

A-GRIPTM HFS

INSTALLATION GUIDE

PRODUCT DESCRIPTION

A-GRIP HFS is a three-part, polyurea system specifically formulated for high friction surfacing applications. The three-parts are mixed together and spread over the surface to be coated. The wet film is then broadcast with aggregate and allowed to cure. Once cured, A-GRIP HFS has excellent adhesion properties to bituminous, cementitious, wood and metal surfaces, and to most aggregates including calcined bauxite and granite. A-GRIP HFS performs particularly well on concrete surfaces where, as with the other surfaces mentioned above, the use of a primer is not necessary. A-GRIP HFS will adhere to damp or uncured concrete (over 4 days old).

EQUIPMENT

You will need the following equipment to install A-GRIP HFS:

Paddle Mixer	Such as a Makita UT1400.
Roller or Squeegee	Long reach medium pile roller or 5 – 6mm serrated squeegee.
Shovel	Suitable for broadcasting the aggregate.
Tape	Scapa masking tape for edging and protecting surfaces.
PPE	Gloves, overalls and goggles.

APPLICATION

Bituminous Surfaces:

The term 'Blacktop' covers various forms of bituminous surfacing, and is classed as 'flexible pavement'. New 'Blacktop' should have a PEN number of less than 125 and should be allowed to age and oxidise for a minimum of two weeks before application of the A-GRIP HFS surfacing. 'Blacktop' is always liable to some degree of flexing and movement, which can result in visible cracks in the surfacing, and therefore precautions should be taken to minimise the movement. Be aware that 'Blacktop' is liable to movement (flow) especially where slopes are found. Proper compaction of the substrate should be ensured using BS 4987 as your reference.

The three-part kit consists of:

Part A	A 20lt plastic bucket containing a coloured blend with reactive fillers.
Part B	A 2.5lt bottle containing a cloudy water-like liquid.
Part C	A 2.5lt bottle containing a modified isocyanate with low viscosity.

Once the traffic management system is in place, use 100mm wide 'Scapa Tape' or 'Duct Tape' to mask the edges of the area to be coated, all manholes, gullies and road markings, unless they are to be replaced. You should create a suitable mixing area and protect it from splashes and spills with a plastic sheet. The A-GRIP HFS kits should be mixed individually as and when required. Mixing more than one kit and leaving them standing will result in a short pot life and the aggregate may not bond to the resin.

A low speed (300 – 500 rpm) high torque drill and paddle should be used to mix the materials. Firstly, stir part 'A' to disperse any settlement. Parts 'B' and 'C' can be emptied into the bucket, start at a low speed taking care to avoid splashing. Continue stirring the components in the bucket until homogenous, ensure that the paddle reaches the bottom

of the bucket to ensure the three parts are thoroughly mixed together. The mixing will create a vortex which parts 'B' and 'C' will disappear in to. Once parts 'B' and 'C' have disappeared mixing for a further 20 seconds should be sufficient. Speed is of the essence and time should not be wasted once mixing has started, the total mixing time for a kit should be about 60 seconds under normal conditions. It is detrimental to the performance of the system to mix it for longer as the curing reaction starts as soon as the components are mixed together. Application should begin immediately after mixing is completed. Pour the entire contents of the bucket on to the area being coated, ensuring that no material is left in the bucket. The mixed material remains in a mobile, liquid form for approximately 6-10 minutes, after which a light gel is formed. The material will remain in this state for approximately 15 minutes. The material then sets into a soft solid and any excess aggregate can be removed whilst the material is in a gel form. Mixed resin must not be left in the tub in bulk as this will severely reduce the pot life, rendering the material unusable. If there are any signs of the resin thickening up or starting to crust in the tub it is too late to attempt to apply it, the curing reaction has proceeded too far an adequate bond to be achieved. As soon as the resin has been mixed pour it out onto the road surface without delay. Spread by means of a 5-6mm serrated squeegee and a short pile fabric roller. A combination of the two, squeegee to spread the resin and roller to unify the resin layer, will give the best result. The wet edge must be maintained throughout to ensure consistency and uniformity of the treatment.

Aggregate scattering must follow on closely behind the resin application, keeping 1m back from the wet edge of the resin. Enough aggregate should be used to completely obliterate (blind) the wet resin and it will take a minimum application rate of 10Kg/m² to achieve this. 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, a 1mm to 3mm calcined bauxite should be used. The area can be trafficked at this point by the operatives and vehicles moving slowly and in a straight line, turning vehicles will scuff the uncured resin.

Remove the masking tape within 20 minutes of spreading the adhesive. The time taken for the resin to cure will depend on the temperature. At 25°C a cure will be achieved in approximately 1 hour. At 5°C the cure time will be approximately 4 hours. Excess loose aggregate should be removed either by manual sweeping or a road sweeper using only the vacuum element, not the brushes. Recovered aggregate can be reused if it is uncontaminated and kept dry.

COVERAGE

The adhesive should be applied at a minimum depth of 1.33mm (2.13Kg/m²). A 20Kg A-GRIP HFS kit should cover between 8m² and 9m² on a good surface. At this rate, the adhesive should retain 6Kg of 3mm aggregate per m². Do not try to spread the material to more than 9m² per kit. Proper 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. An area of 8m² will require one 20Kg A-GRIP HFS kit and 100Kg of 1mm to 3mm aggregate of which approximately 45Kg can be recovered.