

Temporary White Lining

Background:

The M6 J16-19 SMP requires all current surface course to be replaced to a depth of 35mm -50mm. The work generates the need to put down temporary white lining when laying the new surface course, which when removed can cause surface damage. Also, there can be customer complaints regarding the state of temporary road markings through Smart Motorways roadworks due to ghosting caused when blacking out and removal of existing white lines

Original Method

Traditionally lines are blacked out with an anti-skid paint. Over time the skid resistance wears off and the black lines are visible and confusing to the road user (Fig 1), particularly in low level sunlight or wet conditions.

Fig 1



Where the permanent lines are removed by hydro blasting the surface course and surface joints are damaged creating substantial potholes and stripping of the joints. This incurs substantial costs (currently a typical scheme spends in excess of £450k over a 12-month period for intervention) in monitoring and repairs of potholes and joints damaged by the removal process. Additionally, continually topping up/overlaying of the black paint on the existing lines causes issues with the depth of the line, potentially becoming too thick and causing water to hold on the carriageway.

Alternatively, reflective studs can be used and they are stuck down with hot bitumen. The bitumen is extremely difficult to remove and leaves marks on the carriageway and can confuse the travelling customer with a ghosting effect in addition to it looking unsightly. This is also a costly manual exercise carried out under lane closures.

Currently SMP spend in excess of £4 million per year correcting damage left by temporary thermoplastic markings.

Solution

QMS HyperLine was the chosen product which is a combination of a cold, spray applied Waterborne Acrylic Resin and two sizes of Recycled Glass Beads, producing a road marking that is environmentally sustainable with high levels of performance and productivity. The process was first used on the project in Feb 2018.

Initial trials conducted in the compound (Figs2proved successful with the white lines being removed after 3 weeks by using a high-pressure wash which caused no damage to the newly laid blacktop.

Following this trial in the compound, the Hyperline has been used extensively on the project (Fig 3) to provide a clear decisive lane marking for the travelling public, which in turn can be readily removed without leaving the legacy ghosting that has previously been the case.

Fig 2



Fig 3



Results and Learning

- Improved experience for the customer - Improved reflectivity, Fig 4 shows the markings on the M6 at night
- Less environmental impact as the product is solvent free with zero VOC's
- Reduces future maintenance or potentially further significant surfacing costs

Fig 4



Other project benefit:

- Resurfacing works can be carried out earlier than planned providing a improved surface for the travelling public
- Savings generated by not having to repair joints and potholes during the works