

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 Training presentation on the Technical page of our website: roadmenderasphalt.com

PRODUCT APPLICATIONS

Shallow surface defect repairs, pothole 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 2021
- 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

Elastomac 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 operate the equipment as per manufacturers' guidelines.
- Heat and run the machine for 10-15 minutes before loading.
- Always make sure that the paddles are turning.
- Load an initial 5 Elastomac bags (100kg) into the mixer one at a time (Open the loading lid and add ONE 20kg bag of Elastomac then close the lid. Wait a few seconds to allow the paddles to break up the bag. Repeat process with the other 4 bags).
- Allow the material to reach at least 170°C before adding any more, this helps the bagged material to melt quicker.
- Load additional material in 3 x bag (60kg) batches ONE bag at a time and allow material to melt before adding more.
- Next increase the temperature to the target temperature of between 195°C and 200°C ready for discharge and laying. (Product not to be heated past 200°C as this will burn the material, cause degradation of the product and emit irritant vapours and fumes)
- Once the machine is full allow it to heat up and mix thoroughly while taking temperature readings with a handheld infrared thermometer from the discharging material (into bucket or chute). Machine temperature gauges/thermostats are a guide only.
- Curing varies with conditions. Below 20°C, allow approximately 1 minute per mm thickness before opening to traffic. Ensure the material is sufficiently cool to accept vehicle loading; allow additional cooling where parked/static loads are expected
- Cooling time is approximately 1 minute per mm depth.
- Do not leave heated material inside the boiler for more than 8 hours.

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: 195°C to 200°C.

Preparation

- The pavement 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 low melt bags of granular mastic are placed into the pre-heated mastic mixer and brought to a temperature of between 195°C and 200°C.
- 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 when the road surface temperature is between -5°C and 45 °C. Where road surface temperature is expected to exceed 45°C, plan work for night or very early morning
- For concrete roads – do not lay when the road surface temperature below 6 °C
- The pavement 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 pavement 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 6mm precoated chippings.
- Rate of spread minimum 4kg per m²
- 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 at a nominal 6mm thickness not exceeding 7mm.
- The material should be chipped to meet local skid resistance requirements with 6mm precoated chippings. For optimum performance please ensure the chipping aggregate is kept dry.

Surface defects and Potholes

- The pavement 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 6mm precoated chippings.
- Rate of spread minimum 4kg per m²
- 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 paving grade 6mm or 10mm hot mix asphalt with a 50-pen binder 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 at a nominal 6mm thickness not exceeding 7mm.
- The material should be chipped to meet local skid resistance requirements with 6mm precoated chippings. 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 6mm precoated chippings.
- Rate of spread minimum 4kg per m²
- 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 paving grade 6mm or 10mm hot mix asphalt with a 50-pen binder 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 at a nominal 6mm thickness not exceeding 7mm.
- The material should be chipped to meet local skid resistance requirements with 6mm precoated chippings. For optimum performance please ensure the chipping aggregate is kept dry.

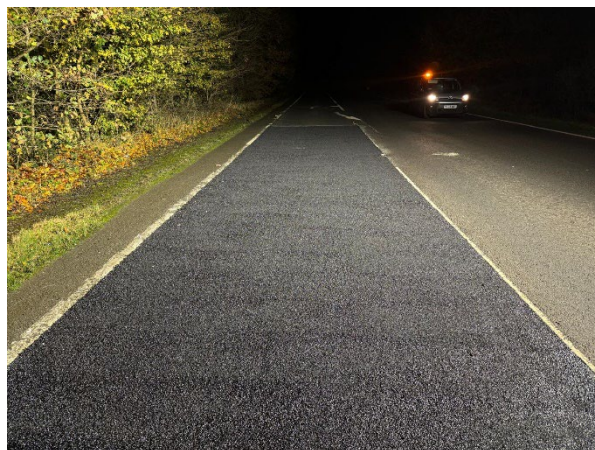
Joints transverse and longitudinal

- 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 filled 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 6mm precoated chippings.
- Rate of spread minimum 4kg per m²
- 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 paving grade 6mm or 10mm hot mix asphalt with a 50-pen binder 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 at a nominal 6mm thickness not exceeding 7mm.
- The material should be chipped to meet local skid resistance requirements with 6mm precoated chippings. 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 existing 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 6mm precoated chippings.
- Rate of spread minimum 4kg per m²
- 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 at a nominal 6mm thickness not exceeding 7mm.
- The material should be chipped to meet local skid resistance requirements with 6mm precoated chippings. For optimum performance please ensure the chipping aggregate is kept dry.



DETAILED GUIDELINES (DOs and DON'Ts)

1. When basing up the defect with Asphalt - ALWAYS use paving grade Asphalt (with a 50-pen binder). Never base patches with cold lay asphalt or soft 125 pen hand lay 6mm asphalt as they will go soft when sealed under the Elastomac. This will stop the patch from going off, cause the chippings to sink into the patch and ultimately the patch will rut when opened to traffic.
2. If basing with Elastomac and 20mm or 10mm precoated chippings, tack coat is not required.
3. 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.
4. Ideally, the operatives should empty the bags of 6mm precoated chippings into a gorilla tub / plastic rubble 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.
5. 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.
6. 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.
7. **Chipping:** When applying 6mm precoated chippings to the surface layer the rate of spread is minimum 4kg per m²

The sooner the chips can be sprinkled across the freshly shoed 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. In hot weather, make sure to carry 25L bowsers of water to get the temperature down before opening the repair to traffic. Once a patch is below 70°C, you can cover it with water (don't add water to patches while over 70°C as this could flash cool or strip the material).
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 8 hours. If you are only going to do say 60m² in a day, which would require 1 tonne 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 60m² 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 8 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.
18. **NOTE:** When outdoor temperatures are below 20°C, the Elastomac should cure at roughly 1mm per minute before you can open a patch to traffic. In hot weather we would suggest you take 4 x 25L bowsers full of cold water to help cool down the patches. Once a patch is below 70°C you can cover it with water (don't add water to patches while over 70°C as this could flash cool or strip the material.)

This should then be swept off and repeated till the patch is cold enough to open to traffic. Note- you can drive over patches sooner than you can park on them. If you know a fresh laid patch is going to be parked on soon after it is completed, please leave it a little longer before opening to traffic.

Ensure the TM operatives are made aware of and understand this.

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