

ULTILAYER

Proven performance

MEDINA ROAD, COSHAM

The challenge

This junction on Medina Road in Cosham, Hampshire had failed in a number of places due to heavy trafficking by buses, poor substructure and cracked underlying concrete combined with poor utility repairs. This had led to repeated cycles of cracking in the surface course and patched repairs, which was a drain on maintenance budgets and disruptive to local people. The client and PFI contractor were looking for a value engineered solution that would end this cycle and deliver better whole life costs. The junction was situated close to residential and commercial areas so it was important to complete the work quickly to minimise road closures. It was decided that full depth reconstruction was not economically viable.

Our solution

After discussing the available options, Tarmac recommended 10mm ULTILAYER asphalt as a 50mm deep overlay using a 100% recycled PSV 60 steel slag aggregate. ULTILAYER contains a high performance polymer modified binder for a flexible and durable surface with proven resistance to cracking and deformation. Using ULTILAYER as an alternative to deeper reconstruction reduced the programme time by three days. It also reduced the volume of excavated material and associated lorry movements. Using a recycled slag aggregate instead of a primary aggregate also greatly improved sustainability. As planned, the previous surface was planed out and replaced with 160 tonnes of ULTILAYER. Work was completed in a single day, minimising disruption to road users.

Results and benefits

Using ULTILAYER delivered a significant reduction in the material cost and overall time spent on site. It also reduced disruption for local businesses and residents. Site operatives commented on the handling and workability of the material. This scheme was the first in the district to use 100% recycled steel slag aggregates. The contract manager gave a full endorsement of the future use of steel slag aggregates on this contract: "The continued focus on providing sustainable solutions for the local environment makes the use of steel slag as a carbon reducing aggregate a useful addition to the options Tarmac have provided. This material ticks all the boxes and we are delighted to be the first to utilise this in the South" Steve Hill, Contracts Manager, Colas.