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TECHNICAL INFORMATION
Uretech RS – Road Repair System

Version 5
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DESCRIPTION

URETECH RS ROAD REPAIR is a three-component, polyurea system with an additional aggregate blend specially formulated for highway surfacing repair.

When cured, Uretech RS ROAD REPAIR has excellent adhesion to bituminous, concrete and ductile iron surfaces and to most aggregates, aggregate chippings or pebbles, including calcined bauxite, granite, limestone, marble, Derbyshire spar, gritstone, basalt, silica sand, flint, calcined flint, rounded gravel and Bridport stone.

The system is supplied as the following components:
Part A is an off-white mix of pigments and fillers.
Part B is a low viscosity polyol dispersion.
Part C is a low viscosity, modified isocyanate.
Part D is a mix of aggregates

Uretech RS ROAD REPAIR normally produces black material but can be coloured to special order.

TYPICAL APPLICATIONS

Uretech RS ROAD REPAIR is particularly suited for use in road repair applications where the three components are mixed with aggregate, which is then tamped in place in 50mm layers.

PROCESSING AND APPLICATION

Uretech RS ROAD REPAIR should be mixed with the aggregate in a forced action mixer such as a Creteangle. The required amount of aggregate is already blended in the tub supplied. This should be added to the mixer and if the ambient temperature is less than 20°C and a fast cure is required, the aggregate should be warmed to 35°C. using a gas torch. *(note: the product will not be affected in any way if the aggregate is not heated other than the cure time will be slower)*

Uretech RS ROAD REPAIR components A, B and C should be added and mixing should continue until a uniform coating covers all the aggregate. This is normally around 30 seconds to one minute. The mixed aggregate should be poured into place, spread and fully compacted using a tamping block or, for the wearing surface, a float. Small quantities can be mixed in the plastic tub containing the components or a concrete mixer and the mixing should be complete in two to three minutes. The material should not be laid at less than 30mm depth and the hole to be filled should be cut to provide clean sharp edges and to ensure that the minimum depth is achieved. It is normal to apply the product in layers of 50mm, tamping between each layer. Any depth can be laid in this manner

The mixed material remains in a mobile form for approximately 10 minutes, after which a light gel is formed (lasting for a further 10 minutes or so) which can still be worked if necessary. The material then sets into a soft solid and is fit for traffic after approximately 1½ - 4 hours.

PACKAGING

Uretech RS ROAD REPAIR is available as a 20 kg. kit of measured components.

HANDLING AND STORAGE

Parts A, B and C should be stored in a covered area between 5°C. and 25°C. Part A is an irritant powder, but is not considered hazardous for transportation. Good standards of industrial hygiene should be observed when handling all components. Protective gloves and goggles should be worn. The recommendations made in the Health and Safety data sheet for this product should be observed at all times. Part C contains 4,4'diphenyl-methanediisocyanate and the advice contained in the Star Uretech Health and Safety Data Sheet for this component is of particular importance.

TECHNICAL INFORMATION

TECHNICAL DATA

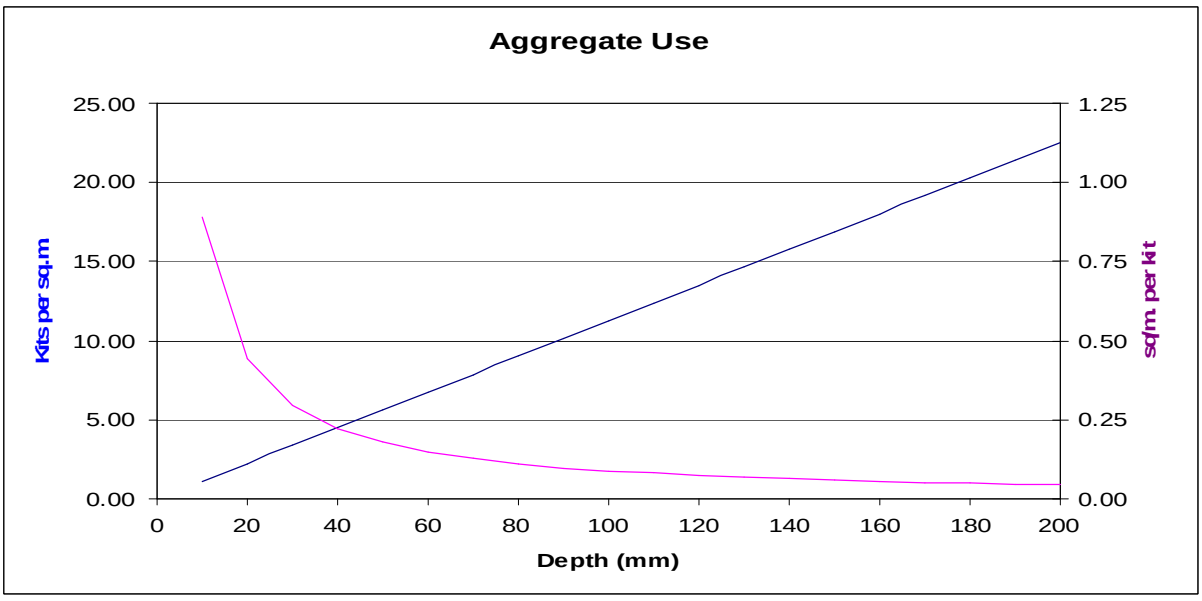
	Part A	Part B	Part C
Viscosity @ 25°C (cps)	powder	250 max	60 max
Specific Gravity	1.3 (bulk)	1.01	1.21
Colour	white	white	brown

CURED MATERIAL (without aggregate)

Hardness	Shore D	75
Compressive strength at first failure	N/mm^2	20
Compressive strength at 40% compression	N/mm^2	45
Deflection at failure	%	10
Compressed cylinder (edge) break	N/mm^2	6
Compressed cylinder (edge) crack propagation	N/mm^2	6
Compressed cylinder (edge) deflection at break	%	10

APPLICATION RATES

The fully mixed product has a density of approximately 2.2-2.3



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Adhesives. Binders. Coatings.

METHOD STATEMENT
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PACKAGING

The **Uretech RS ROAD REPAIR** resin system consists of three resin components plus a special blend of aggregate.

Part A a bag of white powder.

Part B a bottle of milky white emulsion.

Part C a bottle of brown/purple liquid.

Part D a blend of aggregates.

All components are essential for the system to work including the white powder component.

PROCESSING

Make sure that the areas to be filled are cut*, clean and dry.

* The edges of the repair area should be cut square and vertical with a Stihl saw, and dust blown from the cut edges to ensure intimate contact, and hence a good bond, between repair mix and host material *(see picture 1 below).*

If choosing the fast-cure option, add the aggregate to a forced action mixer (Creteangle or similar, *see picture 2 below).*, and heat to 35°C. Do not heat the aggregate without means to measure the temperature. Overheating the aggregate will shorten the pot life to the detriment of the mixed material. Do not heat the aggregate if mixing in the supplied tub or a normal concrete mixer.

Open the bag of white powder (part A) and carefully (to avoid excessive dust) add this to the pre-measured aggregate. Disperse the powder throughout the aggregate by mixing for a few seconds (10 seconds will be sufficient) in a forced action mixer or using a drill & paddle if mixing single units in the individual tubs.

Pour the contents of components B and C into the aggregate and mix. If using a drill & paddle, operate the paddle throughout the volume of the aggregate and ensure that the paddle is pressed to the bottom of the tub and all round the edge of the bottom to ensure no undispersed powder is left in the angle between the sides and bottom of the tub.

In a forced-action mixer, only about 30 seconds will be required for this operation. Manual mixing with a drill and paddle (or a normal concrete mixer) may take two minutes. Ensure that all the aggregate particles are coated with resin. This produces a sticky, but fluid ‘screed mix’ of resin coated aggregate particles which can be tipped into the work area for spreading, compacting and finishing.

APPLICATION

Tip the 'screed mix' into the work area, or disperse it superficially at suitable points if the overall area is larger enough to require several mixes. The 'screed' is then compacted. The finished effect is designed to be slightly 'open' and textured like a normal road surface and the mixed material should be hand tamped rather than power compacted unless a smooth surface is required. Hand tamping can be carried out with a weighted metal tamper *(see picture 3 below).* Ensure that all corners are filled and that there are no voids or low areas in the surface generally. After mixing, placement and compaction of the material must be completed within 10 minutes. When using to fill a void of greater than 50mm, the material should be placed and tamped in 50mm layers.

FINISHING

To finally complete the surface, trowel over the surface of the screed using a steel float washed with Uretech PBS cleaning solvent (the solvent lubricates the trowel and prevents the sticky aggregate particles adhering to the float) washing the float with solvent when necessary. DO NOT splash the material with solvent or this will impair the cure.

The edge of the repair should then be sealed with meltable bitumen tape *(see picture 4 below)* to ensure that there is no water ingress at the joint.

The resin will remain fluid for anything from 10-30 minutes depending on ambient temperature, after which it goes through a semi-gel stage, becoming increasingly tacky until it is cured.

Allow 60 minutes, or until tack-free, before trafficking. This should be no longer than 90 minutes if the aggregate was heated to 35°C but may be up to 4 hours if not.