

Concrete Slab Refurbishment In Accordance with EN1504

Stabilising Slab Surfaces

Surface Dressings

Structural Crack Filling

Surface Defect Mortars

Slab & Joint Edge Repair

Joint Filling & Maintenance



www.nufins.com



About Us

As part of USL Group, Nufins has supplied materials to numerous projects since 1966 including power stations, water treatment schemes, ports, airfields, highways, bridges and tunnels. We take innovation seriously and we believe that this is necessary for a manufacturing company to prosper in our highly competitive industry. Nufins' investments in our laboratory and production facilities have enabled the development of innovative products, thereby helping to improve effectiveness and efficiency on construction sites.

Nufins has a global reputation for manufacturing and supplying high quality specialist products for highway maintenance, waterproofing, structural grouting, joint-sealing, corrosion control, concrete repair and protective coatings for concrete structures. For further information visit our interactive website www.nufins.com

Industry Accreditation

Nufins recognises the importance of membership to industry-affiliated specialist organisations, allowing us to keep in close contact with latest industry developments. We work in partnership with architects, consultants and contractors to improve product technology, quality and performance, thus benefiting all stakeholders in all aspects of the construction industry.

Materials are manufactured under the ISO 9001 Quality Management Scheme. All products for use in the repairs and protection of concrete structures are tested in accordance with BS EN 1504 and carry the CE label, thus providing Nufins' customers with confidence in the quality and reliability of our specialist product range.



OUR COMPLETE RANGE

- Concreting Chemicals
- Concrete Repair & Technical Mortars
- Concrete Protection
- Structural Grouting & Anchoring
- Bedding Mortars & Streetscape
- Joint Sealants & Fillers
- Industrial Flooring
- High Friction Surfacing &
- Waterproof Coatings
- Leak Sealing & Resin Injection
- Adhesives & Cleaning
- Surface Mounted Tactile Paving
- Accessories

Concrete Slab Refurbishment



Well designed and well installed reinforced concrete provides long term durability, function and service life, however, defects or damage to new slabs, or deterioration and damage to older slabs, make it necessary to maintain and to undertake remedial work. Nufins' specialist protective systems and repair materials, prolong the life of concrete, or in some cases extend it beyond the original design life. Every penny spent on improving and protecting slabs, provides a long term dividend, avoiding the need for early or unnecessary replacement.

The rate of deterioration is influenced by a number of physical, chemical and environmental factors. From our wide range of high quality repair, strengthening and protection systems – you can select the solution best suited to your needs in terms of material application and technical performance.



Rain / Frost Damage -
Page 5



Structural Crack -
Page 6



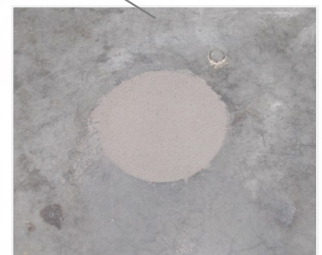
Slab Rocking -
Page 6



Dusting or Contamination -
Page 4



Shrinkage Cracking -
Page 7



Old Fixing Holes -
Page 8



Scaling & Shallow Defects -
Page 8



Stress Damaged Corners -
Page 8



Failed Slab & Joint Edges -
Pages 8 & 9

Stabilising Slab Surfaces



Surface applied treatments improve the condition of concrete and remove the associated problems caused by poor quality control during installation, poor finishing or inadequate curing.

Problems such as dusting and permeability to waterborne or other pollutants can be eliminated by the use of Nufins' surface treatment solutions outlined below.

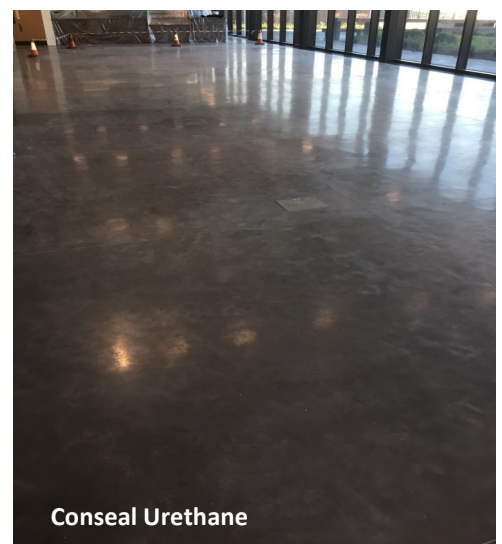
Product	Features	Benefits
Curecote Super	<ul style="list-style-type: none"> - Styrene acrylic curing membrane & seal coat - Inherent anti-carbonation properties - Designed for internal & external applications - Spray-applied & fast curing 	<ul style="list-style-type: none"> - Suitable for new & old slabs - Protects reinforcement - Reduces water ingress and salt attack - Easily applied; large areas treated efficiently
Conseal Silicate	<ul style="list-style-type: none"> - Concentrated aqueous silicate dustproofers - Deeply penetrating liquid - Low odour - Designed for internal & external applications 	<ul style="list-style-type: none"> - Densifies & hardens surfaces - Improves abrasion & wear resistance - Ideal for use in confined space - Extremely cost efficient surface treatment
Conseal Urethane	<ul style="list-style-type: none"> - Single part polyurethane resin sealer - Low Viscosity for deep penetration - Unaffected by water, oils and chemicals - Primarily designed for internal use 	<ul style="list-style-type: none"> - Reduces incidence of surface dusting - Resists waterborne & other pollutants - Tough & durable concrete protection - Maintenance free alternative to paint coatings
Conseal Acrylic	<ul style="list-style-type: none"> - Single part water-based acrylic sealer - Quick drying, for internal use - Solvent free & low odour - Brush, roller or spray applied 	<ul style="list-style-type: none"> - Reduced dusting & permeability to water - Maintains concrete appearance - Ideal for use in confined spaces - Ready to use & easy to install

EN1504-2

Part 2: Surface protection systems for concrete



Curecote Super



Conseal Urethane

Dressings for Surface Damage



Damage caused by rain or frost can result in a costly requirement to reinstate newly installed slabs. Unprotected or less dense concrete of any age, is exposed to freeze-thaw cycles, acting on water that has penetrated, causing the surface of concrete to break down and spall. This in turn reduces cover to steel reinforcement.

The application of these resinous surface dressings with anti-slip and waterproof properties, provides effective solutions for internal and external slabs, installed quickly, with minimum disruption.

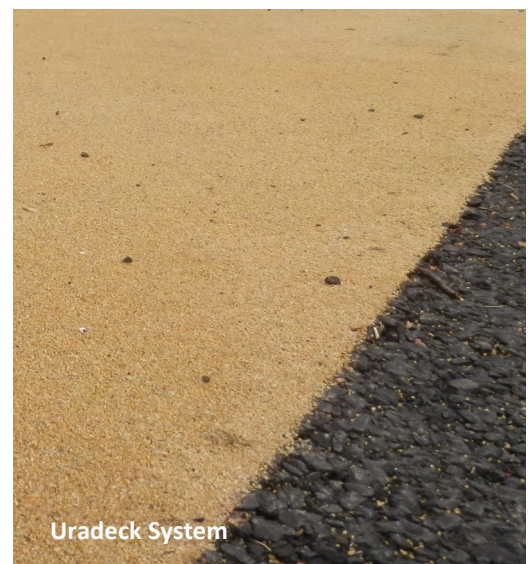
Product	Features	Benefits
Epigrip	<ul style="list-style-type: none"> - Epoxy resin system - Waterproof & moisture tolerant - Solvent-free & low odour 	<ul style="list-style-type: none"> - Ideal for situations where moisture is present - Protects concrete from a range of chemicals - Suitable for use in confined spaces
Uradeck BC	<ul style="list-style-type: none"> - Polyurethane resin system - Flexible & waterproof - Fast curing 	<ul style="list-style-type: none"> - Ideal for decks where flexibility is required - Allows same day access - Resistant to attack by a range of chemicals
Tredseal	<ul style="list-style-type: none"> - Methacrylate resin system - Waterproof - Rapid curing 	<ul style="list-style-type: none"> - Ideal for decks where rapid turn around is required - Enables public access after 2-3 hours - Resistant to water borne & other contaminants
Epicon DSP	<ul style="list-style-type: none"> - Two part epoxy primer - Designed for damp or new concrete - Excellent bond strength to steel & concrete - Solvent free & low odour 	<ul style="list-style-type: none"> - Allows the above systems to be installed onto 'green' or day old concrete - Anti-corrosion barrier to steel - Suitable for use in confined spaces

EN1504-2

Part 2: Surface protection systems for concrete



Tredseal System



Uradeck System

Structural Crack Filling



Insufficient concrete cover to steel reinforcement, allows water ingress and the process of corrosion to begin; as corroding steel expands, this causes concrete to crack.

Stress cracking occurs when subsidence, shrinkage, incorrect or inadequate provision for expansion/contraction joints, leads to structural movement.

The use of low viscosity epoxy resin grout provides waterproof and structural repair solutions, to fill and consolidate deep or superficial cracking.

Stabilising Rocking Slabs

Slabs which have curled may be efficiently stabilised by drilling holes and installing Epicon Injection Resin to fill the void beneath. This method provides a long-term solution and will ensure a smooth running surface for operational traffic.

Product	Features	Benefits
Epicon Injection Resin LV (0.1 to 6mm widths)	- Two part epoxy - Low viscosity, free-flowing - Non-shrink solvent free resin	- Avoids breaking-out concrete that is otherwise sound - No need for saw-cutting; fills hairline cracks - Provides waterproof & structural repair
Epicon Grout S (0.25 to 6mm widths)	- Low odour	- Suitable for use in combined spaces

EN1504-5

Part 5: Concrete Injection

Filling voids, cracks & interstices



Mortars for Surface Defects



Concrete is subject to wear and attack from the day it is poured. Environmental factors such as freeze-thaw, Carbonation, Alkali-Silica Reaction (ASR) or Chlorides contribute to reduced protection for steel reinforcement; corrosion issues follow with associated local or widespread spalling. Structural movement, shrinkage, insufficient expansion/contraction tolerances of joints or physical damage from impact and general wear from abrasion, result in defects. Such damage mean surfaces become unsafe for vehicular operations. All these problems lead to one thing – TROUBLE !

The solution is to undertake structural repair by installing high strength polymer modified patching or screeding mortars that reinstate protection around reinforcement and maintain sound running surfaces. **Materials conform to BD27/86**

Product	Features	Benefits
Deck Repair Rapid Depths 10 - 150mm	<ul style="list-style-type: none"> - Rapid set R4 patching mortar - Polymer & shrinkage compensated - May be used in low temps down to 0°C - No primer required 	<ul style="list-style-type: none"> - Ideal for same day waterproofing & coatings - Resistant to water ingress, salts & freeze-thaw cycle - Suitable for Summer & Winter applications - Rapid instalment & return to service
Nucem Mortar Depths 10 - 70mm Nucem Concrete Depths 20 - 300mm	<ul style="list-style-type: none"> - High strength R4 screed & patching mortar - Guaranteed low water/cement ratio - Shrinkage compensated - Polymer modified & dense 	<ul style="list-style-type: none"> - Suitable for next day waterproofing & coatings - Stronger than normal mortars & concretes - Resistant to water ingress, salts & freeze-thaw cycle - Resists abrasion & durable
Nupatch Mortar Depths 10 - 30mm Nupatch Concrete Depths 20 - 150mm	<ul style="list-style-type: none"> - Fast setting screed & patching mortar - Fibre reinforced - Shrinkage compensated - Tamp, trowel, wood or steel float finish 	<ul style="list-style-type: none"> - Suitable for next day waterproofing - Resistant to cracking - Ideal when same day high early strength is required - Can be laid to falls
Nucem HD Floorscreed Depths 5 - 25mm	<ul style="list-style-type: none"> - Rapid setting & high strength - Polymer modified mortar - Requires addition of clean water only - Poured or pump applied 	<ul style="list-style-type: none"> - Suitable for fork lift traffic - Functions at shallow depths - Self smoothing, providing level wearing course - Large areas installed quickly & efficiently

EN1504-3

Part 3: Non-structural & structural repair mortars



Repairing Slab & Joint Edges



The function of concrete slabs is to provide a sound level surface, whether it be an airfield, dockside, railway platform, carpark deck, carriageway, or the floor of an industrial production facility, with storage and movement of raw materials or finished goods. Joints are an important element of every structure and slabs are no exception.

The following epoxy mortars are designed to provide long term repair solutions for joint and edge repairs, specifically for heavy duty commercial & industrial applications. Also suitable for making good minor and shallow repairs to decks.

Heavy Duty Patching

Product	Features	Benefits
Epicon FS Mortar	<ul style="list-style-type: none"> - Fast curing R4 HD epoxy mortar - For thin or deep & section patching - High compressive, tensile & flexural strengths - Resin rich 	<ul style="list-style-type: none"> - Allows same day trafficking - Long term repair solution for slab & joint edges - For heavy traffic & concrete/metal/asphalt transitions - Self priming

Heavy Duty Thin Section Screeding

Product	Features	Benefits
Epicon Mortar	<ul style="list-style-type: none"> - HD epoxy mortar for screeding - Abrasion & chemical resistance - High compressive, tensile & flexural strengths - Tolerates moistures 	<ul style="list-style-type: none"> - Stronger than most concrete in 24 hours - Provides long service life - Tolerates extreme traffic loading - Suitable for application in damp conditions

Decorative Thin Section Screeding

Product	Features	Benefits
Resistet Corn	<ul style="list-style-type: none"> - Versatile render & screeding mortar - Provides high SRV values - Solvent free & low odour - High bond strengths 	<ul style="list-style-type: none"> - Looks like art-stone; ideal for stairways & decks - Suitable for use where anti-slip is desirable - Designed for pedestrian or light wheeled traffic - Quick & easy to apply and finish

EN1504-3

Part 3: Non-structural & structural repair mortars



Resiset Corn



Epicon FS Mortar

Joint Filling & Maintenance



Joints allow concrete movement, but disrupt an otherwise continuous surface. Filling the joints with an appropriate material is required to maintain or restore a continuous surface and to provide a smooth transition from one slab to another without interruption for vehicular operations.

Joint filling also supports joint edges which is particularly significant when subjected to heavy loading or impacted by hard-wheeled forklifts and pallet trucks. Defects cause significant reduction in the durability of the slab; left unattended and with ongoing traffic movements, the defects become wider and deeper, leading to seriously spalled arris edges.

Safety and financial issues arise from such damage, demonstrated when vehicle operators moving goods, attempt to navigate around these hazards. The potential of goods being lost from pallets is dangerous and could prove expensive if goods are damaged. Postponing maintenance of deteriorated joints, interferes with operational efficiency and will eventually require more expensive, time consuming repairs.

Correct design, spacing, location and size of joints are dependent on the intended use of the slab. However, specifications are undermined if the wrong type of sealant is used or if joint sealant is not installed properly. Poorly applied sealant often leads to problems; incorrect surface preparation, applying too little primer or not applying primer, poor backer rod depth regulation, not filling joints to sufficient depth, and tooling off, all contribute to short service life. Sealant solutions as below.

Product	Features	Benefits
Uniseal 150	<ul style="list-style-type: none">- 1 part polyurethane gun-grade sealant- Movement Accommodation 20%- Fast curing	<ul style="list-style-type: none">- No mixing required & ready to use- Neat & controlled extrusion into narrow joints- Suitable for decks & walls
Uniseal 200/90 Coldpour	<ul style="list-style-type: none">- 2 part polyurethane pouring-grade sealant- Movement Accommodation 30%- Fuel Resistant	<ul style="list-style-type: none">- Designed for filling wider joints quickly- For joints where significant movement is expected- Ideal for roads, ports, goods yards and airfields
Uniseal 280	<ul style="list-style-type: none">- 2 part PU pouring & gungrade sealant- Movement Accommodation 10%- Fuel & Chemical Resistant	<ul style="list-style-type: none">- Versatile for decks & walls- Robust & tough sealant for heavy loading- Suitable for industrial & infrastructure situations
Epicon ARG	<ul style="list-style-type: none">- 2 part epoxy pouring grade sealant- Fuel Resistant & Rapid curing- Movement accommodation 20%	<ul style="list-style-type: none">- Tolerates installation to damp substrates- Open to vehicular traffic after 2 hours @ 20°C- Ideal for roads, ports, goods yards and airfields

BS 5212

BS 14188



Head Office

Kingston House

3 Walton Road

Pattinson North

Washington

Tyne & Wear

NE38 8QA

T: +44(0)191 416 8360

E: info@usluk.com

W: www.nufins.com