

ULTILAYER

Proven performance

THE CHALLENGE

The existing HRA surface on this busy arterial route to the north of Leeds city centre was in poor condition due to constant heavy trafficking by large volumes of cars, HGVs and buses. A new durable long lasting surface was required that could be installed quickly with minimum road closures and also avoid future maintenance interventions on this critical route.

Work would need to be completed between 8pm and 6am with the road fully reopened to traffic each day. Paving would be challenging due to merging traffic lanes and a kerbed cycle lane, which varied the lane width and rip patterns. Initially the client considered like for like replacement with hot rolled asphalt and pre coated chippings but there were concerns about long programme times and the

practicalities of installing HRA on this site.

There were also issues with rip patterns caused by the number of lane gains/losses, 3 rips into 6 and installation of an intermittent kerbed cycle lane which changed width of lane 1 by 2m. If the HRA +PCC's option was selected there would have been issues with frequent pick ups, narrow rips to lay and joints to cut.

Installing ULTILAYER ensured rip patterns were varied and widths easier to achieve and provided the ability to 'hot match' where required.

OUR SOLUTION

ULTILAYER was proposed as an alternative to HRA 35/14. ULTILAYER contains a high performance Polymer Modified Binder (PMB) and is designed as an ultrahigh-performance asphalt, proven to deliver

long term durability on highly trafficked roads.

It is easy to compact and can be laid in varying depths, helping the contracting team to accommodate the varying lane widths and challenging jointing requirements.

The existing HRA material was planed out and 1083 tonnes of ULTILAYER S 10 65 PSV was installed at a depth of 45mm, supplied from our Cross Green plant on the outskirts of Leeds City centre.

Work was completed over five night-shifts, a saving of three shifts from using HRA, with the texture depths achieved of 1.2-1.3mm providing a dense durable surface finish.



RESULTS AND BENEFITS

The client was impressed with the speed of installation which minimised disruption to road users and the quality of the finish. Carbon footprint calculations confirmed a 12% reduction from using ULTILAYER rather than HRA. There is also a potential to achieve higher savings in carbon

emissions (potentially up to 19%) by using warm mix ULTILAYER. The negative surface texture of ULTILAYER also delivered a significant noise reduction from the new surface.

Due to the proven durability and crack resistance of ULTILAYER on other busy bus routes, the client

is confident that the new surface will provide a long service life and help to reduce the need for future maintenance, thereby saving time and budget.

Since this initial supply ULTILAYER has now been used on a number of other Leeds City Council schemes.

Tarmac undertook carriageway resurfacing work at Clay Pit Lane Sheepscar junction on behalf of Leeds City Council in November 2020. This is a busy multi-route junction and we needed a material that would stand up to higher traffic usage and have the longevity that we wouldn't need to treat the carriageway again for several years. Hot Rolled Asphalt was initially proposed, however, a number of potential issues arose including site layout, laying conditions and temperature. The contractor recommended their own material – Utilayer as an alternative that doesn't require the additional handling process making installation quicker and easier to control – it seemed like a sensible decision to use Utilayer at this location. No issues arose during the resurfacing process and the finished product looks great. We're very satisfied with the outcome of this project.

*James Cockburn
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