Uretech® HFS High Friction Surfacing

Uretech HFS is a high performance, cold-applied, all liquid, polyurea system specially formulated for high friction surfacing applications. Unlike many traditional systems, Uretech HFS has an award winning low carbon footprint, and a proven service life of over ten years. Uretech HFS requires no primer and when cured, has excellent adhesion to bituminous and cementitious road surfaces.

Unlike rosin ester (hot-melt), epoxy and MMA (Methyl methacrylate) systems, Uretech HFS incorporates the latest developments in polyurea technology to provide a high performance, cost effective, safe alternative with award winning green credentials. Whilst commonly used systems can deteriorate after just a few months, Uretech HFS has a proven lifespan of over 10 years.

High Friction Surfacing (Areas of application)		Application Type		
		(Junctions & Crossings) Road grade BSEN 10138 Blacktop and high quality concrete	(Long curves & bends) Road grade BSEN 10138 Blacktop and high quality concrete	(Bus & Cycle Lane) Road grade BSEN 10138 Blacktop and high quality concrete
Product Specification	Uretech HFS Standard with Buff aggregate	✓	✗	✗
	Uretech HFS Grey with grey aggregate	✗	✓	✗
	Uretech HFS Red/Green with coloured stone	✗	✗	✓
	Uretech HFS Standard with Uretech Track-Safe	✗	✗	✓

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Installation:

Uretech HFS is mixed using a drill and paddle in 20kg 'kits' then spread using a fabric roller or serrated squeegee. Stir the 'A' component for one minute to disperse any settlement, then add the other two components and continue to stir until mixed. Full mixing should take no more than an additional 60 seconds with the correct equipment. The mixed material remains in a mobile, liquid form for approximately 5-10 minutes, after which a light gel is formed (lasting approximately 15 minutes). The material then sets into a soft solid. Excess material can be removed whilst in the gel form.

The material is fit for traffic after approximately 2 hours but will increase in properties over a period of a few days. Aggregate should be broadcast onto the material in its liquid state. It is vitally important that this is carried out as soon as possible after spreading and certainly within 5 minutes. Aggregate will not adhere properly to semi-cured or cured adhesive. For Type 1 approved high friction surfaces, calcined bauxite (1-3mm) should be used. The adhesive should be applied at a rate of 1.33mm depth (1.9 kg/m²) i.e. a 20kg kit should cover 8-10m² on a good surface.

At this rate the binder should retain 6kg/m² of 3mm aggregate. Do not try to spread the material to more than 10m² per kit. Optimum wear characteristics are achieved when the aggregate particles are half-buried into the adhesive and this will not occur if there is not enough depth of adhesive.

Uretech HFS - Product specification	
Coverage rate per single 20kg kit (Est)	8m² to 10m²
Application temperature window	2°c to 35°c
Cure rate (Trafficable) @ 12.5°c	3 to 5 hours
Aggregate application per m²	8.000kg to 10.000kg
Aggregate retention per m²	5.000kg to 6.000kg
Aggregate recovery per m²	2.000kg to 4.000kg
Standard Colour	Grey/Brown
Kits can be individually coloured?	Yes (MOQ 120)
Component sizes	A:14.2kg / B:2.7kg / C:3.1kg
TRL Scuffing test	Type 1
TRL Erosion index (0 best/30 worst)	Zero
TRL Texture index (Pass >/= 1.2)	1.4
Ideal aggregate particle size	1mm to 3mm
Primer required	No
Awards	Environmental Innovation winner
Accreditations	BBA HAPAS Approved

There are four main types of high friction surfacing system and the following table lists the positives and negatives of each system type.

	Uretech HFS	Rosin Ester (Hot melt)	Bitumen Epoxy	MMA
Appearance	Uniform	Non-uniform / Ridges	Uniform	Non-uniform
Specialist Equipment	No	Yes	Yes	No
Realistic Service Life	10 years plus	1 month to 5 years	5 years plus	10 years plus
Green credentials	Environmental innovation award winner	None – Extremely high carbon footprint	None – Toxic to aquatic organisms hazard	None
Safety concerns	No specific safety concerns	Handled at temperatures exceeding 200°C	No specific safety concerns	Dangerous Substance/Explosive
Moisture tolerance	Yes	Yes	No	Yes
Application window	Year round (2°C to 35°C)	Year round (0°C to 35°C)	(April to October)	Year round (2°C to 35°C)

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