

ACRONITE

Cold-applied asphalt pavement sealer and preservative

USES

Acronite is a cost-effective system that preserves, protects, seals and extends the service life of asphalt pavements. It's unique properties of protecting the asphalt pavement from effects of oxidation and general degradation makes Acronite particularly suitable for protecting existing asphalt surfaces, against premature ageing and aggregate loss.

ADVANTAGES

- **Acronite is an engineered system.**
- **Seals and protects asphalt pavements against premature ageing.**
- **Cold applied, user friendly, fast application rates.**
- **Rapid cure, quick traffic acceptance.**
- **Unique chemistry of Acronite allows tenacious bond to expose aggregate substrates.**
- **Will not track or pick-up in the hottest of weather.**
- **Ideal for application to old pavements.**
- **Extends the life of new pavements.**

DESCRIPTION

Acronite is a liquid applied weathering layer that rejuvenates, protects and extends the service life of the asphalt pavement.

Acronite is composed of hydrocarbons, multi-component resins, plasticisers modifiers and asphalts.

Acronite's excellent substrate wet out properties assures sealing of micro-capillary surfaces and penetration of the substrate, thereby protecting the pavement from oxidation effects of aggressive

sunlight, moisture damage and aggregate loss. The system has rapid curing properties even in the hottest of environments and is ready to accept traffic with minimal disruption.

Once cured, the high softening point insures against bleeding, chipping, fracture or tracking under heaviest of loads at high ambient temperatures. Acronite does not alter the pavement cross-section or grade.

Light sanding should be considered if application is on surfaces with existing marginal skid resistance.

Acronite treated substrates, following full cure, will accept road marking systems.

CURE TIMES

Less than 60 minutes on older pavements (3 months or older).

60 minutes to 24 hours on newly laid pavements. Ambient temperatures affect cure times.

Optimum cure times are above 20°C ambient.

Special formulation allowing cure time of less than 15 minutes is available made to order.

APPLICATION INSTRUCTIONS

Surface Preparation

All surfaces to be treated must be clean of dust, sand and other debris. Ensure that the surface is consolidated and compacted.

Oil spots should be thoroughly cleaned off by scraping and if necessary by using an alkali based heavy-duty detergent.

Oil saturated, broken, weak and friable substrates should be replaced prior to treatment with Acronite.

Do not apply Acronite if excessive surface moisture is present.

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APPLICATION

Acronite is normally applied by distributor tank spray truck, hand sprayers or for smaller areas rollers and squeegees.

Acronite maybe applied when ambient temperature is above 1°C.

Ensure that spray patterns overlap to avoid stripes on the pavement.

There is no ambient temperature limit on application in tropical or hot climate regions. Do not proceed with application works if rain is expected. Acronite is an engineered system. It must not be "thinned" or adulterated in any way.

Please refer to the Technical Services Department for further instructions.

PRIMING

No primer coats are required.

ESTIMATING

The rate of application is determined by the surface texture.

Acronite is generally a single coat system. Multi coat application however, may be required to build thickness on hard to protect surfaces.

Average consumption rate is 0.5 litres per m². This may increase to 1 litre per m² where the substrate is particularly porous or of rough texture.

PACKAGING

Acronite is supplied in 200 litre drums.

Bulk supply may be considered for large quantities depending on logistics.

LIMITATIONS

Do not apply to wet, coal tar, epoxy or other non-asphalt surfaces.

STORAGE AND SHELF LIFE

12 months in original supply unopened drums.

Store under warehouse conditions if possible, away from direct sunlight.

PRECAUTIONS

Health & Safety

Acronite is flammable until cured.

Do not allow near open flame or other sources of ignition.

Do not mix with other products or solvents.

Avoid prolonged skin contact and away from children.

Handle as per Material Safety Data Sheet instructions.

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BITUMEN BINDER PEN GRADE 85/100

Paving Grade Bitumen.

DESCRIPTION

CyTech 85/100 is a pavement grade bitumen produced to ASTM and AASHTO standards.

SUPPLY

200 Kgs drums or bulk as required.

SPECIFICATION COMPLIANCE

	Min.Range	Max.Range
Viscosity at 60°C.	140	115
Viscosity at 135°C	376	334
Penetration at 25°C	85	100
Ductility at 25°C (rate 5 cm/min.)	100	
Flash Point Degree C	232	
Specific Gravity	1.001	1.06
Softening Point	45	52
Solubility in trichlorethylene	99	
Loss of mass on heating		1.0
Ductility of residue (% from original)	50	
Ductility of residue at 25°C (at specific rate of 5cm per min.)	75	
Spot Test	Negative	

HEALTH & SAFETY

Principle hazard severe thermal burns.

(See Attached Safe Handling of Bitumen Instruction Sheet.)

USAGE INSTRUCTIONS

As per customer and site requirements.

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BLACK BITUMEN PAINT (Phenol Free)

DESCRIPTION

BBP is a solvent based, high solids content Black Bitumen paint. It is manufactured to comply with the specification requirements of BS 3416 types 1&2 and is therefore suitable for the internal coating of drinking water tanks and pipes.

USES

To provide a protective anti corrosion coating on steel tanks and pipes etc. Can also be used on concrete and masonry.

APPLICATION

By brush to or roller to vertical and horizontal surfaces. Ensure that treated surfaces are free from dust, grease, oil etc.

Apply at between 0.1 - 0.5 litres per m².

Do not apply the second coat until the first has achieved the touch dry condition.

Where large areas are to be treated, the use of airless spray equipment is advised, to facilitate application, dilute BBP with upto 10% of White Spirit.

SHELF LIFE & STORAGE CONDITIONS

Not less than 12 months in sealed containers. Store away from direct sunlight between +5 to 45°C.

Stir well before use.

STORAGE

Store in a sealed container, the primer can be stored more than 12 months.

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CUT BACK - BITUMENS

Cut Back Bitumens are primarily used as a priming coat between bituminous pavement elements in the Road Construction Industry.

DESCRIPTION

A comprehensive range of slow, medium and rapid curing cut back bitumens manufactured to comply with ASTM, AASHTO and British Standards.

The systems are a blend of Bitumen with light solvents of Naptha, Petrol, White Spirit and Purified Kerosene.

USES

Cut back bitumens are used in road construction and civil engineering Sectors. In Road construction, Cut Back Bitumens are used in the road construction Industry as a priming medium.

SPECIFICATION COMPLIANCE

Dependant on project specifications, grades available are RC-70, RC-250, RC-800, MC-30, MC-70 and MC-3000.

APPLICATION

Cut backs must be applied to dry surfaces prepared by the use of brushes, mechanical broom or compressed air. All substrates that have been prepared to receive tack coats must be carefully graded in accordance with project specifications.

COVERAGE

In accordance with project specification requirements. Generally 0.9 to 1.4 litre/m² by spray method for untreated substrates and dependant on substrate porosity and grading.

PACK SIZE AND SUPPLY

200 litre drums, 20 litre pails or bulk road tanker deliveries of up to 50 metric tons capacity.

HAND APPLIED

Brushes, brooms or squeegees.
For horizontal surfaces. In the case of applications

to vertical surfaces, use brushes.

MACHINE APPLIED

For applications of large areas, the use of motorized sprayers or bulk mobile spray tankers is recommended.

Following use, all nozzles must be cleaned and flushed with diesel or other proprietary cleaning solvents.

STORAGE & APPLICATION CONDITIONS

Store in original un-opened packaging out of direct sunlight. Material that has been exposed to the element and not used should be discarded to avoid the risk of contamination.

HEALTH & SAFETY

Flammable. Avoid exposure to naked light or sources of ignition during handling operations.

Avoid contact with naked skin. Use overalls, gloves and safety glasses/goggles when using all cut backs. Should splashes occur to skin, immediately wipe off with soft cloth and clean affected area with a proprietary cleanser. If ingestion or splashes to the eye occur, seek medical assistance as a natural urgency. Do not induce vomiting.

Refer to Technical Services Dept. for further information.

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CYRO PRIME (S)

Solvent based Bitumen Primer [BLACK BITUMEN PAINT - D41]

Technical Data

Cyro Prime is a blend of high penetration grade bitumen with less boiling range hydrocarbon solvents. It is generally used as all-purpose bituminous primer on steel and concrete, prior to the application of protective coatings.

1 Viscosity @ 25°C (saybolt furol) = 25- 125 S

2 Distillation - by volume %
Upto 225°C = 35 mins.
Upto 360°C = 65 max.

3 Test on residue from distillation
Penetration @ 25°C = 20-50 dmm.
Solubility in trichloroethylen = 99.0% min.

The material is produced to comply with the specification requirement of ASTM D41 - 85.

APPLICATION AND COVERAGE

Surfaces to be free from rust and dust. The primer can be applied with a brush, roller or airless spray gun. The application will differ based on the surface. On Steel surfaces application rates more than 10m² per litre. On porous concrete this may be as low as 3m² per litre.

STORAGE

Store in a sealed container, the primer can be stored more than 12 months.

HEALTH AND SAFETY

BBP contains a large proportion of highly flammable solvent and must not be exposed to a naked flame or sparks. The flash point (COC) is below 35°C. The vapor given off is narcotic and care should be taken not to inhale it. If applying in an enclosed area, provide adequate ventilation and wear breathing apparatus.

Do not allow smoking at any time.

COVERAGE

In accordance with specification requirements otherwise, an application rate of 1 lit/m² will result in a DFT of 0.55MM.

TECHNICAL SUMMARY

Solids Content	: 55.0% min.
Specific Gravity	: 0.88 approx.
Colour (Wet)	: Black.
Colour (Dry)	: Black.

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CYTOCOAT PEE

A two component solvent free pitch extended epoxy resin coating system.

DESCRIPTION

CytoCoat PEE is a two-component solvent free liquid epoxy resin modified with refined coal tar pitch. The superior adhesion and chemical resistance of the epoxy resin, in combination with the flexibility and water resistance qualities of pitch produce a system that will provide a high build, ultra dense coating to protect concrete, other cementitious substrates, and metal, against a wide range of aggressive media. The coating will not support the growth of bacteria. In appearance, CytoCoat PEE is smooth, glossy and black.

TYPICAL APPLICATIONS

CytoCoat PEE is used to provide a heavy duty protective, waterproof, and flexible coating. Uses include, the lining of tanks, pipes and ducting, coating concrete, asbestos cement, steel pipes and non ferrous metals.

CytoCoat PEE is particularly suitable for use in sewerage work applications and in offshore or marine environments.

ADVANTAGES

- **No primer required.**
- **High build coating.**
- **Easy application: brush, roller, spray. Economical.**
- **Excellent chemical resistance to aqueous media.**
- **Non-solvented.**
- **Excellent broad spectrum chemical resistance.**
- **Abrasion resistant.**
- **Seamless finish.**

- **Pre-weighed components.**

- **Long term corrosion protection.**

PACKAGING

CytoCoat PEE is supplied in 10 litre units.

TYPICAL PROPERTIES

Pot life	: 25°C 1 Hour 40°C 20mins.
Tack free time	: 25°C 12 hours 40°C 5 hours
Initial cure	: Within 24 hours at 25°C
Full chemical resistance	: 7 days at 25°C

STANDARDS

ANSI/ASTM:C881: Type III: Grade 2:
Class C.
BS 5493

DIRECTIONS FOR USE

Surface preparation:

As with all epoxy resin systems, surface preparation has a direct effect on the performance and durability of the system.

Surfaces to be coated should be sound, dimensionally stable, clean, free from laitance, paint, oil, grease, mould release agent and residual curing compound. Concrete must be fully cured. Grit blasting, high pressure water jetting or mechanical scabbling may be necessary to ensure full removal of cement laitance and deleterious matter. Metal surfaces should be prepared by blast cleaning preferably to SA21/2.

Mixing instructions:

CytoCoat PEE is supplied in preweighed units. Mix the reactor component separately for 1 minute, using a slow speed high torque drill with suitable paddle attachment then pour the reactor onto the base tin and mix the two components.

CYTOCOAT PEE

A two component solvent free pitch extended epoxy resin coating system.

APPLICATION

CytoCoat PEE can be applied by brush short hair roller or airless spray. A fast setting spray grade version CytoCoat PEE is available for twin feed airless spray in 400ltr (2x200ltr) bulk packing.

BRUSH/ROLLER APPLICATIONS

Apply the mixed material to a properly prepared substrate using a brush or short hair roller. The use of a painters tray is essential to extend the pot life and correctly meter the material on to the brush or roller. Working well into the substrate to give complete coverage with no visible pinholes; apply in two coats at the rate of 0.3ltr/m² to obtain a DFT of 300 microns.

SPRAY APPLICATIONS

This is particularly recommended for large applications. A jet size of 23-26 thou has been found suitable. Spray the CytoCoat PEE onto the prepared surface to give an even, pinhole free surface to achieve a minimum DFT of 300 microns in two coats. To achieve greater film thickness allow to cure before applying subsequent coats. To give specified protection, a minimum of two coats should be applied. Subsequent coats should be applied within 36 hours.

Spray equipment, tools, brushes and rollers should be cleaned using Cleaning Solvent No.2.

Coverage:

Note: Coverage is dependant on porosity and surface texture of the substrate.

General exposure:

0.3 litre per m² for a total DFT of 300 microns minimum applied in two coats of 150 microns.

CHEMICAL RESISTANCE

Cured coating is resistant to:

✓ **Distilled water**

- ✓ **Brine**
- ✓ **Effluent**
- ✓ **Barnacle growth**
- ✓ **Sewage**
- ✓ **Exhaust gases**
- ✓ **Marine bacteria**
- ✓ **Diluted acids and alkalis**
- ✓ **Salt solutions (Potassium, Sodium)**

WATCHPOINT

No additions or omissions are required and on no account should attempts be made to split packs. Unsuitable in situations where foodstuffs or potable water will be in contact with the coating.

STORAGE

Upto 12 months when stored under cover, out of direct sunlight and protected from extremes of temperature.

SPECIFICATION CLAUSE

Protection to those items indicated shall be with CytoCoat PEE as manufactured.

The coating shall be a two component, solvent free pitch extended epoxy resin based system.

The dry film thickness shall be as specified by the Engineer and in general accordance with the manufacturer's recommendation.

HEALTH AND SAFETY

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use.

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CYTOCRETE

Hot applied, high performance permanent concrete pavement repair system.

USES

CytoCrete is a unique permanent concrete repair system designed to address the problems often associated with traditional concrete repair systems of spalled arrises, mid-bay cracking and thin bond repairs, with minimum disruption to airport and highway operations.

The system's unique properties are such that the repaired area will accommodate the structural movements that caused the initial failure, at the same time maintaining the structural integrity of the concrete slab.

ADVANTAGES

- **Resistance to Jet-blast and vehicle tracking including aircraft.**
- **Minimum airport and highway disruption.**
- **Ensures permanent repairs.**
- **Environmentally friendly.**
- **Accommodates movement associated with concrete.**
- **High performance-ease of maintenance.**
- **Can be trafficked by airport traffic within 60 minutes of application.**
- **High compressive resistance.**
- **Self-levelling.**
- **Will not crack.**

DESCRIPTION

CytoCrete is part of the unique CyTech CytoCrete flexible concrete repair system, which has been developed to meet the demands of increasingly

busy civilian airports and military airfields with the minimum of disruption in addition to highway maintenance. CytoCrete has extremely high durability and long service life together with ease of maintenance, which significantly reduces costs.

CytoCrete has been specifically developed and formulated as a flexible concrete repair system that absorbs movements of bays and Joints without the need to reform expansion Joints following repair works. The Joint bridging properties together with CytoCrete's ability to accommodate movement eliminates one of the major weaknesses and reasons for early failure of traditional repair techniques.

CytoCrete has extremely high compressive resistance, which allows the repair to accommodate the effects of high point loadings exerted by heaviest of aircraft traffic.

The properties of CytoCrete are such that repairs from 40mm up to full depth of the slab construction can be carried out.

CytoCrete is available in three grades to ensure optimum performance.

CytoCrete STD / CytoCrete HT / CytoCrete LT

DESIGN CRITERIA

CytoCrete is a one-stop concrete repair system.

CytoCrete will accommodate all normal movements associated with concrete pavements; therefore standard Joints may be bridged where CytoCrete crosses these areas.

In unusual conditions or where excessive movement is expected, CyTech Technical Department should be consulted.

PHYSICAL PROPERTIES

Type and form : Single component, hot applied
Colour : Grey or Black
Cure type : Thermo-set

CYTOCRETE

Hot applied, high performance permanent concrete pavement repair system.

PHYSICAL PROPERTIES

Trafficable	: 1 hour@20°C
Specific gravity	: 2.2 kg/m
Solids content	: 100%
Compressive resistance	: 5000N @ 25% Compression
Extension on full cure	: 50%
Flammability	: Non-flammable
Jet blast	: Resistant

CHEMICAL RESISTANCE TO OCCASIONAL SPILLAGE

Aviation fuels	: Resistant
Kerosene	: Resistant
Petrol	: Resistant
Diesel fuels	: Resistant
De-icing salts and fluids	: Resistant

It is essential that any spillages be absorbed immediately should this occur. Failure to do so may affect the surface integrity of the repair.

For resistance to other chemicals, please refer to CyTech Technical Department.

MAINTENANCE

No specific requirements, any damage identified during normal inspections should be repaired or replaced as appropriate.

APPLICATION INSTRUCTIONS

CytoCrete system will require specialist equipment, preparation of substrate and application.

Full training is available for dedicated application personnel.

Please contact CyTech Technical Department for further technical information and advice on suitability for specific applications.

ESTIMATING AND PACKAGING

Dependent on site and substrate conditions. Please contact CyTech Technical Department. CytoCrete is supplied in 25 Kg packs.

PRECAUTIONS

Health and Safety

Exercise extreme caution when handling hot material.

Always wear protective overalls, goggles and gloves when handling hot CytoCrete.

Avoid inhalation of fumes during heating process.

Refer to Material Safety Data Sheet for further information.

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CYTOFLEX 800

Liquid applied single component elastomeric waterproofing membrane.

USES

CytoFlex 800 is a single component high performance waterproofing membrane with high elasticity and low water permeability.

CytoFlex 800 is particularly suitable for a wide range of applications including wet areas, foundations, basements, terraces, retaining walls, bridge abutments, planters, inverted roofs and remedial repairs to felt, asphalt, concrete, fibrous cement or other roof structures when protected from exposure to direct sunlight.

ADVANTAGES

- ✓ **Liquid application, thereby reducing detail problems.**
- ✓ **No Joints.**
- ✓ **High build properties ensure rapid application.**
- ✓ **High elasticity, ensuring a permanently flexible barrier over a wide range of temperatures.**
- ✓ **Thermal stability.**
- ✓ **Excellent adhesion.**
- ✓ **Can be applied to a range of substrates.**
- ✓ **Outstanding resistance to oxidation and brittleness.**

DESCRIPTION

Available in two grades:

CytoFlex 800 V - High Build Grade
CytoFlex 800 H - Horizontal grade

CytoFlex 800 is a highly elastic tough waterproofing system based on modified bitumens, co-polymers and a carrier solvent.

CytoFlex 800 is highly resistant to aggressive soils and soluble salts providing an effective continuous barrier and protection against water borne damage.

CytoFlex 800 is ideally suited as a vapour/salt barrier to building facades behind granite, marble, stone cladding, and curtain wall elements.

PHYSICAL PROPERTIES

Colour	: Black
Form	: One component
Specific Gravity	: 1.1
Tensile Strength (ASTM D412)	: 2.5 N/mm ²
Elongation at Break (ASTM D412)	: 900%
Cure time	: 24 hours approx.
Crack bridging	: Up to 2mm

APPLICATION INSTRUCTIONS

Surface Preparation

All substrates must be sound, clean, dry, smooth and free from protrusions, voids, honey-combs and high spots. Presence of curing agents, paint and oil will impair adhesion.

Moss and lichen must be removed and area treated with proprietary fungicidal wash to kill spores and inhibit further growth. Following treatment wash area thoroughly with clean water and allow to dry. Fillets must be provided at corners or sharp angles using 4:1 sand and cement mortar modified with a good quality bonding agent.

PRIMING

Priming is not normally required on good quality, well prepared substrates.

CRACKS

All shrinkage and non-structural cracks must be treated with not less than 1 .5mm coating of CytoFlex 800 extending 75mm either side of the crack.

CYTOFLEX 800

Liquid applied single component elastomeric waterproofing membrane.

CRACKS

Allow to cure overnight prior to general application.

APPLICATION

CytoFlex 800 should be applied by brush to obtain a continuous unbroken film.

Two coats are required with the second coat applied at right angles after the first coat has cured.

CytoFlex 800 must be protected from mechanical damage during subsequent construction or backfilling works.

Any damage may be repaired by spot application. If a water flood test is to be run, the membrane should cure for a minimum of 10 days.

Whilst CytoFlex 800 is resistant to frost, adhesion will be impaired if applied to frosted substrates. Application should be avoided if substrate temperatures are below 5°C or rain is imminent.

CLEANING

Application equipments should be thoroughly cleaned after use with Xylene or similar. Spillages should be absorbed with sand, vermiculite or similar and be disposed of in accordance with local regulations.

COVERAGE

1.1 litre/M at 1 mm WET.
Coverage rate will vary with substrate condition and profile.

PACKAGING

20 litre pails.

STORAGE AND SHELF LIFE

CytoFlex 800 should be stored in warehouse conditions away from direct sunlight and sources of ignition.

Shelf life is 12 months in original unopened pails.

PRECAUTIONS

CytoFlex 800 contains a flammable solvent.

Health and Safety

CytoFlex 800 should not come into contact with skin, eyes or be swallowed.

Glasses, goggles and protective overalls should be worn during application.

Refer to Material Safety Data Sheet for further information.

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CYTOFLEX B4505

Non fibrated bitumen emulsion coating of brushing consistency which dries to give a firm, flexible, jointless waterproof and protective membrane.

DESCRIPTION

CytoFlex B4505 is suitable for the treatment of concrete, asphalt, metal, roofing felt and other similar roofing surfaces whether flat, sloping or vertical. Where added protection is required on roofs, CytoFlex B4505 may be used in conjunction with a reinforcing fabric.

TYPICAL APPLICATIONS

General waterproofing and damp proofing of concrete, asbestos cement sheets, roofing felts, wood etc.

Protection of steelwork, pipes and metal.

ADVANTAGES

- **Vapour Permeable allows substrate to breathe.**
- **Reduced chloride penetration due to hard impermeable surfaces.**
- **Simple and easy to use, no skilled labour required. Single component, use as supplied.**
- **Solvent free.**
- **Cold applied, no heating required.**
- **Non-slumping.**
- **Easy application due to paintable consistency, suitable for new and old concrete.**
- **Many areas of use, versatile.**

TYPICAL PROPERTIES

Solids content	: 45%.
Rubber Content	: 5%
Specific gravity	: 1.10 @ 25°C
Service Temp	: -100°C to +85°C
Flashpoint	: N/A

Drying Times	: 6-8hours per coat @ 25°C.
Appearance	: Dark black/brown Coating. Cures to a Hard tack free finish.
Chemical resistance	: Water, aqueous groundwater, salt Solutions, mild detergents, acids and Alkalis.

DIRECTIONS FOR USE

Surface preparation:

Surfaces to which CytoFlex B4505 is to be applied must be clean and free of dirt, dust, rust or any other material which may impair adhesion. Where moss or lichen is present, remove sheets. Cut and reseal blisters in asphalt or roofing. Remove chippings other than those that form the surface of mineralised felt.

Old concrete and steel must be structurally sound prior to application.

APPLICATION

Apply by brush or roller. Two or more coats must be applied to ensure a durable finish. Second and subsequent coats should be applied at right angles to each other once previous coats have fully dried.

CytoFlex B4505 may be applied to damp but not wet surfaces, dampen brushes before and occasionally during use to avoid clogging and ease application. During hot, dry weather application may be assisted by dampening the surfaces to be treated.

REINFORCING SYSTEM

For slate roofs or where the roof is in poor condition, a reinforcing membrane should be incorporated into the coating. Carry out surface preparation as above and apply the first coat of CytoFlex B4505. Whilst still wet, bed in the reinforcing fabric brushing in well to ensure good adhesion. Adjacent areas of membrane should overlap by 75mm.



CYTOFLEX B4505

Non fibrated bitumen emulsion coating of brushing consistency which dries to give a firm, flexible, jointless waterproof and protective membrane.

After the fabric has been well bedded in, apply a second coat of CytoFlex B4505. Apply two further coats of CytoFlex B4505 ensuring the previous coat is fully dry prior to subsequent applications. Clean tools with water whilst wet. When dry, white spirit or paraffin should be used.

COVERAGE RATES

Coverage rates vary according to the density, porosity and texture of the concrete to be treated. Typically a coverage rate of 3-5m² per litre can be expected. Minimum recommended coverage is 5m²/litre, two coats required.

PACKAGING AND STORAGE

CytoFlex B4505 is supplied in 20 and 200 litre units. Store in shaded warehouses away from heat, humidity or moisture. Shelf life will be 12 months.

HEALTH AND SAFETY

As with all chemical products, care should be taken to avoid contact with skin, eyes, mouth and foodstuffs. Treat splashes to eyes and skin immediately, by thorough washing with clean water. If ingested seek medical attention.

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CYTOFLEX B4505

Non fibrated bitumen emulsion coating of brushing consistency which dries to give a firm, flexible, jointless waterproof and protective membrane.

DESCRIPTION

CytoFlex B4505 is suitable for the treatment of concrete, asphalt, metal, roofing felt and other similar roofing surfaces whether flat, sloping or vertical. Where added protection is required on roofs, CytoFlex B4505 may be used in conjunction with a reinforcing fabric.

TYPICAL APPLICATIONS

General waterproofing and damp proofing of concrete, asbestos cement sheets, roofing felts, wood etc.

Protection of steelwork, pipes and metal.

ADVANTAGES

- **Vapour Permeable allows substrate to breathe.**
- **Reduced chloride penetration due to hard impermeable surfaces.**
- **Simple and easy to use, no skilled labour required. Single component, use as supplied.**
- **Solvent free.**
- **Cold applied, no heating required.**
- **Non-slumping.**
- **Easy application due to paintable consistency, suitable for new and old concrete.**
- **Many areas of use, versatile.**

TYPICAL PROPERTIES

Solids content	: 45%.
Rubber Content	: 5%
Specific gravity	: 1.10 @ 25°C
Service Temp	: -100°C to +85°C
Flashpoint	: N/A

Drying Times	: 6-8hours per coat @ 25°C.
Appearance	: Dark black/brown Coating. Cures to a Hard tack free finish.
Chemical resistance	: Water, aqueous groundwater, salt Solutions, mild detergents, acids and Alkalis.

DIRECTIONS FOR USE

Surface preparation:

Surfaces to which CytoFlex B4505 is to be applied must be clean and free of dirt, dust, rust or any other material which may impair adhesion. Where moss or lichen is present, remove sheets. Cut and reseal blisters in asphalt or roofing. Remove chippings other than those that form the surface of mineralised felt.

Old concrete and steel must be structurally sound prior to application.

APPLICATION

Apply by brush or roller. Two or more coats must be applied to ensure a durable finish. Second and subsequent coats should be applied at right angles to each other once previous coats have fully dried.

CytoFlex B4505 may be applied to damp but not wet surfaces, dampen brushes before and occasionally during use to avoid clogging and ease application. During hot, dry weather application may be assisted by dampening the surfaces to be treated.

REINFORCING SYSTEM

For slate roofs or where the roof is in poor condition, a reinforcing membrane should be incorporated into the coating. Carry out surface preparation as above and apply the first coat of CytoFlex B4505. Whilst still wet, bed in the reinforcing fabric brushing in well to ensure good adhesion. Adjacent areas of membrane should overlap by 75mm.



CYTOFLEX B4505

Non fibrated bitumen emulsion coating of brushing consistency which dries to give a firm, flexible, jointless waterproof and protective membrane.

After the fabric has been well bedded in, apply a second coat of CytoFlex B4505. Apply two further coats of CytoFlex B4505 ensuring the previous coat is fully dry prior to subsequent applications. Clean tools with water whilst wet. When dry, white spirit or paraffin should be used.

COVERAGE RATES

Coverage rates vary according to the density, porosity and texture of the concrete to be treated. Typically a coverage rate of 3-5m² per litre can be expected. Minimum recommended coverage is 5m²/litre, two coats required.

PACKAGING AND STORAGE

CytoFlex B4505 is supplied in 20 and 200 litre units. Store in shaded warehouses away from heat, humidity or moisture. Shelf life will be 12 months.

HEALTH AND SAFETY

As with all chemical products, care should be taken to avoid contact with skin, eyes, mouth and foodstuffs. Treat splashes to eyes and skin immediately, by thorough washing with clean water. If ingested seek medical attention.

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CYTOFLEX B6010

Non fibrated bitumen emulsion coating of brushing consistency which dries to give a firm, flexible, jointless waterproof and protective membrane.

DESCRIPTION

CytoFlex B6010 is suitable for the treatment of concrete, asphalt, metal, roofing felt and other similar roofing surfaces whether flat, sloping or vertical. Where added protection is required on roofs, CytoFlex B6010 may be used in conjunction with a reinforcing fabric.

TYPICAL APPLICATIONS

General waterproofing and damp proofing of concrete, asbestos cement sheets, roofing felts, wood etc.

Protection of steelwork, pipes and metal.

ADVANTAGES

- **Vapour Permeable allows substrate to breathe.**
- **Reduced chloride penetration due to hard impermeable surfaces.**
- **Simple and easy to use, no skilled labour required.**
- **Single component, use as supplied.**
- **Solvent free.**
- **Cold applied, no heating required.**
- **Non-slumping.**
- **Easy application due to paintable consistency, suitable for new and old concrete.**
- **Many areas of use, versatile.**

TYPICAL PROPERTIES

Solids content	: 60%.
Rubber Content	: 10%
Specific gravity	: 1.10@ 25°C

Service Temp	: -100°C to +85°C
Flashpoint	: N/A
Drying Times	: 6-8hours per coat @25°C.
Appearance	: Dark black/brown Coating. Cures to a Hard tack free finish.
Chemical resistance	: Water, aqueous groundwater, salt Solutions, mild detergents, acids and Alkalis.

DIRECTIONS FOR USE

Surface preparation:

Surfaces to which CytoFlex B6010 is to be applied must be clean and free of dirt, dust, rust or any other material which may impair adhesion. Where moss or lichen is present, remove sheets. Cut and reseal blisters in asphalt or roofing. Remove chippings other than those that form the surface of mineralised felt.

Old concrete and steel must be structurally sound prior to application.

APPLICATION

Apply by brush or roller. Two or more coats must be applied to ensure a durable finish. Second and subsequent coats should be applied at right angles to each other once previous coats have fully dried.

CytoFlex 6010 may be applied to damp but not wet surfaces, dampen brushes before and occasionally during use to avoid clogging and ease application. During hot, dry weather application may be assisted by dampening the surfaces to be treated.

REINFORCING SYSTEM

For slate roofs or where the roof is in poor condition, a reinforcing membrane should be incorporated into the coating. Carry out surface preparation as above and apply the first coat of CytoFlex B6010.

CYTOFLEX B6010

Non fibrated bitumen emulsion coating of brushing consistency which dries to give a firm, flexible, jointless waterproof and protective membrane.

Whilst still wet, bed in the reinforcing fabric brushing in well to ensure good adhesion. Adjacent areas of membrane should overlap by 75mm. After the fabric has been well bedded in, apply a second coat of CytoFlex B6010. Apply two further coats of CytoFlex B6010 ensuring the previous coat is fully dry prior to subsequent applications. Clean tools with water whilst wet. When dry, white spirit or paraffin should be used.

COVERAGE RATES

Coverage rates vary according to the density, porosity and texture of the concrete to be treated. Typically a coverage rate of 3-5m² per litre can be expected. Minimum recommended coverage is 5m²/litre, two coats required.

PACKAGING AND STORAGE

CytoFlex B6010 is supplied in 20 and 200 litre units. Store in shaded warehouses away from heat, humidity or moisture. Shelf life will be 12 months.

HEALTH AND SAFETY

As with all chemical products, care should be taken to avoid contact with skin, eyes, mouth and foodstuffs. Treat splashes to eyes and skin immediately, by thorough washing with clean water. If ingested seek medical attention.

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CYTOFLEX - MEM

CytoFlex-MEM is a seamless joint free cast-in situ hot applied flexible membrane system for the waterproofing of concrete structures.

USES

CytoFlex-MEM can be used for the water proofing of concrete Roof decks Basements, Balconies planters, parking buildings, Foundations & retaining walls, tunnels etc.intended to protect for zero leakages.

ADVANTAGES

- **Seamless & Joint free cast - in-situ system.**
- **Solvent free 100% solids eco friendly.**
- **Application with controlled heater and mixer and is free from over burnt or under burnt torched membrane system.**
- **No cracking & no blistering.**
- **No bubbling or no rolling out of membrane.**
- **Complete thorough bonding to base.**
- **Storage & performance stability.**
- **Extensive temperature range tolerance.**
- **Region specific formulation.**

DESCRIPTION

CytoFlex-MEM is a polymer modified bitumen compound with variety of synthetic polymers and additives.

APPLICATION INSTRUCTIONS

CytoFlex-MEM is hot applied with a simple boiler cum mixer.

Ref to Technical Services Department for further information.

APPLICATION

CytoFlex-MEM is hot applied with squeegee in two layers with reinforcement in between the layers. The thickness recommended is 4-5mm average.

CLEANING

All tools, equipment and splashes should be cleaned using any suitable solvents Kerosene or white spirit may also be used.

Personal hygiene is maintained with soap and water.

LIMITATIONS

Do not apply during and when rain is expected, or dew point temperature.

STORAGE AND SHELF LIFE

Shelf life is 10 year in original unopened packaging. Keep away from direct sunlight.

PACKAGING

15 Kgs Cartons with poly bag or metal drums.

TECHNICAL SPECIFICATIONS

Form	:	Solid.
Specific Gravity	:	1.25
UV resistance	:	Excellent.
Flash Point	:	<255°C
Penetration	:	100mm@25°C
Flow	:	1mm @ 60°C
Low Temp.	:	
Flexibility	:	-30°C no cracks
Water resistance	:	
Softening Point	:	
Elongation	:	
Resiliency	:	
Bond to concrete	:	
Resistance to hydrostatic pressure	:	
Resistance to salt water	:	

CYTOFLEX - MEM

CytoFlex-MEM is a seamless joint free cast-in situ hot applied flexible membrane system for the waterproofing of concrete structures.

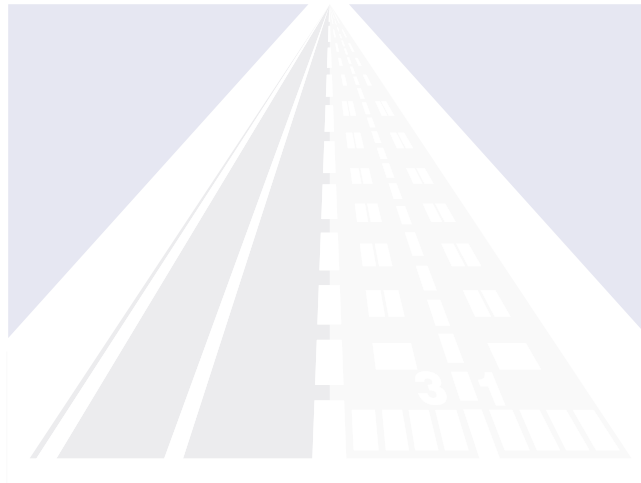
PRECAUTIONS

Health & Safety

Under normal use or for transport purposes, CytoFlex-MEM is not classified as hazardous and treated same as Bitumen. However, as with all chemicals, basic personal hygiene and precautions must be observed when handling CytoFlex-MEM.

Specific additional information is available upon request.

Refer to Material Safety Data Sheet for further information.



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CYTOFLEX-RBE

A rubberised bitumen emulsion for waterproofing and protective coating applications.

USES

CytoFlex HP RBE may be used as a damp-proof membrane and as a vapour barrier. It may also be used as a coating to protect below ground concrete.

Once dry/cured, it forms a tough yet flexible barrier that is impervious to both water and vapour transmission.

ADVANTAGES

- Simple to apply.
- Solvent free, ideal for application in confined spaces.
- High application yield.
- Cold applied, no specialist heating or application equipment required.
- Resistant to chloride and sulphate attack.
- Can be applied to range of materials including concrete, steel, wood and cork.

STANDARD COMPLIANCE

CytoFlex RBE complies with ASTM C309-93 concrete curing requirements when applied at a rate of 1 1/2m² per litre.

DESCRIPTION

CytoFlex RBE is a reinforced, bitumen emulsion. It is supplied as a single component liquid, dark brown in colour, which dries to form a black flexible coating.

PHYSICAL PROPERTIES

The important properties of CytoFlex RBE are:

Bitumen content	: 50%
Rubber content	: 10%

Drying time	: 3 hours @ 20°C
Overcoating time	: 3 hours mm.

CHEMICAL RESISTANCE

Potable water	: Excellent
Sea water	: Excellent
10% Sodium Hydroxide	: Satisfactory
5% Sodium Sulphate	: Satisfactory
Moist heat (70% + 80% RH)	: Satisfactory

APPLICATION INSTRUCTIONS

Surface Preparation

All substrates must be sound, clean, dry and smooth within reason, free from protrusions, voids, honeycombs and high spots. Presence of curing agents, paint and oil will impair adhesion.

PRIMING

Priming is not normally required on good quality, well prepared substrates.

APPLICATION

CytoFlex RBE may be applied by brush, broom or squeegee.

It is recommended that one or two coats should be applied depending on the degree of protection required. Allow a minimum of 3 1/2 hours between coats.

Where CytoFlex RBE is required to take a screed, the second coat must be banded with clean, dry sharp sand as soon as applied. The excess sand should be brushed off when coating has dried.

CLEANING

CytoFlex RBE should be removed from tools and equipment with water whilst it is still wet. When dry CytoFlex RBE may be removed with CytoFlex Solvent 10.

CYTOFLEX-RBE

A rubberised bitumen emulsion for waterproofing and protective coating applications.

COVERAGE

CytoFlex RBE 2m² per 2 litre (depending on the substrate porosity) to give 150 micron D FT.

PACKAGING

20 litre pails and 200 litre drums

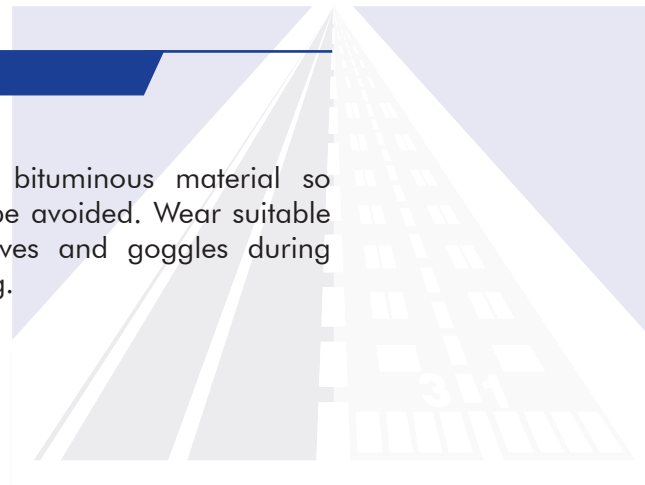
STORAGE AND SHELF LIFE

CytoFlex RBE has a shelf life of 12 months if stored in shade below 45°C in regular warehouse conditions.

PRECAUTIONS

Health and Safety

CytoFlex RBE contains bituminous material so contact with skin must be avoided. Wear suitable protective clothing, gloves and goggles during application and cleaning.



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CYTOGRIP BT

Cold applied high friction surfacing system.

USES

CytoGrip BT high friction system is designed to provide high friction road surfacing in areas where increased tyre grip is required. Typical areas include traffic light, pedestrian crossing, tollbooth and roundabout approaches. CytoGrip BT will also provide increased high friction surfacing to dangerous corners, highway off slip roads and all other areas where increased road grip is required.

ADVANTAGES

- **Cold applied-no heating required.**
- **Self-levelling.**
- **High performance - reduced maintenance.**
- **Can be used on all asphalt surfaces including SMA.**
- **Region specific grades.**
- **High cure times, ensuring minimum traffic disruption.**
- **Easily repaired.**

DESCRIPTION

CytoGrip BT is a two component cold applied bitumen extended, epoxide resin based, binder system used with refractory grade calcined bauxite aggregate (normally 1-3mm PSV>70). It is designed for application to asphalt road surfaces, without a primer coat.

CytoGrip BT is supplied in region specific grades thereby ensuring optimum performance cure and pot life times.

SPECIFICATION COMPLIANCE

HAPAS Roads and Bridges Agrément Certificate.
UK Department of Transport Specification for

Highway Works 1986 Clause 924.

PHYSICAL PROPERTIES

Form	: Two-part compound
Colour	: Black
Specific Gravity	: 1.12 (mixed)
Pot Life (25°C)	: 20-25 minutes
Dry time	: 3-5 hours touch dry
Traffic time	: 4-6 hours hard dry
Full cure	: 7 days
Tensile strength	: >10.5N/mm ²
Elongation	: >30% (7 days)
U/V resistance	: Excellent
Accelerated	: No deterioration
Weathering	:

CONCRETE SUBSTRATES

CytoGrip EP grade is designed to be used on all concrete substrates and has all the attributes of CytoGrip BT. All concrete substrates must be primed with CytoPrime EP Primer. Please refer to Technical Services Department for further details.

APPLICATION INSTRUCTIONS

Substrate preparation

In all cases it is essential that substrate is properly prepared and stable. The asphalt surface should be cleaned by brushing to remove all loose dirt and debris. If the surface shows signs of oil contamination, it must be thoroughly degreased and the detergent cleaning agent should be thoroughly flushed from the surface with water. The surface should be allowed to dry fully before application takes place. The surface can be force dried with oil free compressed air if required. Substrates with poor adhesion to the underlying structure (e.g. failed applications of surfacing) may also cause problems in providing sound over-coating and should be repaired or removed as appropriate. All perimeters should be masked with tape to produce neat edges and manholes, drain gratings, road markings, gutters etc. should also be masked with tape to prevent contamination.

CYTOGRIP BT

Cold applied high friction surfacing system.

MIXING

CytoGrip BT is supplied as two resin components. The part B should be poured completely into the part A and the two resin components should be mixed using a slow speed drill with a suitable paddle for approximately 5 minutes. It is essential that the two components are thoroughly mixed.

APPLICATION

The mixed resin system should be poured directly onto the road surface immediately, and spread across the surface using a notched squeegee. Care should be taken to ensure a uniform and even application is obtained. As soon as the resin mix is evenly spread, the refractory grade calcined bauxite aggregate (PSV>70) must be scattered liberally over the surface so that no resin is visible. If the resin is seen to rise through the aggregate, further aggregate should be spread so that any wet patches are covered with an excess of aggregate.

FINISHING

All masking tape should be removed after thirty minutes. If the freshly applied surface must be crossed during tape removal or walked on, only access with spiked shoes should be permitted to prevent disturbance of the surface. As soon as the resin system is solid to touch, the excess aggregate may be removed by careful sweeping. It is of paramount importance that brushing is not commenced prematurely, as this will spoil the finished appearance.

COVERAGE

Coverage rates will vary with surface textures and porosity.

Resin System : 2m²/kg

Aggregate : 6kg/rn²

The degree of surface texture will increase the surface area, which must be allowed for when calculating usage. e.g. on base course surfaces the actual area will be approximately doubled. A site trial is strongly recommended.

WEATHER CONSIDERATIONS

CytoGrip BT System should not be applied at temperatures below 5°C or above 45°C. Minimum substrate and air temperatures should be 5°C and rising with no expected rain during laying and cure period.

REGIONAL GRADES

Region specific formulations are available to ensure successful application and optimum bond to substrate.

CytoGrip BT (STD) 5°C - 30°C ambient
CytoGrip BT (HI) 15°C - 48°C ambient.

PACKAGING

CytoGrip BT is supplied in 40kg composite packs.

STORAGE AND SHELF LIFE

Store in original unopened pails, under warehouse conditions away from direct sunlight.

Shelf Life is 10 months in original unopened pails.

PRECAUTIONS

Health and Safety

Keep out of reach of children.

Do not breathe vapour.

Ensure good ventilation during application and curing.

Avoid prolonged skin contact. Wear suitable protective clothing, gloves and goggles.

Remove from skin with mild solvent/hand cleanser and wash with warm soapy water.

Specific additional information is available upon request.

Refer to Material Safety Data Sheet for further information.

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CYTOJOINT

High performance asphaltic plug type bridge joint system.

USES

CytoJoint is a hot process in-situ constructed expansion joint system capable of accommodating movements up to 70mm (+/- 35mm). CytoJoint is an integral part of the wearing course of the bridge deck thereby ensuring good ride quality.

ADVANTAGES

- ✓ **Flexible and completely waterproof.**
- ✓ **Ability to accommodate longitudinal, rotational and transverse movements.**
- ✓ **Easy and quick repairs following accidental damage should this occur.**
- ✓ **Able to withstand extremes of temperature from -30°C to +50°C ambient.**
- ✓ **Low surface noise and excellent ride quality.**
- ✓ **Quick installation, thereby minimising disruption to traffic flow.**
- ✓ **Can be used across the full depth of the bridge deck.**
- ✓ **Will accept Anti-Skid finishes.**
- ✓ **Very low maintenance.**
- ✓ **Factory batched supply reducing site errors.**

DESCRIPTION

CytoJoint is a combination of polymer modified binder and selected aggregates. The binder is a compound blend of bitumens, polymers, fillers and stabilisers, that is specifically formulated to give good fluidity, low and high temperature stability and slump control.

CytoJoint is delivered in factory batched 'zip' pails or 4 ply silicone bags ready to be heated by approved pre-heaters.

In standard joints 20mm graded granite is utilised. For shallower joints other sizes may be specified (refer to Technical Services Department). Utilising single size aggregate allows high binder to aggregate content thereby ensuring optimum combination of flexibility and load bearing capacity.

CytoJoint is available in a range of formulations to suit variations of climates including continental and tropical, thereby ensuring flexibility of the joint in cold temperatures and structural integrity in very warm conditions. CytoJoint is designed to extend the full depth of the road down to the structural concrete deck and will develop a tenacious bond to concrete as well as the adjacent asphalt surfaces.

For joints up to 50mm wide an aluminium or steel plate is placed over the joint to prevent aggregate entering the joint. For joints over 50mm the steel plate assists in the distribution of wheel loads across the joints.

SPECIFICATION COMPLIANCE

CytoJoint has been tested to the latest ASTM, British Standard and IL Mm Specifications.

TECHNICAL GUIDELINES

Locations with close proximities to traffic lights or junctions are generally unsuitable for CytoJoint due to build up of stationary traffic, which may have a detrimental effect as with all plug-joint systems.

The standard CytoJoint width is 500mm. This may be increased to an absolute maximum of 750mm under certain conditions. (Refer to CyTech Technical Services).

The optimum depth of joint is 100mm and absolute minimum is 40mm.

CYTOJOINT

High performance asphaltic plug type bridge joint system.

Movement accommodation for standard width and depth of seal installed at mean joint width is total +/- 25mm (50mm). With decreased depth, movement capability is also reduced.

Joints to be sealed should not exceed 45° skew and on areas of skew, CytoJoint width must not exceed 750mm.

Vertical movement accommodation of CytoJoint is a maximum of 1 mm and where possible longitudinal seals should be avoided.

4% gradient is the maximum recommended. In situations where gradients in excess of this figure is envisaged, please refer to Technical Services Department.

APPLICATION INSTRUCTIONS

Preparation

The sealing recess, prior to application of CytoJoint must be thoroughly prepared by template former for new works or in the case of remedial works; asphalt surfacing is removed to recommended width by saw cutting and jack hammering. The asphalt must be removed completely to expose the deck. All traces of waterproofing membrane must be removed. Failure to do so will form a bond break.

Where previously mechanical joints have been used all fixing bolts must be trimmed flush with deck. The recess and the expansion joint is cleaned and prepared using a hot compressed air lance, thereby ensuring that the surface is free from contaminants and it is warm, ready to receive the CytoJoint binder.

CYTOJOINT INSTALLATION

Ensure that the expansion joint is sealed with good quality cross-linked polyethylene foam. The recess is tanked with hot CytoJoint binder that has been heated in an approved preheater to its application temperature in accordance with CyTech International instructions.

Aluminium strip or steel plate as specified is placed over the expansion joint.

Aggregate is pre-heated to 150°C - 190°C and placed into the joint to a maximum depth of 40mm but not less than 20mm.

The layer is then flooded with the correctly heated binder and the process is repeated until the joint is within 25mm of the surface.

For final 25mm layer apply pre-mix layer and compact using a compactor or vibrating roller.

Seal surface using CytoJoint binder only.

CYTOJOINT BINDER SELECTION TABLE

Grade	Service Temperature
CytoJoint P1	- 5°C +30°C
CytoJoint P2	- 20°C +35°C
CytoJoint P3	- 30°C +35°C
CytoJoint P4	0°C +45°C
CytoJoint PS	- 5°C +45°C

MOVEMENT ACCOMMODATION TABLE

Joint Width mm	Joint Thickness mm	Maximum Movement
750	50 - 75	+/- 12
	75 - 100	+/-25
	100	+/-25
500	50 - 75	+/- 12
	75 - 100	+/-25
	100	+/-25
300	50 - 100	+/-5
	100+	+/-5

CYTOJOINT

High performance asphaltic plug type bridge joint system.

NOTES

Please refer to Technical Services Department for steel plate thickness and guidance.

In-joint drainage systems may be required. This will depend on site conditions and size of joint. Please refer to Technical Service Department.

PACKAGING

CytoJoint binder is supplied in 30kg 'zip' pails or silicone lined 25kg bags.

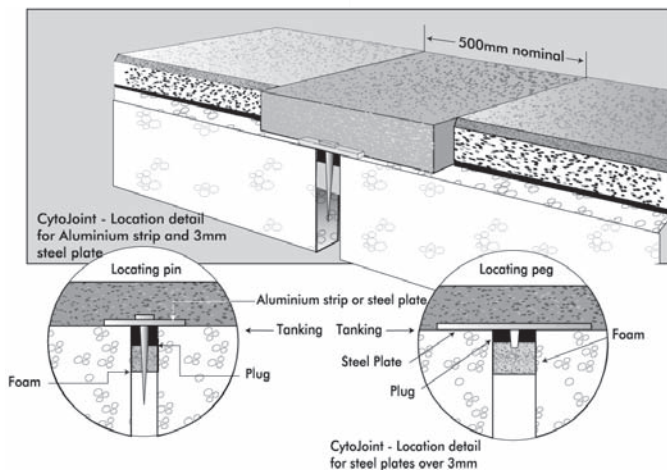
Ready to use graded aggregate is available in 50kg bags.

PRECAUTIONS

Health and Safety

Exercise extreme caution when handling hot binder and aggregate.

Always wear protective overalls, goggles and gloves when handling hot CytoJoint.



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CYTOMIX C1

Corrosion Inhibiting Concrete admixture.

USES

CytoMix C1 corrosion inhibitor admixture is a liquid added to concrete during the batching process. CytoMix C1 chemically inhibits the corrosive action of chlorides on all reinforcing steel and pre-stressing tendons.

CytoMix C1 may be considered in the following applications:

- **Coastal Structures.**
- **Sea defences.**
- **Below ground structures where saline water is present.**
- **All structures within a Marine Environment.**
- **Bridge decks.**

DESCRIPTION

CytoMix C1 is based on Calcium Nitrite which interacts with the structural steel in concrete to prevent chloride attack.

CytoMix C1 chemically reacts with the steel to maintain a passivating layer when chlorides penetrate the concrete cover, thereby significantly delaying the rate of corrosion.

DESIGN CRITERIA

Project specifications will determine addition rates which should be pre-determined following projected chloride ion ingress over the life span of the structure.

Preliminary tests should always be carried out to determine the effects on the concrete mix design.

PHYSICAL PROPERTIES

Appearance	: Pale yellow liquid.
Specific gravity	: 1.29 + 0.01
Solids Content	: Minimum 30%
PH value	: 11 max.

COMPATIBILITY

CytoMix C1 is fully compatible with superplasticizers, retarders, air entraining agents and other admixtures. All admixtures should be dispensed separately to obtain desired results.

The water content ratio should however be adjusted to take into consideration the water available in CytoMix C1.

CytoMix C1 is compatible with all Portland and Pozzolanic cements.

APPLICATION

CytoMix C1 is supplied ready for use and should be added to the mix as with other admixtures by means of automatic dispensing equipment.

ADDITION RATES

The Project specification will indicate the additional rate. In all cases site trial should be carried out to determine optimum results and mix design.

OVERDOSING

Overdosing will normally result in increased workability and possible reduction in setting time.

PACKAGING

200 Litre drums.

CYTOMIX C1

Corrosion Inhibiting Concrete admixture.

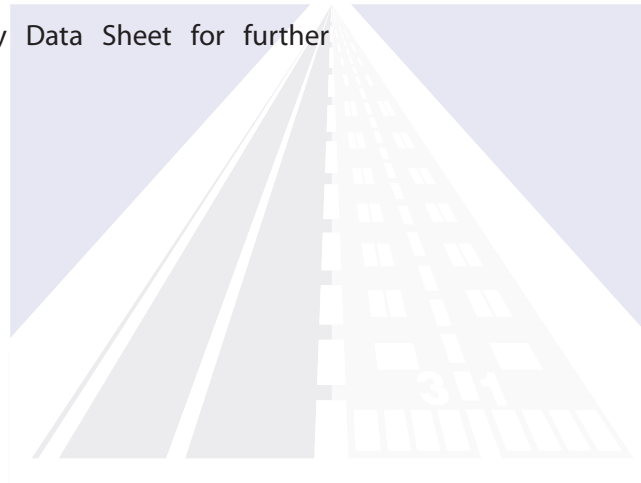
STORAGE AND SHELF LIFE

Protect from frost and store out of direct sunlight. Shelf life is generally 6 months in unopened original drums however, some settling may occur therefore, after prolonged storage, mechanical agitation is highly recommended.

HEALTH AND SAFETY

Not listed as hazardous under normal use. However, protection from spillage and splashes is recommended.

Refer to Material Safety Data Sheet for further information.



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CYTMORTAR

High strength, non-flow, epoxy bedding and repair mortar.

DESCRIPTION

CytoMortar 1758 is a non slumping epoxy bedding compound and adhesive. It is a two pack, fine aggregate filled, fast curing material, ideal for a variety of bedding, gap filling and concrete repair applications.

CytoMortar 1758 is a stiff but easily workable compound that can be applied by either trowel, spatula or knife. It cures to give high mechanical properties typical of epoxy compounds. It is resistant to oils, greases, petroleum, salts, many acids and alkalis and most commonly met corrosive media. It does not shrink on curing, and is designed to be used when cured from below freezing point to 600°C. Its impact resistance, and mechanical strength is greater than that of concrete.

PRIMARY USES

For surface repairs of fine cracks and spalls. For gap filling, grouting, bedding fixtures etc. For repairs to arises without the use of form work. Wherever a thixotropic epoxy mortar is required.

TYPICAL APPLICATIONS

Bedding bridge beams or steel bridge bearings. Repairing surface defects or to honeycombing concrete in horizontal, vertical or overhead situations.

Fixing slip bricks to concrete.
Securing bolts into walls.
Dowel bars anchoring.
As a gap filling adhesive.
Filling bolt pockets.
Bedding tiles.
Repairing concrete posts in-situ.
Fixing of surface ports for crack

ADVANTAGES

- High strength
- Non-slump

- Strong adhesion
- Impact resistant
- Non shrink
- Epoxy based
- Trowels to a smooth finish
- Easy to use
- Supplied in pre-weighed units
- No bonding agent or primer required

PACKAGING

CytoMortar 1758 is available in 3kg units.

COMPOSITION

Two component epoxy-based mortar filled with selected fine aggregate.

TYPICAL PROPERTIES

Colour	: Cement grey.
Mixed density	: 1758 kg/m ³ at 25°C
Flashpoint	: N/A
Compressive Strength:	60 N/mm ² at 7 days.
to ASTM D695	
Bond strength	: Greater than that of the concrete
Pot life	: at 25°C: 1 hour 45 mins. At 40°C: 45 mins.
Tack free time	: At 25°C: 7 hours. At 40°C: 2 hours 15 mins.
Full cure	: At 25°C: 5 days At 40°C: 3 days

CHEMICAL RESISTANCE

CytoMortar 1758 has excellent resistance to the following: most aqueous systems, sewage, urine, fresh water, sea water, diluted and concentrated

CYTOMORTAR

High strength, non-flow, epoxy bedding and repair mortar.

alkalis, diluted acids, sulphur gases, mineral, vegetable and animal oils and fats, ammonia and formaldehyde.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.

APPLICATION PROCEDURE

Preparation:

All loose particles, laitance, dust and grease etc., must be removed prior to application of CytoMortar 1758.

Mixing:

The 3 kg pack has been designed to be readily mixed by trowel. Where more than one pack is to be mixed at a time, a Mixal portable mixer (HD5 model) is suitable.

Application:

Knife or trowel CytoMortar 1758 to the required using the minimum of solvent on the trowel to aid workability. The surface may be finished smooth by use of a paint brush dipped in CLEANING SOLVENT NO.2. Where a very deep recess is to be filled, it may be necessary to build up in layers. Repairs may be camouflaged if required by covering surface with cement powder full cure is affected.

Working Temperature:

CytoMortar will cure at temperatures as low as 0°C, although at low temperatures cure is restarted.

COVERAGE

3 kg is sufficient to cover 1.1m² at 1.5mm thickness.

EQUIPMENT CARE

Clean with CLEANING SOLVENT NO.2 immediately after use.

STORAGE

Store under cover out of direct sunlight and protect from extremes of temperature. In tropical climates the product must be stored in an air conditioned environment.

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CYTOPATCH

Cold lay first time reinstatement asphalt repair compound.

USES

CytoPatch is a cold applied asphalt repair compound that is formulated for economical repairs of spalled concrete and damaged asphaltic pavements of roads, airfield runways, taxiways and aprons. CytoPatch significantly reduces the risk of FOD and further deterioration of the pavement.

CytoPatch is also particularly suitable for the repair of cracks and damaged substrates of foot-ways, cycle tracks, drives, etc. in addition to pot hole repairs and work around manhole covers, cats eyes and gullies.

ADVANTAGES

- **Rapid repair time. Economical.**
- **No waste.**
- **Minimal labour and plant.**
- **No overcoat or tack coat requirement.**
- **No shrinkage or aggregate separation.**
- **Instant trafficking**
- **No heating or mixing.**

DESCRIPTION

CytoPatch consists of a combination of selected aggregates meeting the PSV of UK specification and special binders that are based upon penetrating bitumens, resins and adhesives.

CytoPatch is available in 10mm, 6mm and 3mm aggregate sizes.

CytoPatch is specially formulated to ensure that the repair is not affected by extremes of heat, cold, snow, ice, frost or rain at the time of repair and through out it's service life.

Curing of the repair is by both compaction and air-

curing and is dependent upon temperature and the weight and volume of traffic. CytoPatch, however, during the curing process, will not be subject to deformation or pick-up from traffic.

END USER GUIDE

- **Rapid repair time.**
- **Motorway and road maintenance units.**
- **Street lighting contractors.**
- **Local and Municipality Authorities.**
- **Rail maintenance contractors.**
- **Utilities.**
- **Port operators.**
- **Factory maintenance.**
- **Cable contractors.**
- **Car park managers.**

APPLICATION INSTRUCTIONS

Ensure that the area to be repaired is clean and free from loose and other deleterious material. Weak areas should be removed back to sound substrate. Tip CytoPatch from the pack to over-fill the repair area ensuring that all edges are filled. DO NOT attempt to form a feather edge. Up to 50% overfill should be allowed for.

Compact the CytoPatch to the surrounding level using a hand tamper, compactor or roller. For larger areas/deep sections the use of a vibrating plate or mechanical roller is essential. Ensure that the vibrator plate or roller is slightly wetted with water.

The repair may be immediately trafficked by heavy and continuous traffic. Where repairs are to be trafficked by forklift trucks extra compaction and curing time is essential.

CYTOPATCH

Cold lay first time reinstatement asphalt repair compound.

When repairing deep holes, it is recommended that CytoPatch be placed in layers of 30mm. Thoroughly compact each layer until the required level is reached.

PACKAGING & STORAGE

CytoPatch is supplied in 25kg packs.

Part used tubs must be tightly resealed and used within 1 month.

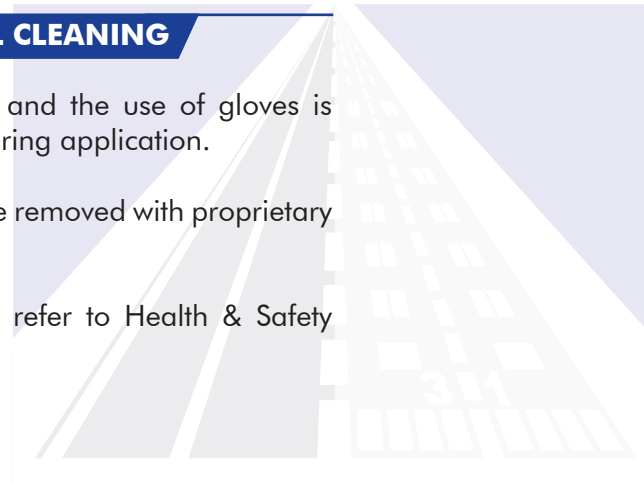
Shelf life of unopened tubs is 10 months and must be stored away from frost and direct sunlight.

HANDLING & TOOL CLEANING

CytoPatch is very sticky and the use of gloves is highly recommended during application.

Stains on the skin may be removed with proprietary cleansers.

For further information, refer to Health & Safety Data Sheet.



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CYTOPAVE RR

Polymer modified bituminous, recessed repair compound.

USES

For sealing cracks using "recess" method in asphalt and concrete pavements on roads, airfields, cargo areas warehousing and car park decks. CytoPave RR is also particularly suitable for sealing of cracks on existing pavements that are to be overlaid by asphalt, thereby, helping to alleviate reflective cracking and as a consequence prolonging the serviceable life of the pavement. CytoPave RR is recessed into the pavement surface to prolong service life and enhance ride quality.

ADVANTAGES

- **Designed to be trafficked 'recessed' situations.**
- **Prolongs the life of cracked asphalt and concrete pavements.**
- **Prevents the ingress of water and de-icing salts.**
- **No primer is required on asphalt surfaces.**
- **Superior to straight bitumen banding materials in ageing resistance, oxidation and ride quality.**
- **Simple heating and application procedures.**
- **Formulated to allow cracks freedom of movement.**

DESCRIPTION

CytoPave RR is a hot applied polymer modified crack sealing compound incorporating chopped fibres, rubber and granite aggregates. It has excellent adhesion to both asphalt and concrete substrates without the need of a primer on asphalt surfaces.

CytoPave RR is formulated to have excellent anti-oxidation properties at the same time eliminating

the risk of 'pick-up' as experienced by traditional banding sealers.

In its molten state CytoPave RR has excellent flow properties thereby ensuring total penetration of the crack without voids or air pockets. Following cooling it sets to a tough, rubber-like consistency, maintaining flexibility through a wide range of temperatures, at the same time reducing the risk of tyre 'pick-up'.

Graded granite aggregates provide optimum compressive resistance to cracks exceeding 5mm. For sealing of larger cracks a dressing of high PSV aggregates will provide an excellent anti-skid finish.

PHYSICAL PROPERTIES

Specific gravity	: 1.7
Softening point	: 115°C
Compression resistance	: 4000N
Flow plate test mm	: 3%(max)
5 hours @ 70°C	
B52499/ASTM D3407	
Movement accommodation factor (MAF)	: 25%
Flow plate @ 70°C	: 5mm max
B52499	
Extension @ 25°C	
ASTM D5329	: 750N (80%)
Application temperature	: 180°C-200°C
Safe heating temperature	: 220°C

INSTRUCTION OF USE

Preparation of cracks

The treatment of cracks in asphalt and concrete pavements is best performed by adopting an 'insert banding' technique. The crack is chased out using a mechanical planer to give a rectangular profiled recess into which CytoPave RR is applied and finished level with the wearing surface, overlapping the edges, to ensure a watertight seal.

Following planing works, the new profile should be cleaned free of all dust, dirt, dampness and other contaminants by the use of hot compressed air lances.

CYTOPAVE RR

Polymer modified bituminous, recessed repair compound.

The minimum recess width and depth must be 150mm wide x 14mm deep and maximum 250mm wide x 20mm deep.

Previously treated areas must be thoroughly prepared ensuring any old, oxidised or degraded material is removed by mechanical planing means.

APPLICATION

CytoPave RR must be heated to 180°C-210°C in a horizontally agitated propane gas fired mixer unit.

The application is carried via a purpose built hand tool that ensures even distribution of the hot compound.

It is recommended that the repair is dressed whilst still hot with clean, dust free, pre CytoPave heated (to 120°C) 2-4mm aggregate to give anti-skid properties.

Following cooling of the repair the area should be swept by mechanical means to remove excess aggregate dressing.

CLEANING

Application equipment should be thoroughly cleaned out after use. Spillages should be absorbed with sand or vermiculite etc. and be disposed of in accordance with local regulations.

PACKAGING

25kg silicone lined bags.

STORAGE AND SHELF LIFE

CytoPave RR should be stored in warehouse conditions. Pallets must not be stacked more than two high.

Outer protective wrap should be left intact until use.

Shelf life is 24 months.

ESTIMATING

To calculate CytoPave RR quantities use following calculation.

$$W(\text{mm}) \times D(\text{mm}) \times L(\text{m}) \times 1.7 \text{ Kgs}$$

DESIGN FACTORS

The recess profile must be as follows
Minimum: 150mm wide x 14mm deep
Maximum: 250mm wide x 20mm deep

HEALTH AND SAFETY

CytoPave RR should not come into contact with Skin, eyes or be swallowed

Avoid inhalation of fumes during heating process.

In order to avoid burns exercise extreme caution when handling hot material.

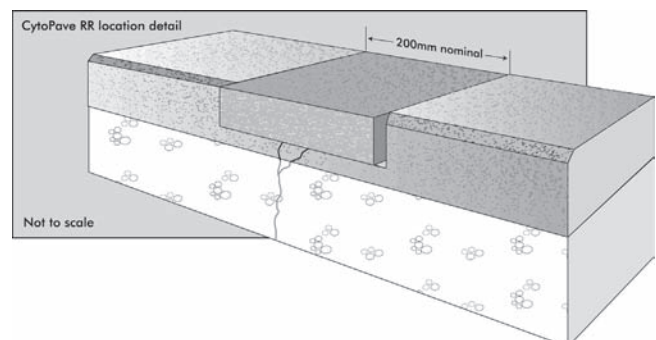
Heatproof gloves, goggles, and overalls must always be used.

If contact with skin occurs seek medical advice immediately.

Refer to Materials Safety Data Sheet for further information.

FIRE

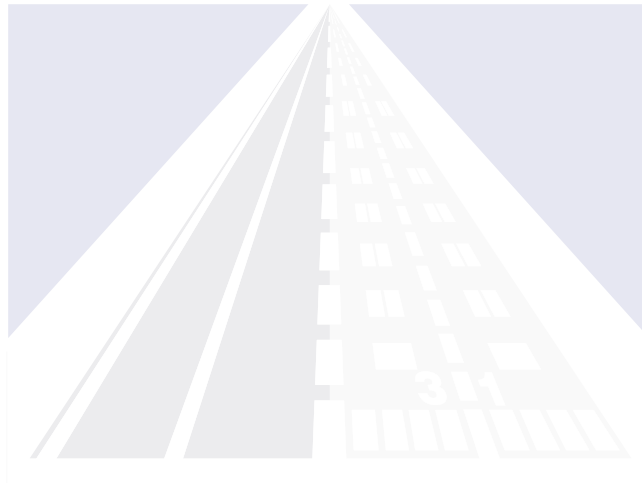
In the event of fire, extinguish with CO₂ or foam.





CYTOPAVE RR

Polymer modified bituminous, recessed repair compound.



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CYTOPAVE RS

Polymer modified bituminous, pavement crack sealer.

USES

For sealing cracks using "rout and seal" method in asphalt and concrete pavements on roads, airfields, cargo areas, warehousing and car park decks. CytoPave RS is also particularly suitable for sealing of cracks on existing pavements that are to be overlaid by asphalt, thereby, helping to alleviate reflective cracking and as a consequence prolonging the serviceable life of the pavement.

ADVANTAGES

- **Designed to be trafficked over in 'banding' situations.**
- **Prolongs the life of cracked asphalt and concrete pavements.**
- **Prevents the ingress of water and de-icing salt damage.**
- **No primer is required.**
- **Superior to straight bitumen banding materials in ageing resistance, oxidation and ride quality.**
- **Simple heating and application procedures.**
- **Formulated to allow cracks freedom of movement.**

DESCRIPTION

CytoPave RS is a hot applied single component polymer modified crack sealer. It has excellent adhesion to both asphalt and concrete substrates without the need of a primer.

CytoPave RS is formulated to have excellent anti-oxidation properties at the same time eliminating the risk of 'pick-up' as experienced by traditional banding sealers. In its molten state CytoPave RS has excellent flow properties thereby ensuring total penetration of the crack without voids or air pockets.

Following cooling it sets to a tough, rubber-like consistency, maintaining flexibility through a wide range of temperatures, at the same time reducing the risk of tyre 'pick-up'. Graded granite aggregates provide optimum compressive resistance in cracks excess of 5mm. For sealing of larger cracks a dressing of high PSV aggregates will provide further anti-skid properties. The compound in overband situations is designed to exhibit typically a 3mm step over the existing pavement thereby providing a smooth ride over the repair, dependent on surface texture and profile of the pavement.

PHYSICAL PROPERTIES

Specific gravity	: 1.4
Softening point	: 100°C
Compression resistance	: 250N
Movement accommodation factor (MAF)	: 15%
Flowcup @75°CBS2499	: 3% max
Flow plate @ 50°C BS2499	: 5mm max
Extension @ 25°C ASIM DI 191	: 200N (50%)

INSTRUCTION OF USE

Preparation of cracks

The treatment of cracks in asphalt and concrete pavements is best performed by adopting an 'insert banding' technique. The crack is chased out using a mechanical router to give a rectangular profiled recess into which CytoPave RS is applied and finished level with the wearing surface, overlapping the edges, to ensure a watertight seal. Following routing works, the new recess must be cleaned free of all dust, dirt, dampness and other contaminants by the use of hot compressed air lances.

'Overseal banding' technique should only be considered on cracks less than 5mm wide.

Previously treated areas must be thoroughly prepared ensuring any old, oxidised or degraded material is removed by an acceptable mechanical means (consult Technical Services Department).

CYTOPAVE RS

Polymer modified bituminous, pavement crack sealer.

APPLICATION

CytoPave RS must be heated to 180°C - 210°C in a horizontally agitated propane gas fired mixer unit. The application is carried via a purpose built hand tool that ensures even distribution of the hot compound.

Where the finished repair width exceeds 100mm it is recommended that the repair is dressed whilst still hot with clean, dust free, pre-heated (to 120°C) 2mm aggregate to give anti-skid properties.

Following cooling of the repair, the area should be swept by mechanical means to remove excess aggregate dressing.

CLEANING

Application equipment should be thoroughly cleaned out after use. Spillages should be absorbed with sand or vermiculite etc. and be disposed of in accordance with local regulations.

PACKAGING

25kg silicone lined bags.

STORAGE AND SHELF LIFE

CytoPave RS should be stored in warehouse conditions. Pallets must not be stacked more than two high. Outer protective wrap should be left intact until use.

Shelf life is 24 months.

ESTIMATING

To calculate CytoPave RS quantities.
 $W(\text{mm}) \times D(\text{mm}) \times L (\text{m}) \times 1.4 \text{ Kgs}$

DESIGN FACTORS

- 1) Invert banding (routed cracks) width to depth ratio 2:1.
- 2) Overseal banding width 25mm-50mm, depth 2-3mm.

PRECAUTIONS

Health and Safety

CytoPave RS should not come into contact with skin, eyes or be swallowed. Avoid inhalation of fumes during heating process. In order to avoid burns exercise extreme caution when handling hot material. Heatproof gloves, goggles, and overalls should be used. If contact with skin occurs seek medical advice immediately.

Refer to Material Safety Data Sheet for further information.

FIRE

In the event of fire, extinguish with CO₂ or foam.

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CYTOPROOF 60

Bitumen emulsion protective coating.

USES

To act as a damp-proof membrane and vapour seal for concrete and masonry. It can also be used as a protective coating for concrete below ground.

ADVANTAGES

CytoProof 60 has a number of significant advantages as follows:-

- **Easy to apply**
- **Economical in use**
- **Multipurpose, serves both as a protective coating and curing membrane**
- **Contains no solvent, no health hazard**
- **Resists attack by chloride and sulphate ions present in the ground water**
- **Adhere to wide range of materials including concrete, steel, cork and wood**

STANDARD COMPLIANCE

CytoProof 60 complies with concrete curing requirements of ASTM C309-93 when applied at the rate 2m² per litre and to BAS694911991 requirements for bituminous coating.

DESCRIPTION

CytoProof 60 is a brown/black liquid blend of selected bitumens emulsified with water to give an easily applied protective coating.

PROPERTIES

The essential properties of CytoProof 60 are:-

Bitumen content : 60%
Time between coats : Minimum 2 hours.

Chemical Resistance:

(Test results with some common chemicals)

Potable water : Excellent.
Sea water : Excellent.
10% sodium hydroxide : Satisfactory.
5% Sodium Sulphate : Satisfactory.
Wet heat (70°C+80% R.H.) : Satisfactory.

INSTRUCTIONS FOR USE

Surface preparation

Surfaces to be coated must be sound, clean and free of oil or grease. Any oil or grease contamination should be removed with a proprietary chemical degreaser.

If the surface is dusty, it should be primed with a coat of CytoProof 60 diluted with an equal quantity of cool, clean water and allowed to dry.

Application

CytoProof 60 may be applied by brush, broom or squeegee.

It is recommended that one or two coats should be applied depending on the degree of protection required. Allow a minimum of 2 hours between coats.

Where the CytoProof 60 is to take a screed, the second coat should be blinded with clean, dry sharp sand as soon as applied. The excess sand should be brushed off when the coating has dried.

Cleaning

CytoProof 60 should be removed from tools and equipment with water when it is wet. On drying CytoProof 60 may be removed using solvents.

ESTIMATING

Supply:

CytoProof 60 : 200 Litre drums.

Covergae:

CytoProof 60 : 2.0 to 5.0 m²/litre
depending on substrate.



CYTOPROOF 60

Bitumen emulsion protective coating.

STORAGE AND SHELF LIFE

CytoProof 60 has a shelf life of 12 months if stored in shade below 45°C under normal warehouse conditions.

PRECAUTIONS

Health and Safety:

CytoProof 60 contains bituminous material. Possible risk of irreversible effects in contact with skin. Wear suitable protective clothing, gloves and eye/face protection. Barrier creams provide additional skin protection. Should accidental skin contact occur, remove immediately with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately - do not induce vomiting.

Fire:

CytoProof 60 is not flammable. Ensure adequate ventilation. Do not use near a naked flame and do not smoke during use.

For further information, please consult the Material Safety Data Sheet for the respective products.

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CYTOPROOF B-30

Non fibrated bitumen emulsion coating of brushing consistency which dries to give a firm, flexible, jointless waterproof and protective membrane.

DESCRIPTION

CytoProof B-30 is suitable for the treatment of concrete, asphalt, metal, roofing felt and other similar roofing surfaces whether flat, sloping or vertical. Where added protection is required on roofs, CytoProof B-30 may be used in conjunction with a reinforcing fabric.

TYPICAL APPLICATIONS

General waterproofing and damp proofing of concrete, asbestos cement sheets, roofing felts, wood etc.

Protection of steelwork, pipes and metal.

ADVANTAGES

- ✓ **Vapour Permeable allows substrate to breathe.**
- ✓ **Reduced chloride penetration due to hard impermeable surfaces.**
- ✓ **Simple and easy to use, no skilled labour required.**
- ✓ **Single component, use as supplied.**
- ✓ **Solvent free.**
- ✓ **Cold applied, no heating required.**
- ✓ **Non-slumping.**
- ✓ **Easy application due to paintable consistency, suitable for new and old concrete.**
- ✓ **Many areas of use, versatile.**

TYPICAL PROPERTIES

Solids content : 30% +/- 3%.
Specific gravity : 1.10 @ 25°C
Service Temperatures : -100°C to +85°C

Flashpoint : N/A
Drying Times : 6-8hours per coat @ 25°C.
Appearance : Dark black/brown Coating. Cures to a Hard tack free finish.
Chemical resistance : Water, aqueous groundwater salt Solutions, mild detergents, acids and Alkalis.

DIRECTIONS

Surface Preparation:

Surfaces to which CytoProof B-30 is to be applied must be clean and free of dirt, dust, rust or any other material which may impair adhesion. Where moss or lichen is present, remove sheets. Cut and reseal blisters in asphalt or roofing. Remove chippings other than those that form the surface of mineralised felt. Porous surfaces such as concrete and fibre reinforced cement should be primed using CytoProof B-30 diluted 1:6 with clean water.

Old concrete and steel must be structurally sound prior to application.

APPLICATION

Apply by brush or roller. Two or more coats must be applied to ensure a durable finish. Second and subsequent coats should be applied at right angles to each other once previous coats have fully dried.

CytoProof B-30 may be applied to damp but not wet surfaces, dampen brushes before and occasionally during use to avoid clogging and ease application. During hot, dry weather application may be assisted by dampening the surfaces to be treated.

PACKAGING AND STORAGE

CytoProof B-30 is supplied in 20 and 200 litre units. Store in shaded warehouses away from heat, humidity or moisture.
Shelf life will be 12 months.

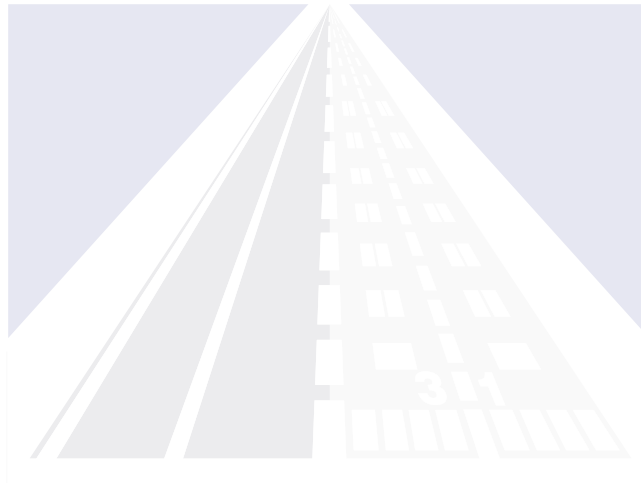


CYTOPROOF B-30

Non fibrated bitumen emulsion coating of brushing consistency which dries to give a firm, flexible, jointless waterproof and protective membrane.

HEALTH AND SAFETY

As with all chemical products, care should be taken to avoid contact with skin, eyes, mouth and foodstuffs. Treat splashes to eyes and skin immediately, by thorough washing with clean water. If ingested seek medical attention.



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CYTOPROOF B-50

Non fibrated bitumen emulsion coating of brushing consistency which dries to give a firm, flexible, jointless waterproof and protective membrane.

DESCRIPTION

CytoProof B-50 is suitable for the treatment of concrete, asphalt, metal, roofing felt and other similar roofing surfaces whether flat, sloping or vertical. Where added protection is required on roofs, CytoProof B-50 may be used in conjunction with a reinforcing fabric.

TYPICAL APPLICATIONS

General waterproofing and damp proofing of concrete, asbestos cement sheets, roofing felts, wood etc.

Protection of steelwork, pipes and metal.

ADVANTAGES

- **Vapour Permeable allows substrate to breathe.**
- **Reduced chloride penetration due to hard impermeable surfaces.**
- **Simple and easy to use, no skilled labour required. Single component, use as supplied.**
- **Solvent free.**
- **Cold applied, no heating required. Non-slumping.**
- **Easy application due to paintable consistency, suitable for new and old concrete.**
- **Many areas of use, versatile.**

TYPICAL PROPERTIES

Solids content	: 50% +/- 3%.
Specific gravity	: 1.10 @ 25°C
Service Temperatures	: -100°C to +85°C
Flashpoint	: N/A

Drying Times	: 6-8hours per coat @ 25°C.
Appearance	: Dark black/brown Coating. Cures to a Hard tack free finish.
Chemical resistance	: Water, aqueous groundwater salt Solutions, mild detergents, acids and Alkalis.

DIRECTIONS

Surface Preparation:

Surfaces to which CytoProof B-50 is to be applied must be clean and free of dirt, dust, rust or any other material which may impair adhesion. Where moss or lichen is present, remove sheets. Cut and reseal blisters in asphalt or roofing. Remove chippings other than those that form the surface of mineralised felt. Porous surfaces such as concrete and fibre reinforced cement should be primed using CytoProof B-50 diluted 1:6 with clean water.

Old concrete and steel must be structurally sound prior to application.

APPLICATION

Apply by brush or roller. Two or more coats must be applied to ensure a durable finish. Second and subsequent coats should be applied at right angles to each other once previous coats have fully dried.

CytoProof B-50 may be applied to damp but not wet surfaces, dampen brushes before and occasionally during use to avoid clogging and ease application. During hot, dry weather application may be assisted by dampening the surfaces to be treated.

PACKAGING AND STORAGE

CytoProof B-50 is supplied in 20 and 200 litre units. Store in shaded warehouses away from heat, humidity or moisture. Shelf life will be 12 months.

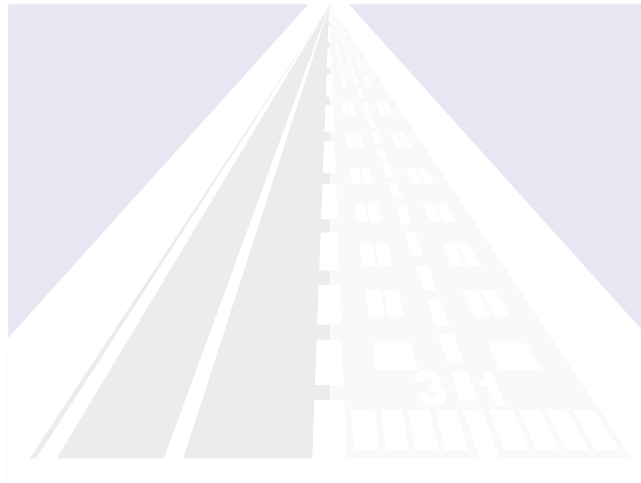


CYTOPROOF 50

Non fibrated bitumen emulsion coating of brushing consistency which dries to give a firm, flexible, jointless waterproof and protective membrane.

HEALTH AND SAFETY

As with all chemical products, care should be taken to avoid contact with skin, eyes, mouth and foodstuffs. Treat splashes to eyes and skin immediately, by thorough washing with clean water. If ingested seek medical attention.



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CYTOPROOF GP 40

Cold applied bitumen emulsion for waterproofing and protective coating applications.

USES

CytoProof GP 40 may be used as a damp-proof membrane and as a vapour barrier. It may also be used as a coating to protect below ground concrete.

Once dry/cured, it forms a tough yet flexible barrier that is impervious to both water and vapour transmissions.

ADVANTAGES

- **Simple to apply.**
- **Solvent free, ideal for application in confined spaces.**
- **High application yield.**
- **Cold applied, no specialist heating or application equipment required.**
- **Resistant to chloride and sulphate attack.**
- **Can be applied to range of materials including concrete, steel, wood and cork.**

STANDARD COMPLIANCE

CytoProof GP 40 complies with ASTM C309-93 concrete curing requirements when applied at a rate of 2m² per litre, and BS6949: 1991 requirements for bituminous coating.

DESCRIPTION

CytoProof GP 40 is a brown / black viscous combination of graded bitumens emulsified with water to provide an easily applied protective coating.

PHYSICAL PROPERTIES

The important properties of CytoProof GP 40 are:

Bitumen content	: 40%
Over coating time	: Mm. 2 hours

CHEMICAL RESISTANCE

Potable water	: Excellent
Sea water	: Excellent
10% Sodium Hydroxide	: Satisfactory
5% Sodium Sulphate	: Satisfactory
Moist heat (70% + 80% RH)	: Satisfactory

APPLICATION INSTRUCTIONS

Surface Preparation

All substrates must be sound, clean, dry and smooth within reason, free from protrusions, voids honeycombs and high spots. Presence of curing agents, paint and oil will impair adhesion.

PRIMING

Priming is not normally required on good quality, well prepared substrates.

APPLICATION

CytoProof GP 40 may be applied by brush, broom or squeegee.

It is recommended that one or two coats should be applied depending on the degree of protection required. Allow a minimum of 2 hours between coats.

Where CytoProof GP 40 is required to take a screed, the second coat must be banded with clean, dry sharp sand as soon as applied. The excess sand should be brushed off when coating has dried.

CLEANING

CytoProof GP 40 should be removed from tools and equipment with water whilst it is still wet. When dry CytoProof GP 40 may be removed with CytoFlex Solvent 10.

COVERAGE

CytoProof GP 40: 2 to 2.5 m² per litre depending on the substrate.

CYTOPROOF GP 40

Cold applied bitumen emulsion for waterproofing and protective coating applications.

PACKAGING

20 litre pails and 200 litre drums.

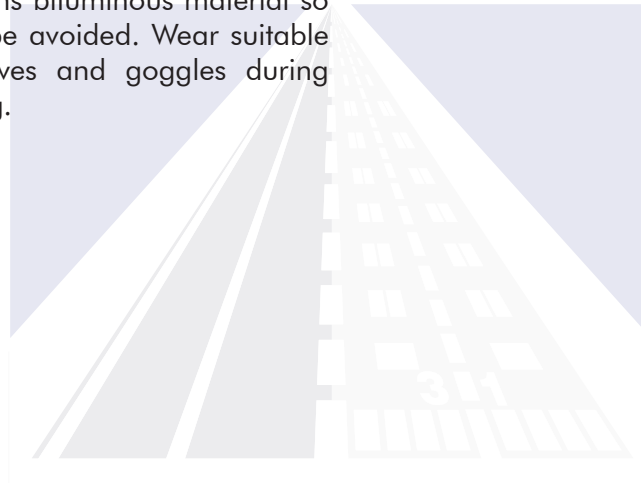
STORAGE AND SHELF LIFE

CytoProof GP 40 has a shelf life of 12 months if stored in shade below 45°C in regular warehouse conditions.

PRECAUTIONS

Health and Safety

CytoProof GP 40 contains bituminous material so contact with skin must be avoided. Wear suitable protective clothing, gloves and goggles during application and cleaning.



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CYTOPROOF GP-50

Cold applied bitumen emulsion for waterproofing and protective coating applications.

USES

CytoProof GP 50 may be used as a damp-proof membrane and as a vapour barrier. It may also be used as a coating to protect below ground concrete.

Once dry/cured, it forms a tough yet flexible barrier that is impervious to both water and vapour transmissions.

ADVANTAGES

- Simple to apply.
- Solvent free, ideal for application in confined spaces.
- High application yield.
- Cold applied, no specialist heating or application equipment required.
- Resistant to chloride and sulphate attack.
- Can be applied to range of materials including concrete, steel, wood and cork.

STANDARD COMPLIANCE

CytoProof GP 50 complies with ASTM C309-93 concrete curing requirements when applied at a rate of 2m² per litre, and BS6949: 1991 requirements for bituminous coating.

DESCRIPTION

CytoProof GP 50 is a brown/black viscous combination of graded bitumens emulsified with water to provide an easily applied.

PHYSICAL PROPERTIES

The important properties of CytoProof GP 50 are:

Bitumen content	: 50%
Over coating time	: Mm. 2 hours

CHEMICAL RESISTANCE

Potable water	: Excellent
Sea water	: Excellent
10% Sodium Hydroxide	: Satisfactory
5% Sodium Sulphate	: Satisfactory
Moist heat (70% + 80% RH)	: Satisfactory

APPLICATION INSTRUCTIONS

Surface Preparation

All substrates must be sound, clean, dry and smooth within reason, free from protrusions, voids honeycombs and high spots. Presence of curing agents, paint and oil will impair adhesion.

PRIMING

Priming is not normally required on good quality, well prepared substrates.

APPLICATION

CytoProof GP 50 may be applied by brush, broom or squeegee.

It is recommended that one or two coats should be applied depending on the degree of protection required. Allow a minimum of 2 hours between coats.

Where CytoProof GP 50 is required to take a screed, the second coat must be banded with clean, dry sharp sand as soon as applied. The excess sand should be brushed off when coating has dried.

CLEANING

CytoProof GP 50 should be removed from tools and equipment with water whilst it is still wet.

COVERAGE

CytoProof GP 50: 2m² per litre depending on the substrate.

CYTOPROOF GP-50

Cold applied bitumen emulsion for waterproofing and protective coating applications.

PACKAGING

20 litre pails and 200 litre drums.

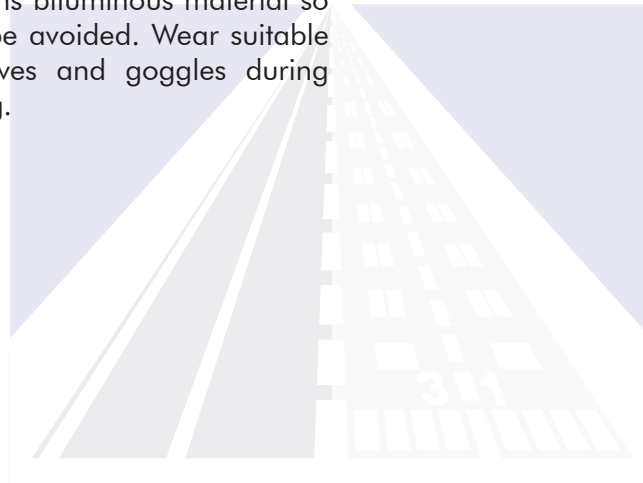
STORAGE AND SHELF LIFE

CytoProof GP 50 has a shelf life of 12 months if stored in shade below 45°C in regular warehouse conditions.

PRECAUTIONS

Health and Safety

CytoProof GP 50 contains bituminous material so contact with skin must be avoided. Wear suitable protective clothing, gloves and goggles during application and cleaning.



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CYTOSEAL

Cold-applied, fuel resistant surface coating for asphaltic pavements.

USES

CytoSeal is a cost-effective, unique coal tar emulsion specifically formulated to protect asphaltic pavements from the effects of fuel spillage, oxidation and general degradation.

CytoSeal is particularly suitable for airport hardstands, taxiways and refuelling areas.

ADVANTAGES

- **Cold applied, user friendly.**
- **Cost effective.**
- **Highly resistant to jet fuel, petrol, oil and hydraulic fluid spillages.**
- **High bonding strength.**
- **Cures to a continuous uniform film that remains flexible over a wide temperature range.**
- **Extends the life of the pavement.**
- **Can be colour banded.**
- **Resists surface deterioration caused by oxidation.**
- **Resists moisture penetration thereby eliminating frost damage.**

DESCRIPTION

CytoSeal is a blend of emulsified coal tar and selected fillers. Following mixing it is applied by squeegee. For larger areas spraying may be considered.

CytoSeal is primarily formulated for use on airport aprons, hardstands, taxiways, fuel-oil depots, lorry parks or any other area where fuel/oil spillages are likely.

Where good traction is required, a ready to use formulation with coarse carborundum may be considered for increased skid resistance.

STANDARD COMPLIANCE

ASTM D-3320-79
US Fed. Spec. RP355 e/b

PHYSICAL PROPERTIES

Density	: 1.24
Colour	: Black
UV resistance	: Excellent
Fuel resistance	: Excellent
Cure time	: 60 minutes @ 20°C
Trafficable	: 5-6 hours @ 20°C
Viscosity	: 230 poise

APPLICATION INSTRUCTIONS

Surface Preparation

If a newly laid surface is to be treated, ensure that the surface has been thoroughly consolidated and compacted.

All cut backs should be allowed to dry out. Oil spots should be thoroughly cleaned off by scraping, and if necessary by using an alkalibased heavy-duty detergent.

Oil saturated and broken surfaces should be replaced.

The whole area should be brushed clean of dust, debris etc.

APPLICATION

CytoSeal is a two-coat system. Prior to application of CytoSeal, lightly dampen the surface with water to break surface tension. Before application the materials should always be mixed in original packaging using a slow speed stirrer, to a uniform consistency.

Pour CytoSeal direct from the drums in a ribbon approximately 150mm wide and spread uniformly

CYTOSEAL

Cold-applied, fuel resistant surface coating for asphaltic pavements.

by pulling a rubber faced squeegee along the ribbon, thus producing a new ribbon from the residue left by the trailing edge of the squeegee.

The process is repeated and the ribbon of material is replenished as necessary.

When the first coat is dry and tack free, the second coat is applied at right angles to the first coat.

The newly cured surface dries to a dark grey/brown colour and will darken to black charcoal after a few days exposure.

For large areas CytoSeal may be sprayed using specialised spray equipment (refer to Technical Services Department).

Do not apply in damp weather, below 10°C or when rain is imminent.

PRIMING

CytoSeal is a two-coat system therefore no priming is required.

LIMITATIONS

CytoSeal is not suitable for application on concrete or new mastic asphalt surfaces.

If serious spillage of hydraulic fluids is envisaged consult Technical Services Department.

CLEANING

All tools should be cleaned with water immediately after use.

ESTIMATING AND PACKAGING

Coverage: 1 litre/m² per coat (two coats required).

Supplied in 200 litre and 25 litre drums.

STORAGE AND SHELF LIFE

12 months in original unopened drums.

Store under enclosed warehouse conditions.

Protect from freezing and direct sunlight.

PRECAUTIONS

Health and Safety

CytoSeal has a coal tar base, which may cause skin irritation.

Avoid prolonged and repeated contact with skin.

At all times wear suitable overalls, eye protection and gloves during application.

All exposed skin should be protected by barrier cream. If material gets into eyes consult medical assistance immediately.

Refer to Material Safety Data Sheet for further information.

FIRE

In the event of fire, extinguish with CO₂ or foam.

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CYTOSEAL 205FR

Cold applied, high performance, two-part, self-levelling polyurethane pavement joint sealant.

USES

CytoSeal 205FR is highly suitable for the sealing and maintenance of joints in concrete roads, concrete runways and hard standings. The exceptional fuel resistance of CytoSeal 205FR makes it most appropriate for use in areas that may be subject to fuel spillage e.g. Concrete runways, taxiways and roads, parking garages, garage forecourts and other similar areas.

ADVANTAGES

- **High performance in hot and humid climates.**
- **Cold applied - no heating equipment required.**
- **Self-levelling.**
- **Jet fuel, hydraulic fluid and oil resistant.**
- **Provides a tough, durable yet highly flexible seal.**
- **Simple application Waterproof.**
- **Low modulus and high movement accommodation.**

STANDARDS COMPLIANCE

British Standard 5212: 1990 - Types N, F & B.
US Federal Specification SS-S-200E 1 984.

DESCRIPTION

CytoSeal 205FR is a two-part, cold applied polyurethane sealant specifically designed for application in concrete pavements where the spillage of jet fuel, hydraulic/oils is anticipated.

CytoSeal 205FR is resistant to fuel, oil and hydraulic fluid spillage. It will not harden in cold weather nor become excessively soft or pick up in hot conditions.

CytoSeal 205FR has high durability and a long service life, which significantly reduces maintenance costs.

PHYSICAL PROPERTIES

Form	: Two-part compound
Mix ratio	: Do NOT split kit.
Colour	: Black
Pot life	: 1 1/2 hours @ 35°C
Trafficable	: 6 hours @ 35°C
Full cure time	: 5 days @ 35°C
Hardness shore 'A'	: 15 ± 5
Density	: 1.35 g/cm ³
Solids content	: 100%
Movement Accommodation Factor	: 25%
Flammability	: Does not support combustion.
Application Temperature	: 5°C to 40°C

CHEMICAL RESISTANCE

to occasional spillage

Aviation fuels	: Resistant
Hydraulic fluids	: Resistant
Skydrol	: Resistant
Kerosene	: Resistant
Petrol	: Resistant
Diesel fuels	: Resistant
Synthetic oils	: Resistant
Mineral oils	: Resistant
White spirit	: Resistant
Mild alkalis	: Resistant
Dilute acids	: Resistant

JOINT DESIGN

CytoSeal 205FR has a movement accommodation factor (MAE) of 25%. When both the joint spacing and the dimension of the sealant slot are being established, it should be recognised that concrete pavements do not move uniformly and that as a consequence many joints may be subject to high movements.

CYTOSEAL 205FR

Cold applied, high performance, two-part, self-levelling polyurethane pavement joint sealant.

In this context reference should be made to the British Standard Code of Practice 6093-1993.

Joints in concrete pavements are subject to vehicular traffic thus, joint sealants should always be recessed to ensure that at no time during operation does the sealant protrude.

CytoSeal 205ER is an elastomeric sealant and MAE advantage can be gained by maintaining a slot width to depth ratio of between 1:1 to 2:1. A sealant depth of 10mm should however be regarded as an absolute minimum to take into account the normal tolerances associated with insitu concrete.

APPLICATION

Joint Preparation

The joint slots should be formed correctly. The concrete must be dry, oil and moisture free.

The slot must be prepared by the removal of dust and laitance by using grit blasting or by other mechanical means.

Blow the slot clean using dry, oil-free compressed air. Ensure that a polyethylene foam joint filler is inserted firmly into the slot at the specified depth/dimension. Before pouring the sealant, adhere a PVC tape/bond breaker onto the top of the foam filler. This will prevent sealant adhesion to the foam filler.

PRIMING

CytoSeal Primer 2 shall be used to prime the slot surfaces to be sealed.

CytoSeal 205FR must be applied between 1/2 an hour to 2 hours after priming. After 2 hours the area to be sealed should be reprimed.

Should 6 or more hours elapse without sealant application, the entire joint preparation/priming process must be repeated.

MIXING

Drain the entire contents of the activator tin into the tin containing the base. Mix thoroughly for 4 minutes using a slow speed drill with attached mixer.

SEALANT APPLICATION

CytoSeal 205FR can be applied by either using a solid barrel application gun or by carefully pouring it directly into the prepared joint slot. N/B - Please ensure that the sealant is recessed in the joint by 4 to 5mm.

Cleaning

Clean equipment with CyTech eco-cleanse solvent free cleaner. Remove CytoSeal 205FR from hands using a proprietary hand cleaner, followed by moisturising cream.

PACKAGING & YIELD

CytoSeal 205FR is supplied in 5 litre kits comprising of 2 tins, part A and part B.

Each 5 litre tin of CytoSeal 205FR will yield approximately 22 linear metres in a 15mm x 15mm joint slot.

CytoSeal Primer 2 is supplied in 500ml screw cap tins, each tin of primer is sufficient for 10 litres of CytoSeal 205FR.

STORAGE & SHELF LIFE

12 months in the original, tightly sealed (unopened) containers, indoors at temperatures between 5°C and 25°C

PRECAUTIONS

Health & Safety

CytoSeal 205FR, CytoSeal Primer 2-Skin/eye contact, vapour inhalation of these products should be avoided.



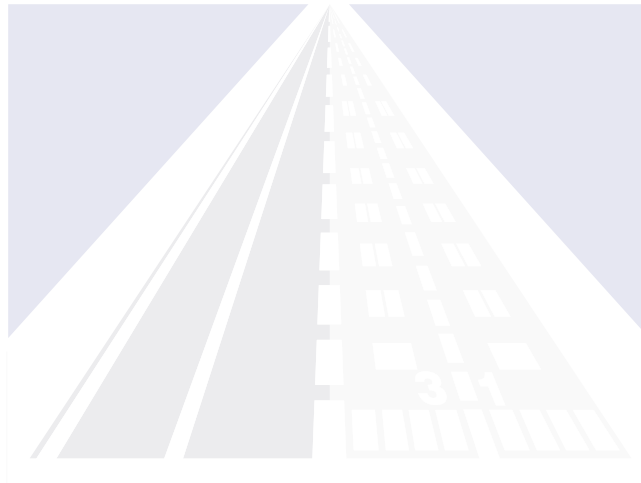
CYTOSEAL 205FR

Cold applied, high performance, two-part, self-levelling polyurethane pavement joint sealant.

Wear both eye protection and gloves when handling these products.

Accidental contact with skin should be cleaned immediately with soap and water, any contact with the eyes should be treated by rinsing with copious amounts of clean water. Medical advice should be sought thereafter.

Refer to Material Safety Data Sheet for further information.



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CYTOSEAL 206

Cold applied, high performance, environmentally friendly, two part flexible cable slot, AGL and pavement compound.

USES

For the installation, sealing, maintenance and repair of airfield cable slots, AGL surrounds, road traffic loops, bridge joint transition strip/nosings, flexible bridge deck joint compositions and vehicle stands.

A higher movement accommodation grade is also available for reinstatement of failed sealant and multi-storey car park deck joints in addition to joints between concrete and asphaltic pavements.

ADVANTAGES

- **Excellent adhesion to both concrete and asphalt.**
- **Cold applied - no heating equipment required.**
- **Self-levelling.**
- **Fuel, oil and hydraulic fluid resistance. Provides a tough yet flexible repair/seal.**
- **Environmentally friendly.**
- **Waterproof.**
- **High performance - less maintenance.**

DESCRIPTION

CytoSeal 206 is a two part fast curing system formulated to provide an effective sealing and repair solution to applications where flexibility combined with high load strength is a Key requirement.

CytoSeal 206 has been formulated for use with and without the inclusion of aggregate and/or abrasion resistant calcine bauxite. In areas of exceptional wear, carborandum toppings may be utilised. CytoSeal 206 is resistant to fuel, oil and hydraulic fluid spillage. It will not harden in cold weather nor become excessively soft or pick up in hot conditions. CytoSeal 206 has high durability and long service

life, which significantly reduces maintenance costs.

PHYSICAL PROPERTIES

Form	: Two part compound
Mix ratio	: 2 parts base to 3 parts hardener by weight.
Colour	: Black or Grey
Pot life	: 12 minutes 23°C
Trafficable	: 12 hours 23°C
Full cure time	: 72 hours @ 23°C
Hardness shore 'A'	: 55-65
Specific Gravity	: 1.13
Solids content	: 100%
Tensile strength	: 4 N/mm ²
Tear strength	: 20N/mm
Elongation at break	: 275%
Flammability	: Does not support combustion.
Application Temperatures	: To avoid unacceptably prolonged cure times, do not apply at temperatures below 5°C.

CHEMICAL RESISTANCE

to occasional spillage:

Aviation fuels	: Resistant
Hydraulic fluids	: Resistant
Skydrol	: Resistant
Kerosene	: Resistant
Petrol	: Resistant
Diesel fuels	: Resistant
Synthetic oils	: Resistant
Mineral oils	: Resistant
White spirit	: Resistant
Mild alkalis	: Resistant
Dilute acids	: Resistant

DESIGN CRITERIA

In situations where anti-skid properties or exceptional wear resistance is required, please consult Cylech Technical Department.

CYTOSEAL 206

Cold applied, high performance, environmentally friendly, two part flexible cable slot, AGL and pavement compound.

MAINTENANCE

No special requirement, any damage identified during normal inspections should be repaired or replaced as appropriate.

APPLICATION INSTRUCTIONS

Preparation

The slots or areas to be sealed or repaired should be accurately formed with straight edges. All substrates must be sound, dry and free from oil and frost.

All surfaces must be well prepared to remove dust and laitance by grit blasting, grinding, planing or other mechanical means to expose a sound surface.

The slot should be blown out with dry, oil free compressed air just prior to priming.

PRIMING

All substrates should be primed with CytoSeal 206 primer avoiding ponding and allowed to dry, such that all of the solvent has evaporated.

CytoSeal 206 should be applied within 12 hours of applying the primer.

In the event that the area is left more than 12 hours after primer application before installation of CytoSeal 206 the substrate must be re-primed.

MIXING

CytoSeal 206 is supplied in a composite 8-litre pack, comprising a large base tin and a small curing agent tin.

The total contents of the small curing agent tin is decanted into the base large tin ensuring all the contents of the small tin is removed and the components are mixed for full **one and a half minutes** using a 1500 RPM site drill fitted with a paddle stirrer. Particular attention must be paid to ensure dispersal from the bottom and sides of the tin.

APPLICATION

Immediately after mixing operations pour CytoSeal 206 into the prepared and primed substrate/slot. CytoSeal 206 has a pot life of 12 minutes @ 23°C and shorter at elevated temperatures, therefore, any undue delay must be avoided.

CytoSeal 206 is self-levelling therefore no tooling is required.

CLEANING

Clean equipment with CyTech eco-cleanse solvent free cleaner. Remove CytoSeal 206 from hands using 'Swarfega' or similar hand cleaner, followed by moisturising cream.

LIMITATIONS

In areas where above normal abrasion resistance, very high movements (i.e. 50%+ MAF) or in transition joints between concrete and asphalt pavements, specific details are required. Please contact CyTech Technical Department for advice.

ESTIMATING

CytoSeal 206 is supplied in a composite 8-litre pack. Yields will vary dependent on the area to be repaired or sealed. Please refer to CyTech Technical Department for advice.

PRECAUTIONS

Health & Safety

Always wear protective overalls, goggles and gloves when handling CytoSeal 206.

Refer to Material Safety Data Sheet for further information.

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CYTOSEAL BS

CytoSeal BS for limited movement joints and gap filling.

DESCRIPTION

CytoSeal BS is a single component, ready-to-use, spatula or gun applied non sagging sealant. Based on a modified bitumen carried in hydrocarbon solvent, it cures to form a seal, with excellent adhesion to concrete, brickwork, asphalt and most construction materials.

TYPICAL APPLICATIONS

CytoSeal BS is ideally suited for sealing and filling gaps on roofs, pointing horizontal chases and waterproofing membranes and felts.

ADVANTAGES

- **Sealing around roof service pipes.**
- **Pointing between brickwork and roof flashings.**
- **Sealing leaks in gutters and roofing sheets.**
- **Sealing cracks in asphalt and felt roofing.**
- **Filling horizontal joints in concrete and asphalt.**
- **Concrete duct joints.**

COMPOSITION

CytoSeal BS is based on a blend of rubber and high quality bitumens carried in hydrocarbon solvent to assist in ease of application. Back in colour and exhibiting a non slump consistency it cures by solvent release, to form a tough flexible waterproof seal.

PHYSICAL PROPERTIES

Service Temp.limits : 20°C to +70°C
Application Temp. : 10°C to 25°C.
Specific Gravity(min.) : 0.98 at 25°C

Solids content(min.) : 75%
Flash point (min.) : 48°C.
Consistency : Semi Stiff paste.
Initial Set at 35°C : 4 hours.
Full cure at 35°C : 4 weeks.
Movement
Accommodation : Upto 8% of total joint.
Factor : Width(+4% on each side.)

ESTIMATION

- A Joint Depths should not exceed joint width.
- B Minimum joint widths - 6mm.
- C Maximum joint widths - 40mm.

STORAGE LIFE

12 months in sealed undamaged containers when stored in cool dry conditions.

HEALTH AND SAFETY

CytoSeal BS contains hydrocarbon oils and should be treated as potentially harmful as with other heavy solvents like kerosene & diesel.

Under normal use or for transport purposes treat as similar to kerosene/diesel.

However as with all chemicals, basic personal hygiene and precautions must be observed when handling CytoSeal BS.

Specific additional information is available upon request.

(Refer to Material Safety Data Sheet for further information.)

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CYTOSEAL F1

Pitch/PVC elastomeric fuel resistant joint sealant.

USES

CytoSeal F1 has been specifically developed for sealing joints in concrete pavements where fuel and chemical spillages are likely, in particular airfield aprons, runways, taxiways, cargo handling areas, parking areas, petrol stations and service roads.

ADVANTAGES

- **Highly resistant to petrol, oil and let fuel spillages.**
- **Resistant to let blast and penetration from stones and other deleterious materials.**
- **Self-levelling and high application rate.**
- **Outstanding temperature range tolerance.**
- **No primer required.**
- **Conforms to all relevant civil and military specifications.**
- **Elastomeric and high movement accommodation factor capability.**

DESCRIPTION

CytoSeal F1 is a hot-applied one part elastomeric joint sealant.

The polymer-modified liquid is supplied in pails and is heated in an approved extruder prior to installation into the joints. The unique formulation if CytoSeal F1 enables direct application into joints without the use of a primer.

STANDARD COMPLIANCE

ASTM D3569-85, D3406-85 BS2499 1993 F1.
US Federal Specification 55-5-1614, 167b, 1401b.

PHYSICAL PROPERTIES

Specific Gravity	: 1.381g/litre
Movement Accommodation	: 25%
Factor (MAE)	
Service Temperature	: -20°C to 70°C.
Resilience	: 65-75%

APPLICATION INSTRUCTIONS

Surface Preparation.

New Concrete:

The joint surfaces must be dry and free of all surface laitance.

All dirt, dust, laitance and contaminants must be removed either by high-pressure grit blasting, grinding or sawing. Joints, which have been wet-sawn, should be water jetted to remove all traces of cementitious slurry. Ensure that the joints are completely dry prior to commencement of sealing works.

Paper cord or heat resistant backup rod and debonding tape must be installed at the base of the joint.

Aged or weathered concrete:

All existing sealing compounds must be completely removed by saw cutting or grinding to ensure that fresh uncontaminated concrete substrate is exposed. Preparation procedures for new concrete should then be followed.

PRIMING

No priming is required providing that the preparation instructions are followed strictly. BS2499 F1 and ASIM D-3569 specifications obtained without the use of a priming system.

HEATING/APPLICATION

It is essential that CORRECT heating and approved application equipment is used.

CYTOSEAL F1

Pitch/PVC elastomeric fuel resistant joint sealant.

HEATING/APPLICATION

CytoSeal F1 should be poured directly from the pails into an approved oil jacketed thermostatically controlled heater/extruder which has an agitator for continuous mixing during heating.

CytoSeal F1 must be heated to a minimum temperature of 135°C and extruded directly into the joint using a suitable lance.

Maximum safe heating temperature is 150°C.

Maximum safe heating period is 6 hours.

THESE SAFE LIMITS MUST NOT BE EXCEEDED

Allow sufficient time for material to reach correct temperature following recharging.

Do not reheat or use material from previous work shift. This material must be discarded.

CLEANING

All equipment should be cleaned thoroughly using flushing oil. Ensure that flames are extinguished prior to cleaning works.

Spillages should be absorbed immediately with sand, sawdust, vermiculite etc, and disposed of in accordance with local regulations.

LIMITATIONS

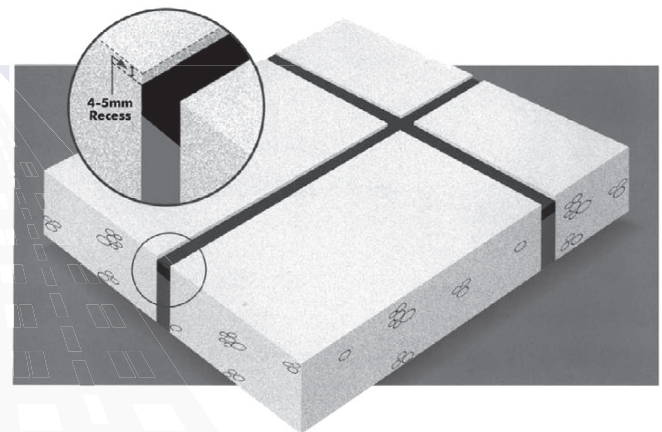
CytoSeal F1 will not form a bond on asphalt surfaces.

DESIGN FACTORS

Design of the joints should be such that the width of the joint due to thermal movement does not exceed the 25% movement accommodation factor, expressed as a percentage of the joint width.

Joint width (mm)	Sealant Depth (mm)
9 (min)-12	As width + 3
13-15	15
16-25	As width
25-40 (max)	25 (max)

Typically joints should be sealed 4-5mm below flush, to prevent damage and to allow sealant room during expansion.



New concrete should be allowed to cure for minimum of 14 days prior to sealing works.

STORAGE AND PACKAGING

DO NOT store in direct sunlight. CytoSeal F1 should be stored in warehouse conditions not exceeding temperatures of 40°C.

CytoSeal F1 is supplied in 26 Kg (20 litre) pails.

PRECAUTIONS

Health and Safety

Exercise extreme caution when handling hot sealant.

CytoSeal F1 should not come in contact with skin, eyes, etc. If contact occurs remove immediately with suitable cleansing cream followed by soap and water.

Wear suitable protective gloves, eye/face protection and overalls.



If in contact with eyes, rinse in clean water and seek medical advice.

If swallowed, DO NOT induce vomiting.

Seek medical attention immediately.

Avoid inhalation of fumes during heating and application. Ensure adequate ventilation in confined areas.

PRECAUTIONS

If in contact with hot sealant do not remove sealant or clothing but bathe in plenty of water and seek medical attention.

Refer to Material Safety Data Sheet for further information.

FIRE

CytoSeal F1 does not support combustion.



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CYTOSEAL N1

Hot Applied Plasto-elastic Joint Sealant

USES

For sealing joints in concrete and asphalt pavements, prefabricated road panels, transitional joints from concrete to bituminous substrates. CytoSeal N1 is also particularly suitable for airfield pavement joints where there is no risk of fuel spillage.

ADVANTAGES

- Highly resistant to de-icing salts.
- Superior to straight bitumen sealants.
- Very easy sealant removal from pails by 'zip' method.
- Resists flow on cambered pavements.

STANDARD & SPECIFICATIONS

Complies with the requirement of

BS2499: Type N1: 1993
ASTM D3405, D1190
MSHTO M301, M173
U.S. FEDERAL SPEC 55 S 164

PHYSICAL PROPERTIES

Application Temperature : 50°C-180°C
Specific Gravity : approx. 1.1g/cm²
Primer : BS-Primer
Softening Point : 99°C
Resilience : 85%

APPLICATIONS INSTRUCTIONS

Melting

CytoSeal N1 must be heated indirectly and carefully to the application temperature in a boiler equipped with mechanical agitation, and an oil jacket. It must be thermostatically regulated at all times.

Overheating of the sealant should be avoided, as this will cause polymer breakdown leading to reduced compressive strength.

PREPARATORY WORK

The joints to be sealed should be thoroughly blown with high-pressure air and cleaned with mechanical wire brushing or similar. Preparation and application works should be done as separate tasks to avoid product contamination. For artificial drying out of the joints, hot compressed air lances may be used.

PRIMING

The CytoSeal Primer, which is specifically suited to CytoSeal N1, must be used. The primer must completely cover the flanks of the joint arisses, forming a film. It is advisable to prime a strip of approx. 10mm width on the pavement on both sides of the joint.

SEALING OF JOINTS

The pre-treated joints should only be sealed in dry weather conditions and at surface temperature of not less than +5°C. Before sealing the joints the following points should be considered prior to commencement of sealing works.

The primer must have dried, i.e. it must be touch dry.

The primed joint must be dry and free from dust and moisture.

Care should be exercised to ensure that the equipment used for application, is suitable for the purpose.

At the commencement of sealing works, CytoSeal N1 must reach the application temperature as specified. Application at lower temperatures than specified will lead to impairment of the sealant flow thereby leading to voids and ineffective filling of the sealing slots.

Sealant, which has already become cold must not be re-used and must be discarded.

CYTOSEAL N1

Hot Applied Plasto-elastic Joint Sealant

HEATING/APPLICATION

The cooling of the sealant may cause shrinkage dependant on the dimensions of the joints; a second application may be necessary. The second sealing should be made immediately after the first.

Typically joint should be sealed 4-5mm below flush, to prevent damage and to allow sealant room during expansion.

MATERIAL CONSUMPTION

The consumption of the sealant is calculated in accordance with the following formulae:

Joint length (cm) x joint width (cm) x joint depth (cm) x specific gravity of sealant (g/cm²) consumption (g).

The consumption of primer is approx. 3% of the sealant amount needed.

PACKAGING

CytoSeal N1 is supplied in 30 kg non-returnable pails. A parting agent and a 'zip fastener' opening method will guarantee a fast, secure and problem free removal.

PRECAUTIONS

Health and Safety

Exercise extreme caution when handling hot sealant.

Gloves, goggles and protective overalls should be worn during application.

Avoid inhalation of fumes during heating.

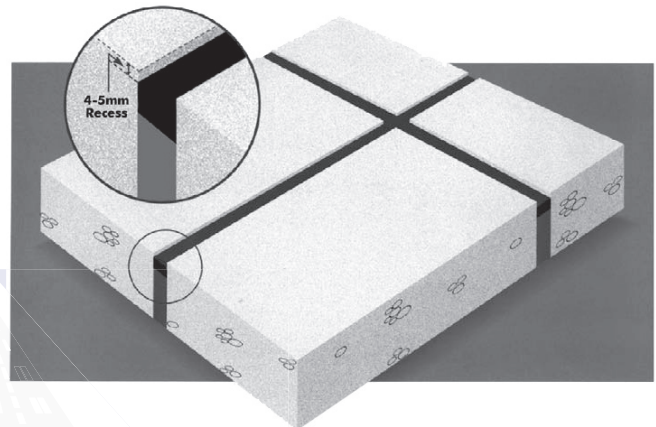
CytoSeal N1 should be removed immediately with suitable cleansing cream if contact with skin occurs.

If swallowed seek medical attention immediately. Do not induce vomiting.

Refer to Material Safety Data Sheet for further information.

FIRE

In the event of fire, extinguish with CO₂ or foam.



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CYTOSEAL SS 207

Cold applied, high performance, two part, solvent free cable slot, AGL and pavement compound.

USES

For the installation, sealing, maintenance and repair of airfield cable slots, AOL surrounds, road traffic loops.

ADVANTAGES

- **Excellent adhesion to both concrete and asphalt.**
- **Cold applied - no heating equipment required.**
- **Self-levelling and pourable.**
- **No primer required.**
- **Fuel oil and hydraulic fluid resistance.**
- **Provides a tough yet semi-flexible repair/seal.**
- **Waterproof.**
- **High performance-less maintenance.**

DESCRIPTION

CytoSeal SS 207 is a two part fast curing system formulated to provide an effective sealing and repair solution to applications where semi-flexibility combined with high load strength is a key requirement.

CytoSeal SS 207 has been formulated for use with and without the inclusion of aggregate and/or abrasion resistant calcine bauxite. In areas of exceptional wear, carborandum toppings may be utilised.

CytoSeal SS 207 is resistant to fuel, oil and hydraulic fluid spillage. It will not harden in cold weather nor become excessively soft or pick up in hot conditions.

CytoSeal SS 207 has high durability and long

service life, which significantly reduces maintenance costs.

PHYSICAL PROPERTIES

Form	: Two part compound
Mix ratio	: 2 parts base to 1 part activator (by volume)
Colour	: Black
Pot life	: 20 minutes @35°C
Trafficable	: 2 hours @ 35°C
Full cure time	: 4 days @ 35°C
Hardness shore 'A'	: 80
Specific Gravity	: 1.17
Solids content	: 100%
Corn pressive strength	: 17 MPa@7 days
Flammability	: Does not support
Application Temperature	: 10°C-40°C

CHEMICAL RESISTANCE

to occasional spillage:

Aviation fuels	: Resistant
Hydraulic fluids	: Resistant
Skydrol	: Resistant
Kerosene	: Resistant
Petrol	: Resistant
Diesel fuels	: Resistant
Synthetic oils	: Resistant
Mineral oils	: Resistant
White spirit	: Resistant
Mild alkalis	: Resistant
Dilute acids	: Resistant

DESIGN CRITERIA

CytoSeal SS 207 may applied either directly into the saw cut or cable slot or by first inserting an oversized closed-cell polyethylene foam backing cord.

In situations where anti-skid properties or exceptional wear resistance is required, please consult CyTech Technical Department.

CYTOSEAL SS 207

Cold applied, high performance, two part, solvent free cable slot, AGL and pavement compound.

MAINTENANCE

No special requirement, any damage identified during normal inspections should be repaired or replaced as appropriate.

APPLICATION INSTRUCTIONS

Preparation

The slots or areas to be sealed or repaired should be accurately formed with straight edges. All substrates must be sound, dry and free from oil and other contaminants.

All surfaces must be free of dust and laitance removed by grit blasting, grinding, or other mechanical means to expose a sound surface.

The slot should be blown out with dry, oil free compressed air just prior to the application of CytoSeal SS 207.

PACKAGING

CytoSeal SS 207 is supplied in 2 & 5 litre kits.

MIXING

CytoSeal SS 207 must be mixed in the correct proportions and kits should not be split or diluted. Ensure the total contents of the activator tin are decanted into the tin containing the base. Mix with slow speed drill with attached mixer paddle for 1 1/2 minutes.

APPLICATION

Immediately after mixing operations pour CytoSeal SS 207 into the prepared slot.

CytoSeal SS 207 is self-levelling therefore no tooling is required.

CLEANING

Clean equipment with CyTech eco-cleanse solvent free cleaner. Remove CytoSeal SS 207 from hands

using a proprietary hand cleaner, followed by moisturising cream.

ESTIMATING

CytoSeal SS 207 is supplied in 2 & 5 litre kits. Yields will vary dependent on the area to be repaired or sealed. Please refer to CyTech Technical Department for advice.

PRECAUTIONS

Health & Safety

Always wear protective overalls, goggles and gloves when handling CytoSeal SS 207.

Refer to Material Safety Data Sheet for further information.

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CYTOSLURRY

CytoSlurry is a synthetic resin clear bitumen based on road surface slurry, hand applied system available in a range of colours.

USES

CytoSlurry can be used as a coloured top coating on road surface internal carriage ways and sports surfaces. It is also suitable as a wearing course.

ADVANTAGES

- **The cost effective and easy way to restore drives, paths, play areas and roofs.**
- **It is water based safe and clean. Excellent adhesion to both concrete and asphalt.**
- **CytoSlurry can be coloured to any desired shades with pigments of high heat resistance and UV stability.**
- **Available both in two component as well as single component versions.**
- **Resists surface deterioration.**
- **Unaffected by UV.**
- **Resistant to rain and effects of sand storms.**
- **Extensive temperature range tolerance.**
- **Region specific formulation.**

SPECIFIC COMPLIANCE

Exceed the needs of UK Department of Transport specification for Highway works.

DESCRIPTION

CytoSlurry is a synthetic resin based coloured Slurry for pavement surfaces. CytoSlurry has been carefully polymerised and formulated with special additives to enhance the properties for better adhesion bonding to various surfaces and UV resistance and colour retention. CytoSlurry can be used with coloured aggregates

or can be pigmented to achieve any desired shade for pavements, pathways, cycle carriageways and sports surfaces.

The system incorporates high rate additives to provide effective penetration, softening point and high stability.

PHYSICAL PROPERTIES

Form	: Slurry
Colour	: Red, grey, black & green
UV resistance	: Excellent

APPLICATION INSTRUCTIONS

CytoSlurry can be applied by brush, broom or squeegee as a single coat or double coat for rough & heavily crazed areas up to 2mm thickness.

CytoSlurry must be applied in dry conditions and ambient temperature over 15°C.

Refer to Technical Services Department for further information.

SUBSTRATE PREPARATION

All substrates must be clean, dry and dust free. Any oil spillages or contaminations must be removed using industrial grade detergents prior to application.

MIXING

Single component version must be mixed using a hand held helical mixer.

Two component version must be mixed at site prior to application with the hand held helical mixer for small quantities or for the bigger quantities ordinary concrete mixer is recommended.

APPLICATION

Brush, Broom or Squeegee.

CYTOSLURRY

CytoSlurry is a synthetic resin clear bitumen based on road surface slurry, hand applied system available in a range of colours.

CLEANING

All tools, equipment and splashes should be cleaned using clean water before drying. Kerosene or white spirit may also be used.

Personal Hygiene is maintained with soap and water.

LIMITATION

Do not apply during and when rain is expected, or dew point temperature.

STORAGE AND SHELF LIFE

Shelf life is three months in original unopened packaging. Keep away from direct sunlight.

ESTIMATING AND PACKAGING

Coverage: 1.3 - 1.5Kg per m² per coat.

The coverage is dependant on the substrate roughness and porosity. A trial is highly recommended to determine exact quantities.

Supply: 20Kg Pail or 200Kg drum.

HEALTH AND SAFETY

Under normal use or for transport purposes, CytoSlurry is not classified as hazardous.

However, as with all chemicals, basic personal hygiene and precautions must be observed when handling CytoSlurry. Specific additional information is available upon request.

The coverage is dependant on the substrate roughness and porosity. A trial is highly recommended to determine exact quantities.

Supply: 20Kg Pail or 200Kg drum.

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CYTOSTRIKE SB

CytoStrike SB is a solvent based mould release agent suitable for the mould shutter faces for concrete.

USES

CytoStrike SB can be used as a release agent for steel, plywood, timber and plastic faced form works and moulds prior to casting concrete.

Advantages

- **Excellent concrete finish is achieved that exhibits a smooth, hard, uniform finish.**
- **CytoStrike SB has no negative effect on concrete properties.**
- **CytoStrike SB does impair the adhesion subsequent surface treatments when applied at the recommended coverage rates.**

SPECIFIC COMPLIANCE

Exceed the needs of release agent as described by ASTM & BS.

DESCRIPTION

CytoStrike SEF is a specially formulated solvent based chemical mould release agent for high quality, fair-faced and stain-free concrete.

PHYSICAL PROPERTIES

Form	: Liquid
Colour	: Amber
Specific gravity	: 0.85
Chloride content	: Nil.

APPLICATION INSTRUCTIONS

CytoStrike SB can be applied by brush, sponge, squeegee or lightweight horticultural sprayers. CytoStrike SB must be applied in a very thin coating and any excess must be removed.

Refer to Technical Services Department for further information.

SUBSTRATE PREPARATION

All substrates must be clean, dry and dust free.

MIXING

CytoStrike SB is a ready to use formulation and does not require any mixing, it should however be stirred prior to use.

CLEANING

All tools, equipment and splashes should be cleaned using clean water. Soap and water to be used for personal hygiene.

LIMITATIONS

Do not apply during and when rain is expected.

STORAGE AND SHELF LIFE

Shelf life is 2 years in original unopened packaging. Keep away from direct sunlight.

ESTIMATING AND PACKAGING

Coverage: 25 - 50m² per litre.

The coverage is dependent on the substrate roughness and porosity.

A trial is highly recommended to determine exact quantities.

Supply : 20 and 200 litre drum.

HEALTH AND SAFETY

CytoStrike SB contains hydrocarbon oils and should be treated as potentially harmful as with other heavy solvents like kerosene & diesel.

CYTOSTRIKE SB

CytoStrike SB is a solvent based mould release agent suitable for the mould shutter faces for concrete.

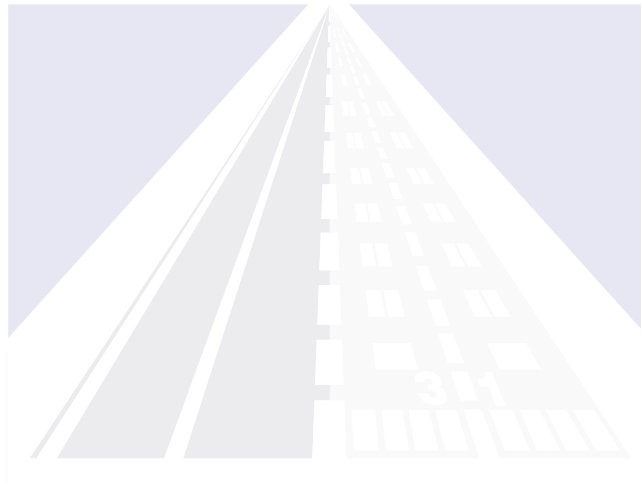
HEALTH AND SAFETY

Under normal use or for transport purposes treat as similar to kerosene/diesel.

However as with all chemicals, basic personal hygiene and precautions must be observed when handling CytoStrike SB.

Specific additional information is available upon request.

(Refer to Material Safety Data Sheet for further information.)



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CYTOSTRIKE SB

CytoStrike SB is a solvent based mould release agent suitable for the mould shutter faces for concrete.

USES

CytoStrike SB can be used as a release agent for steel, plywood, timber and plastic faced form works and moulds prior to casting concrete.

Advantages

- **Excellent concrete finish is achieved that exhibits a smooth, hard, uniform finish.**
- **CytoStrike SB has no negative effect on concrete properties.**
- **CytoStrike SB does impair the adhesion subsequent surface treatments when applied at the recommended coverage rates.**

SPECIFIC COMPLIANCE

Exceed the needs of release agent as described by ASTM & BS.

DESCRIPTION

CytoStrike SEF is a specially formulated solvent based chemical mould release agent for high quality, fair-faced and stain-free concrete.

PHYSICAL PROPERTIES

Form	: Liquid
Colour	: Amber
Specific gravity	: 0.85
Chloride content	: Nil.

APPLICATION INSTRUCTIONS

CytoStrike SB can be applied by brush, sponge, squeegee or lightweight horticultural sprayers. CytoStrike SB must be applied in a very thin coating and any excess must be removed.

Refer to Technical Services Department for further information.

SUBSTRATE PREPARATION

All substrates must be clean, dry and dust free.

MIXING

CytoStrike SB is a ready to use formulation and does not require any mixing, it should however be stirred prior to use.

CLEANING

All tools, equipment and splashes should be cleaned using clean water. Soap and water to be used for personal hygiene.

LIMITATIONS

Do not apply during and when rain is expected.

STORAGE AND SHELF LIFE

Shelf life is 2 years in original unopened packaging. Keep away from direct sunlight.

ESTIMATING AND PACKAGING

Coverage: 25 - 50m² per litre.

The coverage is dependent on the substrate roughness and porosity.

A trial is highly recommended to determine exact quantities.

Supply : 20 and 200 litre drum.

HEALTH AND SAFETY

CytoStrike SB contains hydrocarbon oils and should be treated as potentially harmful as with other heavy solvents like kerosene & diesel.

CYTOSTRIKE SB

CytoStrike SB is a solvent based mould release agent suitable for the mould shutter faces for concrete.

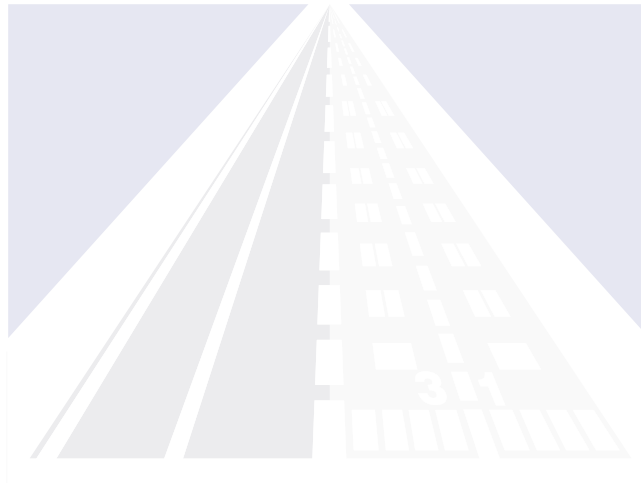
HEALTH AND SAFETY

Under normal use or for transport purposes treat as similar to kerosene/diesel.

However as with all chemicals, basic personal hygiene and precautions must be observed when handling CytoStrike SB.

Specific additional information is available upon request.

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HIGHSEAL

Cold-applied, fuel resistant surface coating for asphaltic pavements.

USES

HighSeal is a cost-effective, unique coal tar emulsion specifically formulated to protect asphaltic pavements from the effects of fuel spillage, oxidation and general degradation.

HighSeal is particularly suitable for airport hardstands, taxiways and refuelling areas.

ADVANTAGES

- **Cold applied, user friendly.**
- **Cost effective.**
- **Highly resistant to jet fuel, petrol, oil and hydraulic fluid spillages.**
- **High bonding strength.**
- **Cures to a continuous uniform film that remains flexible over a wide temperature range.**
- **Extends the life of the pavement.**
- **Can be colour banded.**
- **Resists surface deterioration caused by oxidation.**
- **Resists moisture penetration thereby eliminating frost damage.**

DESCRIPTION

HighSeal is a blend of emulsified coal tar and selected fillers. Following mixing it is applied by squeegee. For larger areas spraying may be considered.

HighSeal is primarily formulated for use on airport aprons, hardstands, taxiways, fuel-oil depots, lorry parks or any other area where fuel/oil spillages are likely.

Where good traction is required, a ready to use formulation with coarse carborundum may be considered for increased skid resistance.

STANDARD COMPLIANCE

ASTM D-3320-79
US Fed. Spec. RP355 e/b

PHYSICAL PROPERTIES

Density	: 1.24
Colour	: Black
UV resistance	: Excellent
Fuel resistance	: Excellent
Cure time	: 60 minutes @ 20°C
Trafficable	: 5-6 hours @ 20°C
Viscosity	: 230 poise

APPLICATION INSTRUCTIONS

Surface Preparation

If a newly laid surface is to be treated, ensure that the surface has been thoroughly consolidated and compacted.

All cut backs should be allowed to dry out. Oil spots should be thoroughly cleaned off by scraping, and if necessary by using an alkalibased heavy-duty detergent.

Oil saturated and broken surfaces should be replaced.

The whole area should be brushed clean of dust, debris etc.

Application

HighSeal is a two-coat system. Prior to application of HighSeal, lightly dampen the surface with water to break surface tension. Before application the materials should always be mixed in original packaging using a slow speed stirrer, to a uniform consistency.

Pour HighSeal direct from the drums in a ribbon approximately 150mm wide and spread uniformly

HIGHSEAL

Cold-applied, fuel resistant surface coating for asphaltic pavements.

by pulling a rubber faced squeegee along the ribbon, thus producing a new ribbon from the residue left by the trailing edge of the squeegee.

The process is repeated and the ribbon of material is replenished as necessary.

When the first coat is dry and tack free, the second coat is applied at right angles to the first coat.

The newly cured surface dries to a dark grey/brown colour and will darken to black charcoal after a few days exposure.

For large areas HighSeal may be sprayed using specialised spray equipment (refer to Technical Services Department).

Do not apply in damp weather, below 10°C or when rain is imminent.

PRIMING

HighSeal is a two-coat system therefore no priming is required.

LIMITATIONS

HighSeal is not suitable for application on concrete or new mastic asphalt surfaces.

If serious spillage of hydraulic fluids is envisaged consult Technical Services Department.

CLEANING

All tools should be cleaned with water immediately after use.

ESTIMATING AND PACKAGING

Coverage: 1 litre/m² per coat (two coats required).

Supplied in 200 litre and 25 litre drums.

STORAGE AND SHELF LIFE

12 months in original unopened drums.

Store under enclosed warehouse conditions.

Protect from freezing and direct sunlight.

PRECAUTIONS

Health and Safety

HighSeal has a coal tar base, which may cause skin irritation.

Avoid prolonged and repeated contact with skin.

At all times wear suitable overalls, eye protection and gloves during application.

All exposed skin should be protected by barrier cream. If material gets into eyes consult medical assistance immediately.

Refer to Material Safety Data Sheet for further information.

Fire

In the event of fire, extinguish with CO₂ or foam.

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