



Surmac[®] Eco



Surmac[®] Eco a modified hot-applied flux-free surface dressing bitumen

Surmac[®] Eco is a new-generation of modified hot-applied binder for surface treatment of asphalt roads. The polymer modified binder does not contain any volatile solvents and the required level of strength and toughness is attained immediately after it is applied to the road. The resulting surface treatment will last longer, as Surmac[®] Eco demonstrates an excellent long term performance.

A perfect binder for Surface dressing

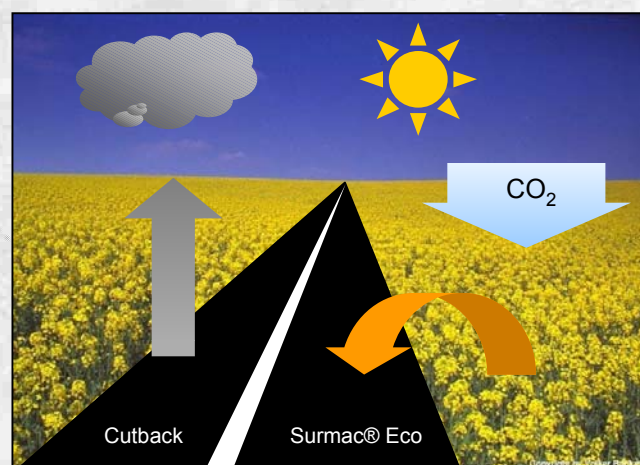
Latexfalt bv has enjoyed its excellent reputation in the Benelux countries for many years in the area of polymer modified binders for surface dressing applications. These products have been developed and improved by removing the solvents that can cause harm to people and the environment. This has been achieved while maintaining a superior quality and ease of application. Surmac[®] Eco: 'A new generation of modified hot binders for Surface dressing, an excellent start to pave the road for the future'.

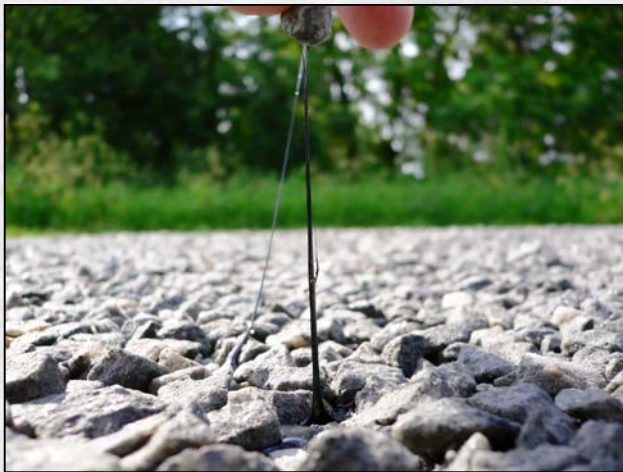
Properties of Surmac[®] Eco

Climate conditions and traffic intensity largely determine the properties required for a binder for surface dressing. For example, hot summers may be followed by cold, wet winters. Moreover, the surface dressing should be able to sustain sudden rain fall, large temperature variations and traffic loads right after the surface treatment has been applied. Due to the use of selected additives and highly elastic non-aromatic polymers, which are compatibilised with bitumen, Surmac[®] Eco demonstrates a robust and good long-term performance under relatively extreme temperature and loading conditions.

Health and the environment

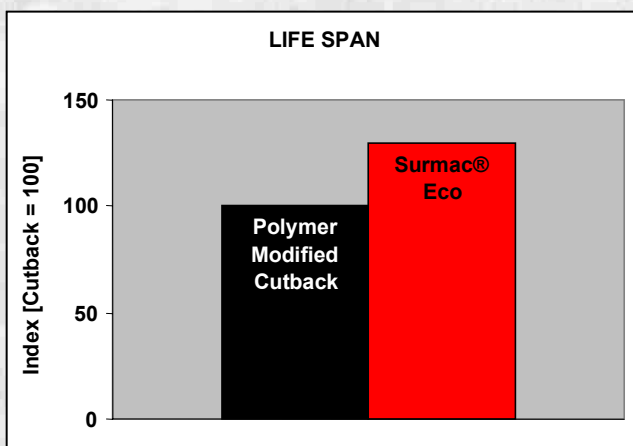
In contrast to formerly used polymer modified cutback binders, the Surmac[®] Eco does not contain any volatile solvents. The desired viscosity is controlled by the use of a vegetable oil. The environmental effect is threefold as there is 1) no evaporation of volatile organic solvents, 2) the plants producing the vegetable oil bond carbon monoxide from the air and 3) a renewable feedstock is used. Furthermore, the system is non-hazardous for road workers as the flash point of the oil is far higher than the actual spraying temperature.





Life span and cost-effectiveness

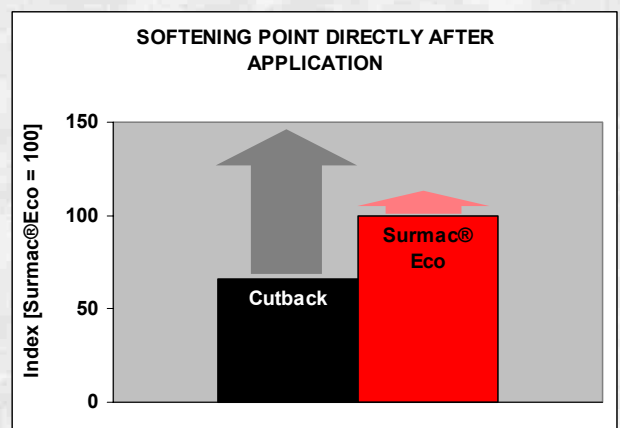
Based on accelerated ageing tests, an increased life span of the surface dressing is predicted. Normally, the life span of a surface treatment with Surmac® Eco is increased with 20 – 50 % compared to alternative binders. Therefore, this maintenance system can certainly be considered as a durable, sustainable and cost-effective way to prolong the life time of a road.



Resistance to softening in hot summer weather

Generally, bituminous products become soft at elevated temperatures. In extreme cases, in heavy or dense traffic, this may result in the surface treatment becoming fatty and black. Therefore, improved resistance to softening is an advantage.

Surmac® Eco has a high softening point and a high degree of toughness. Other Bio-products require some time after application to achieve final strength. Surmac® Eco reaches this stage already shortly after it is applied to the road. In practice, this means that any excess chippings can be removed with a vacuum sweeper truck shortly after application and subsequently the road can directly be opened for traffic. The almost instant hardening of Surmac® Eco limits the risk of damage due to abnormal traffic loads shortly after application.



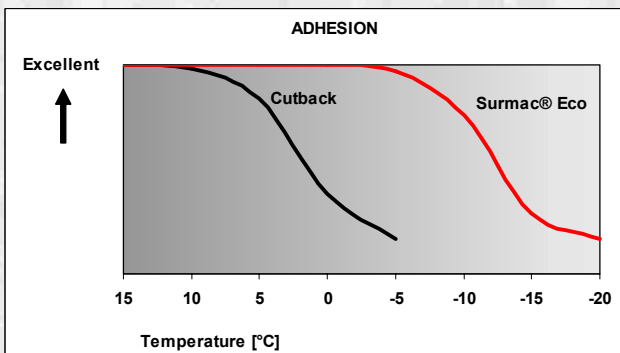
[softening point of a Cutback will increase slowly due to evaporation of the flux]



Surmac® Eco

No chippings released in cold winter weather

At low temperatures bitumen products become hard, even brittle. In wintertime for example, the bond between chippings which are not sufficiently embedded and the bitumen layer could fail. This will result in stone loss. Surmac® Eco is designed in such a way that the bitumen layer remains flexible and tough even under relatively cold conditions.



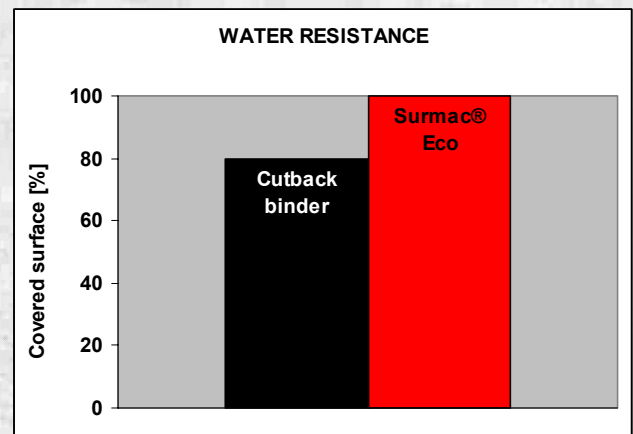
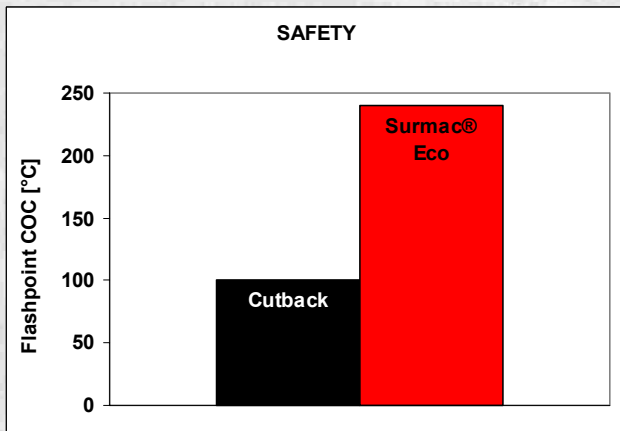
Rain resistance

Regular fluxed bituminous emulsions and cutbacks are sensitive for rain for a certain period after the treatment has been applied.

Comparative stripping tests have shown that Surmac® Eco is more resistant to water at 70 °C.

Safety

The flashpoint of Surmac® Eco is over 220 °C – which is significantly higher than the temperatures used during storage, transport or spraying. This results in less fume formation during spraying, but more importantly, safety risks for the workers are significantly reduced.





Advantages

Surmac® Eco is a unique product with many advantages:

1. No volatile components, so no solvent evaporation.
2. Environmentally friendly because the binder contains modified vegetable oil.
3. Durable and sustainable, the expected service life is improved with at least 20 %.
4. High resistance to softening at higher temperatures.
5. Excellent low temperature performance.
6. High resistance to rain shortly after application.
7. Short time to traffic.
8. Safe handling, minimum risks for the workers.
9. Reclaimed asphalt can be recycled



Properties

	Modified Cutback	Surmac® Eco
Properties at low temperatures	++	+++
Properties at high temperatures	++	+++
Adhesion	++	+++
Water resistance shortly after application	-	++
Life span	++	+++
Health & Safety	-	++
Flash point	-	++