

RHINOPHALT® TECHNICAL SPECIFICATION

DESCRIPTION

RHINOPHALT® is a penetrative preservative which is used as a surface treatment to extend the life of bituminous-bound surfaces (also known as asphalt surfaces, flexible surfaces or asphalt pavement). RHINOPHALT® is cold spray-applied to the surface where it bonds with the bitumen binder, preserving the intrinsic binding properties of cohesion and flexibility, and providing a durable seal to prevent the ingress of water. *“The deterioration of a pavement which is structurally sound can be linked to oxidation and evaporation of parts of the bituminous binder over time, its embrittlement and the subsequent ingress of moisture would accelerate that deterioration”*¹. The application of RHINOPHALT® slows down the rate of deterioration by minimising the factors which cause the oxidation and evaporation of these vital bitumen components, thus extending the life of the surface.

WHEN WOULD YOU USE RHINOPHALT®?

RHINOPHALT® is best utilised as a preventative maintenance measure as an integral part of an asset management strategy. RHINOPHALT® extends the operational life of the surface and significantly delays the large costs of resurfacing and repair works. RHINOPHALT® can be applied to a surface at any stage of its lifecycle, the maximum benefits will be achieved by treating the surface when it is still in good condition; and re-applying, on average, every 5-6 years. However, it can be used to extend the life of older pavements to allow for planned replacement or to arrest aggregate loss.

TYPICAL APPLICATIONS

The majority of bituminous surfacing including Stone Mastic Asphalt, Asphalt Concrete, Hot-Rolled Asphalt, Marshall and Porous surfacing can be treated with RHINOPHALT®. Typical sites are;

- All categories of roads and bridge decks
- Civil and Military airfields
- Car parks / Lorry parks
- Test tracks and race tracks
- Distribution centres / Loading bays

Note: RHINOPHALT® can be used on micro surfacing/surface dressing/slurry sealed surfaces subject to a Technical review.

CUSTOMER BENEFITS

- Asset life extension and reduction in whole life cost of ownership
- Increased asset availability due to quick application, reduction in reactive maintenance and fewer major works.
- Reduced CO2 emissions over asset life.

RHINOPHALT® PROPERTIES

PROPERTY	SPECIFICATION LIMITS	TEST METHOD
Viscosity – Dynamic viscosity at 60°C	Production (10 – 20) Cp	EN 15322 – Table 3
	On site (10 – 30) Cp	EN 13302
Flash Point (°C)	25 - 26 °C*	EN ISO 2719:2002
Typical Density at 20 °C	0.82 -0.86 cm ³	-
Boiling point Range (°C)	130 - 166 °C	-
Tests on Residue from Distillation		
Penetration	1 – 6 dmm	EN 1426
Softening Point	>82°C	EN 1427
Colour	Black	-
Smell	Petroleum-like	-

*Typical test results

DELIVERY

RHINOPHALT® is packaged and delivered to site in 205 litre drums, 1000 litre IBCs or bulk tanker. Note that the product is hazardous and ADR regulations will apply to the transportation of product.

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STORAGE AND SITE HANDLING INFORMATION

RHINOPHALT® can be stored at ambient temperatures, must be away from any open flame, source of heat, source of ignition and direct sunlight. The product shall need to remain intact in its original packaging unopened and undamaged. ASI must be contacted to assess product suitability if the product has been stored for more than 3 years and has not been stored according to the foregoing conditions. RHINOPHALT® has a flashpoint above 23°C and is classified as a 'flammable liquid and vapour' under *The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (CHIP4)/Classification, Labelling and Packaging of Substances and Mixtures (CLP Regulation) 2009*.

PRE-APPLICATION REQUIREMENTS

If pre-existing faults such as fretting, delamination or ravelling are present, patch repairs may be required prior to application. Open joints may be sealed prior to application, though better results are usually achieved when sealing is carried out after application. All vegetation must be removed or cut back. The area to be treated must be thoroughly swept clean by mechanical sweeper and/or using air blowers as required

APPLICATION

Typical application rates range between 0.25 to 0.6 litres per m².

LAYING INFORMATION

Application is carried out by authorised contractors, ideally with a computer controlled applicator vehicle. RHINOPHALT® can only be applied to a dry surface with a substrate temperature measured above 5°C. The surface must be free of ice, frost, snow or salt and work should not be started if rain, fog or dew is expected before the work can be completed.

CURING

RHINOPHALT® cures by a process of evaporation and chemical reaction with the bitumen binder. Initial curing time is typically 1-2 hours depending on ambient temperature and humidity and the surface can be swept, lined and re-opened to traffic as soon as the Rhinophalt has cured.

PERFORMANCE CHARACTERISTICS

Typical Performance Characteristic	Immediately Application	After	Longer Term
Texture Depth	Unaffected		Unaffected
Skid resistance	Unaffected *		Unaffected *
Surface Abrasion	Improved		Improved
Permeability of non-porous asphalt	Reduced		Reduced
Permeability of porous asphalt	Unaffected		Unaffected
Durability	Improved		Improved

* Skid resistance is restored by the action of traffic assisted by the application of an abrasive grit applied at the same time as the Rhinophalt is sprayed, or by sweeping the asphalt surface. Care should be taken to ensure that adequate grip is present in the areas to be treated prior to application in order to allow for an initial drop off whilst abrasion takes place.

CHEMICAL RESISTANCE

A RHINOPHALT® treated surface has good resistance to hydraulic fluid and antifreeze but is no more resistant to prolonged contact with petrol, diesel or oils than an existing asphalt surface.

CONTACT

ASI Solutions Limited; Telephone +44 (0)1908 246000, email: info@asisolutions.co.uk

FURTHER READING

- (1) Code of Practice for Surface Preservation System
- (2) Material Safety datasheet
- (3) RHINOPHALT® Application Manual

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