

The surface dressing process

Transcript

Surface dressing is a simple and highly cost-effective method of repairing the road surface, which can prevent much more expensive work being needed later. It allows Cumbria Highways to maintain a high quality road network on a limited budget.

Surface dressing involves spraying the road surface with a coating of hot liquid bitumen, known as a binder. The coating is then covered with clean crushed stone chippings, which are rolled into the bitumen to form a water-resistant, protective layer, which improves skid resistance.

Surface dressing can only be done in the summer, when the weather is warm and dry, because the bitumen will not stick to the road in cold or wet conditions.

Our roads have regular assessments to record their condition. Mechanical and manual surveys measure skid resistance, cracking and deformation. When roads begin to wear, or when skid resistance drops or small cracks appear, surface dressing can be used to significantly extend their life. It costs just a fifth of the price of resurfacing, so 200 miles of roads can be surface dressed for the cost of resurfacing 40 miles.

Before surface dressing can begin each year, Cumbria Highways carries out pre-season patching to remove potholes and serious cracking. Most of this is done during the autumn of the year before dressing is due.

When the weather is right, the roads are mechanically swept to remove any dust or materials which might stop the binder from sticking to the surface. Once appropriate traffic management signs like loose chippings and speed limits are in place, a spray tanker applies the hot liquid bitumen with a controlled rate of spread. This emulsion seals the surface and provides an adhesive base for the stone chippings. The chipping spreader then applies clean, crushed rock chippings to the bitumen binder to form a thin surface coating which gives good skid resistance. More chippings than are actually needed are applied to ensure that the entire road is properly covered. Rubber-tyred rollers then embed the chippings into the binder and begin the process of compacting the surface dressing. The job of compacting the dressing is actually finished by the traffic using the road.

When the bitumen is set, the newly dressed bed is mechanical swept to remove loose chippings and minimise vehicle damage caused by flying stone. The road is swept again around 2 weeks later but in between the first and final sweep, road signs warn drivers to stick to 20mph to stop loose chippings

damaging paintwork and windscreens. Finally, road markings are reapplied and the road surface is fit for the next 15 years.