direction like a paver. If you use a crack & joint shoe on a patch that is wider than the width of the shoe, the grind will create lines in the patch. Hence why the patching shoes do not have a grind.

13. **NEVER LEAVE A MASTIC MIXER UNATTENDED.** If you can smell bitumen, you will be burning the material above 200°C. This will prematurely age and damage the material.
14. **DO NOT** cook the Elastomac for more than 7 hours. If you are only going to do say 60m<sup>2</sup> in a day, which would require 12 tonnes of material - Ideally you would start the day by cooking 600kg of material and then adding the additional 400kg throughout the day to keep the material fresh. Obviously, if you are going out to do one single patch of 60m<sup>2</sup> then this will take less than 2 hours so you can fill the boiler completely before leaving the yard. The idea here is you don't want one load of material sitting in the boiler for more than 7 hours.
15. If you can't lay the Elastomac thinner than 7mm through a heated shoe, it is probably not hot enough.
16. If you burn the material above 200°C, this will carbonize the material and may jam the boiler or dislodge and contaminate the mix.
17. Never stand directly in front of the mastic boiler - always stand to the side.

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