

Slating & Tiling

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the use of mastic with a slate roof

The supply and use of mastic is one of the great growth sectors of the pitched roofing industry. There are so many manufacturers selling a wide range of tube and bead mastics and sealants, there must be a lot of money to be made. But which should be used with slates, and where, and why?

Perhaps the safest answer is that a good roof should be constructed using no mastics at all. We managed to construct roofs perfectly well before they were introduced, so why are they used?

Convenience is the answer. There is nothing that so universally fixes anything that is broken than mastic. But is that a good thing? Like anything that is good, it can be abused and used for the wrong purpose.

Natural slate

If I look at a slate roof and see slate that is out of alignment, or has a nail pushed in under the leading edge, it is almost certain that that slate is held in with some form of mastic. If you need to replace a slate in a roof, it can be a big job to strip down from the ridge and replace the slate properly.

Copper tingles will allow a temporary repair of an isolated slate but are clearly visible from the ground; a thing no roofer wishes to admit to with a new roof.

Remedial repair clips, like Owen's Jenny Twins, are effective and hidden, but not easy to obtain at short notice, and require some practise to install correctly. So mastic it is!

Unfortunately, with natural slates there is one big problem with any form of mastic: regardless of how well the mastic or sealant sticks and bonds to slate, being a laminar stone, slate is made up of layers of sediment bonded together by heat and pressure; this is what makes it possible to split it into thin sections. But, unfortunately, the mastic is only bonding with the outer-most layer of the material, and if you pull on the bond, the

outer layer of the slates pulls away, leaving the mastic with a thin sliver of slate on the surface.

Fibre cement slate

But, I hear you say, what about fibre cement slates and resin slates that are not laminar stone? The act of applying the mastic to the surface of either the front or back of a double-lap fibre cement slate is likely to alter the capillary line of water sucked up between the slates when it rains.

Having a surface that a meniscus of water can adhere to, it will creep further under the slate than normal. The common s-shaped squiggle or central blob of mastic gives the water a route to reach the nail holes, or the top of the headlap, where it drains down the nail holes or over the headlap onto the underlay, and worse still, can be trapped in a pocket and freeze, blowing the two slates apart.

Single lap resin slate

With single-lap resin slates, one manufacturer sells a repair kit that uses PIB (polybutyleisolene) bead strips (which is the material that car windscreens are glued in with) to glue the new tile back into position.

What makes this work is that resin is a known quantity once the surface silicone release agent has been cleaned off, and the instructions that come with the material point to where the material should be adhered to allow the slates to keep water out at all times. If used incorrectly, the water-shedding properties are affected.

Site conditions

Many mastic materials work perfectly well between certain temperatures, levels of humidity, onto clean dust and oil-free surfaces. But, unfortunately, building sites and roofs are not ideal places to apply some materials. Invariably it will be raining, or has just stopped raining; the temperature of the roof will be ice cold or hot enough to fry an egg; and the slates covered with dust,



dirt, diesel fumes and hand prints: not an ideal environment to apply any mastic.

Life expectancy

Regardless of the type of mastic/sealant, be it silicone, polysulphide, synthetic resin, polybutyleisolene, or any other material, its life expectancy will never be as good as the slates or lead flashings that they are trying to adhere to.

Also, the bond strength of the material may be excellent when it is first applied, but after a few years it will begin to lose its properties and shrink, crack, discolour, harden and weaken; but not all at the same time. Some materials will do these things quicker than others, and generally, the more expensive the material, the longer it will last; but nothing lasts for ever.

Noise

There are some very good reasons to use mastic on a slate roof. The first is where some of the slates are a little gappy and rattle in the wind. By placing a small dab of clear silicone mastic under the two outside corners of the slate, it acts as a shock absorber and stops the slate rattling.

Flashings

The second situation is the fixing of lead flashings into a brick joint. Lead expands and contracts more than most materials and can cause mortar pointing to break up.

The use of the lead pointing sealant will cope with the situa-

tion far better than mortar. But the material is not designed to glue lead flashings to slates in place of lead clips. It is not designed to fill splits in lead both old and new, and it is not designed to repair broken slates.

Water seal

The third situation is where an end ridge tile is screw-fixed to the roof structure and the screw and screw-hole need protecting. Filling the nail hole with silicone mastic and covering the screw head to form a water proof dome is acceptable, provided you do not want to dismantle it in the near future.

In conclusion

Like all good things, mastic and sealants should be used sparingly, at the right time, and in the right place, and they will enhance a good slate roof; but if not used correctly, can spoil a perfectly good roof.

Tips

- Think twice before using any form of mastic.
- Read the instructions and conditions of use data sheet before using the material, to ensure that it applies to your situation. If it is not listed, do not assume it will work because it is not listed as not working.
- Never use mastic to glue natural slates together.
- Never use mastic in very hot or very cold temperatures. ■

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