

SADEE WORLD PVT. LTD.

ONE STOP SOLUTIONS



Industrial Flooring

Admixtures - Concrete & Waterproofing

Surface Treatments

Grouts

Bonding Agents

Anchors

Waterproofing

Joint Sealants

Tile Adhesives & Grouts

Concrete Repairs

Fire Proof Systems

Protective Coatings

Paints

Cleaners

Sadee World is one the most prominent super stores of construction chemicals, paints & cleaning compounds all over the world. They have been offering the best in class products at most affordable rates.

Home Care Products

GREEN BUILDING PRODUCTS

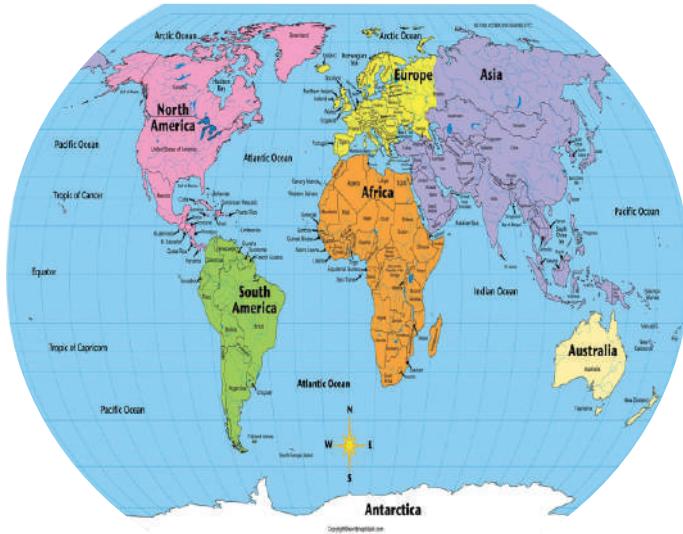
CARBON CREDIT INCREMENTS

ENVIRONMENT FRIENDLY

BIO DEGRADABLE

SADEETM GROUP

Beginning of New Era



- ICO Ltd.
- ICO Care
- Sadee Industries
- Sadee Corporation
- Sadee Retails
- Sadee World Pvt. Ltd.
- Sadee Media
- Sadee Paints
- Sadee Constructions
- Sadee Consultancy
- Sadee Chemicals
- Sadee Infra Projects
- Sadee Overseas
- Sadee Enterprises
- Sadee Investments

ICO CARE BANK DETAILS

A/c No. : 32280325544 Branch : P.Y. ROAD, INDORE IFSC : SBIN0030015 Swift Code : SBININBB691

SADEE WORLD PVT. LTD. BANK DETAILS

A/c No. : 41844913685 Branch : P.Y. ROAD, INDORE IFSC : SBIN0030015 Swift Code : SBININBB426

SADEE INDUSTRIES BANK DETAILS

A/c No. : 883220110000656 Branch : AHILYAPURA INDORE IFSC : BKID0005832



OUR CREDENTIALS

 <p>ISO : 9001 : 2015</p>				
<p>Global Database D-U-N-S NO.:91-624-3785</p> 				
				
		<p>BY GOVT. OF INDIA</p> 		
				
				

ABOUT US

Sadee World is a market leader in manufacturer, exporter and applicator of world class Construction chemicals like Waterproofing, Heatproofing, Joint Sealants, Curing Compounds, Cement Admixtures, Plasticizers and Paint, Putti, Priemer, Cleaning chemicals and home care products. Sadee World is a well-equipped and well-experienced, ISO 9001:2015 certified company, involved expediently and successfully in the wide-range of Constructional Solutions with products and skilled workmanship.

Our product WPC-99 has revolutionised the water proofing scenario in markets of central India and has become synonymous to water proofing to a large number of customer base. Through technology and innovation we enable our customers to meet their current and future needs.

Our construction and home care products and solutions contribute to better life style and maintenance free construction and house keeping.

The company has attained its current stature due to the continuous endeavor of our team to maintain customer relationship and product quality.

Our company is pioneer in India to launch super acrylic waterproofing and heatproofing like WPC-99 and HPC-99 since 1996 and we are glad to make first time in India power acrylic waterproofing product like SEAL HOME and heatproofing like COOL HOME.

OUR BUSINESS

Partnering the growth of India's construction industry for more than 35 years, Sadee Technologies has reached a benchmark position in delivering innovative construction products and solutions. We produce and market ground breaking, intelligent and reliable construction chemicals that make construction projects not only safer, but also stronger and environmentally viable.

More Figures about our company :-

- We supply domain specific chemicals in bulk to the wholesalers which in turn supply these to the end-customers and buyers.
- We enter into project partnership wherein we get into strategic collaboration with organizations and assist them in their construction endeavor with our products and services.
- We also venture into contracts where we take on the complete task: whether it is an altogether new construction project or refurbishment of an existing structure.
- We ensure that the quality and the time lines are affirmed right from the initiation to completion of the work.

OUR GOALS

Our Mission

- To be the prominent provider of superior construction chemicals by consistently improving the quality of our product to add value for clients through innovation, foresight and integrity.

Our Vision

- Guided by our core operational values we aim to become a leader in the world of construction chemicals, Paints & Cleaning Compounds.

Our Values

- Continuous improvement/Kaizen: Sadee World is committed to getting better every day in all it does, as individuals and as teams. By better understanding consumers' and customers' expectations and continuously working to innovate and improve products, services and processes.

Service & Stewardship

- Service before self signifies the proper ordering of priorities. The welfare of the customer comes before us. While the focus is on service to our customers, the idea also incorporates the concept of stewardship, of holding something of value for others.

Accountability

- We hold ourselves accountable for upholding the highest standard of work and for continuously improving our products and services. Our staff understands the importance of maintaining the highest of standards for all our clients.

Integrity

- Our success depends upon building relationships based on trust and respect. Sadee World insists that our actions, services and products reflect our highest values and principles setting an example of ethical conduct.

OUR TECHNOLOGY

- At Sadee World we believe in continuous improvement and our Research & Development plays a vital role in achieving it. Our company has continuously invested in R&D and we boast to have established a fully equipped, centrally air conditioned totally computerized laboratory in the heart of Indore city.
- Sadee World lab uses the best in class equipment and processes to develop reliable and economic products for you. Our Dedicated and highly qualified team is in continuous pursuit of excellence in updating knowledge, Skills and Technical Capabilities. The best practices followed at Sadee World lab have helped us over the years has helped us to set new milestones for ourselves.
- The main pillars of our performance at Sadee World lab are:
- Customer Oriented Approach.
- Dedicated Technical Team.
- Accurate and Reliable Results.
- Timely Output Realised Over the years.
- Sadee World lab continues its venture to create and improve our products to help us serve our customers better.

About Our Parent Company



ICO Ltd. has been the pioneer in adhesives and sealants, construction chemicals and polymer emulsions in India. We started manufacturing WPC-99 in 1991, and have now grown to cater to various other categories including paint, chemicals, automotive chemicals, Cleaning Solutions, fabric care, maintenance chemicals, industrial adhesives, industrial resins and organic pigments.

Awards & Certifications

ICO Ltd. is only company in India who has awarded with national award in waterproofing category by Govt. of India. **ICO Ltd.** brand "Engineer Plus" has become a well recognized brand in India as well as international markets. Some of our popular products are Leaksil-99 HPC99, WPC-99, WAC-99, ICS-99, Kleanol, CAM-99, CAM-90, URP-99, Crack fill Paste, Smart Wall Putty, Innova Emulsion, Celebration Primer, PSS-99, Smart Coat and more.

We take research very seriously and invest into creating new technology and products. We are pioneers of 6 Layer Waterproofing System which is one of the most successful waterproofing technologies in India & abroad.



State-of-the-Art Manufacturing

ICO Ltd. continuously invests in state of the art manufacturing facilities in India.



R&D Facilities

We develop most of our products in-house with the help of a strong, research-driven innovation led by consumer insights. Innovation being one of the core values of the company, **ICO Ltd.** established a state-of-the-art research centre in Indore to expand the company's product innovation strategy and attract international talent to work on its in-house global brands.



About Waterproofing & Construction Chemicals Business

Construction Chemicals Division

ICO Ltd. has a unique mission to ensure that the latest in construction chemical technology reaches the Indian masses. To help achieve this mission **ICO Ltd.** has wide distribution network and an army of trained applicators who ensure that the correct solution is provided for Healthy Construction. Since Engineer Plus the **master of waterproofing**, was launched almost a three decade ago; It has become the undisputed leader in the organized waterproofing category in addition to waterproofing. Engineer Plus offers solutions in Tile Fixing, Building repairs, Sealants, Coatings Paints, Grouts, Flooring and Concrete Admixtures.

To Further propagate the message of "Permanent & guaranteed water proofing system", **ICO Ltd.** has set up a serving organization Engineer Plus Institute of Structural Protection and Rehabilitation. The aim is to enlighten professional and applicators about the latest advances in technology and challenge the wrong conventional building techniques. It has also set up an Advanced Diagnostic Laboratory and library for the industry professional on its campus.



Global Presence

SADEE WORLD is growing its international presence through acquisitions, setting up manufacturing facilities and sales offices in important regions around the world. Our products have been very well received in international markets and are now exported to more than 20 countries. In order to achieve sustained growth in international business, we are expanding our distribution network in various countries and also deploying additional manpower.



NATIONAL AWARD PHOTO



Receiving National Award

(Mr. P.C. Bhandari, MD-ICO Ltd.)

We, at SADEE WORLD PRIVATE LTD. believe in global harmony through happy living. We aim to save properties worth billions of rupees from water leakages problems as water ruins more properties than any destruction due to natural disaster or war.

It is our constant endeavor to develop water proofing chemicals and educate people on our product features to serve maintenance free dwelling for years to come. For this we shall constantly conduct qualitative improve our Quality Management System with inputs in improving human relations, packing, managerial and administrative efficiency and much more.

To develop range of products in the same family giving wide application base for all type of customers

- To ensure quality at all stage
- To enhance marketing all over India and abroad
- To encourage training of applicators so that they can generate independent employment

R&D Department (Laboratory)

We have pleasure to established a fully equipped, centrally air condition state of the art, advanced & high tech, totally computerized laboratory in the heart of Indore city. It is first laboratory in central India which are giving services for water permeability testing of cement, concrete mortar.

SW LAB'S ASSETS

- Dedicated, competent technical staff.
- Timely, Accurate, Reliable test results.
- Responsive attitude & Team work.
- Customer's satisfaction.
- Convenient Central location.

UPDATED TECHNOLOGY

In SW Lab the standard analytical methods are aided by the use of sophisticated instruments, high tech computer software, and other modern testing equipments with competent technical staff, for accurate analytical interpretation of consistent test results. SW Lab is innovative for continuous improvement by updating knowledge, skill & technical capability to meet the challenges of latest development and global market demand.



PRODUCT CATALOGUE

SOLUTION FOR CONSTRUCTIONS





Simply paint & Stop Leaks

Seal Home is a boon for modern living. It is an amazing, powerful chemical to stop water leakage & dampness from cement concrete structures like terraces, water tanks, kitchens, bathrooms, sidewalls, swimming pools, safety tanks, bridges, dams, canals etc. It is easy to handle eco-friendly, water thinnable, stable on dilution, economical, ready to use anywhere anytime.

For Perfect Plastering

For perfect and lifetime plastering on old or new concrete or bricks work give a direct coat of Seal Home by brush or spray without water on the surface and immediately spread washed & dried fine sand on the coated surface. The screeded surface can be plastered any time. Do not hatch concrete surface for plastering work or add to new concrete which badly effect strength of concrete due to hammering and develops hair cracks throughout the structure of building.

Properties of Dried Film

(1) High mechanical strength (2) High resistance to alkali. (3) High impact resistance. (4) High scrub resistance. (5) High resistance to ultra violet light. (6) High heat stability (Between 0°C to 90°C) (7) High resistance to Water. (8) High freeze thaw stability.

Note : Coverage on well finished surfaces about 80 to 100 sq.ft. per kg.

Available Packings...

100 g., 500 g., 1 kg., 5 kg.,
10 kg., 20 kg., 50 kg., 220 kg.

POWER ACRYLIC SEALING



Global Database
D-U-N-S NO. 914243785



MULTIPLE ADVANTAGES

• Fast drying, excellent adhesion to most building materials & no need to cure. • Increase in bonding of new wet concrete to old concrete. • Increase in durability & toughness of concrete. • Increase flexural and bond strength of concrete. • Forms a very tough bond with substrate having good permeability rating. • Excellent elastomeric and crack bridging capability. • Good weathering characteristics. • Very low water absorption, withstanding hydrostatic pressure. • Not susceptible to alkali degradation. Resistance to high alkali, sulfates and salts. • Good colour retention and low dirt pick up. • Breathable coating, allows vapor transmission. • Repairs asbestos roofs, gutters, drain pipes and tile joints.

Technical View

Product	Seal Home Specific Function : Water Proofing	(a) Odour	: Characteristic
Characterization	Powerful, eco-friendly, water based, hygienic.	(b) Specific Gravity	: 1.1
Chemical Data		(c) Surface Drying	: 5 minutes
(a) Chemicals	Performance blend of synthetic Resin, Emulsifiers, Hardener, Wetting agents, Plastizers, Pigments, Preservatives, Fungicides, Biocides etc.	(d) Dried film	: Transparent (Film thickness : 80-100 microns per coat).
(b) Composition	Proprietary	(e) Solubility after drying	: Fully soluble, not soluble in water.
(c) Physical Form	Free flow liquid (Pinkish)	(f) Film hardness on concrete	: After 24 hour : 0.9kg. After 48 Hour : 1.0 kg.
(b) Solubility	50% ± 2%	(g) Slump Test	: Cement ± 0.2% WPC-99 - 25 Minutes
(c) pH	8-9	(h) Coverage	: Cement ± 0.4% WPC-99 - 15 Minutes
(d) Solubility	Readily soluble in water		: Cement ± 1% WPC-99 - 10 Minutes
			: 80 to 100 sqft. Per Kg. (Depends on surface)

How to Use

• Clean the external surface from oil, dust, fungus, grass roots, rust & loose material with wire brush, shot blasting and finally vacuum cleaning is suggested for the best results. • Fill up gaps & cracks of surface with mixture of cement or mortar mix & 25% Seal Home in water. • Wash the surface with SAC or clean water by cloth or sponge and let it dry fully. • Stir well and mix one part of Seal Home with 1 part of clean water. • Apply the solution by painting brush, roller or spray on the clean washed and dried surface. • After 40 minutes of 1st coat, apply 2nd coat of Seal Home If required give 3rd coat after another 40 minutes. • After application as above, Seal Home dries within 10 minutes on the applied surface & within 6 to 8 hours the surface becomes fully waterproof and usable. • Don't keep container open, replace the cap. Wash brush immediately after use.

Area of Application...



Precaution & Limitations :

If splashes on body, wash with soap and excess of water immediately. **DISCLAIMER :** The product information & application details has been given in good faith and as a general guideline. The company does not assume any liability for unsatisfactory results and damage.



Cool Home is a matchless heat proof compound which wonderfully works on masonry surface. It stops heat penetration and keeps cool by reflecting more than 90% heat of the sun from surface. It makes you comfortable to walk on, to live with and to save electric energy. It keeps water cool in any type of water storage tank.

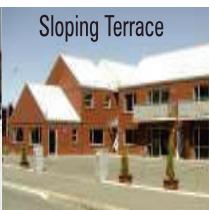
Multiple Advantage

- Very low heat penetration.
- Very high heat reflection.
- Considerable decrease in room temperature and electrical consumption.
- Excellent adhesion to most building materials and no need to cure.
- Excellent elastomeric and crack bridging capability.
- Anti corrosive, protects reinforcement steel and increases life of building.
- Anti fungal, Anti Microbial.
- Economical.
- Safe, Eco-friendly, hygienic.

Cool the summer & Save Electricity



Normal Terrace



Sloping Terrace

How to Use - **Cool Home** is single component ready to use compound.

- Clean the surface from oil, dust, fungus, grass roots, rust & loose material with wire brush. If possible vacuum cleaning is advisable.
- Wash the surface with clean water and let it dry.
- Repair gaps & cracks of surface with WAC-99 and cement mortar. Cure it as per normal procedure. (Optional : Non-porous surface like Marble, Green or Kota Stones, Vitrified Tiles required two coat of WAC-99 with cement as a primer for longer lasting & water proofing results.)
- **Cool Home** is very easy to apply. For best result do not dilute it.
- Stir well and apply one coat of **Cool Home** by painting brush on the (primed) surface.
- After 30 min. apply 2nd coat of **Cool Home**.
- If required give 3rd coat.
- Coverage two coats 25-30 sq. ft./Kg.
- Wash brush immediately after each use.

Area of Application

- **New & old Terrace : Cement Concrete, Asbestos, Plastic, Wood, Steel, Aluminium or any metals.**
- **Exterior Wall : Brick wall with or without plaster.**
- **Terrace Seimming Pool, Water tank, parapet wall, pantry etc.**
- **Cinema hall, Cold Storage.**
- **Staircase, path of Temple.**
- **Pavement, Bridge, Deck, Parking area, Army Baroque, Walking track etc.**



Metal Sheet



Plastic Tank

Available Packing : 100 g., 1 kg., 5 kg., 10 kg., 25 kg., 55 kg., 235 kg.



CAM-99 is triple action unique composition of Organic & Inorganic chemicals. Specially formulated for integral self waterproofing, free flow concrete, to resist growth of microorganisms and fungus. For effective waterproofing to fill up capillaries in concrete and masonry work. Water reducer and plasticizer for cement concrete to manufacture precast structure prestressed concrete, tiles saving in cement, water, time, labour, cost etc. Life of steel reinforcement is also considerably enhanced.

Area of Application...

Powerful admixture for cement concrete and plaster in buildings and construction jobs like : plinth, columns, beams, reservoirs, safety tanks, basements, toilets, bathrooms, kitchens, tiles, roofs, terrace, perafets, chhajjas, watertanks, bridges, channels, seawalls, dams, highways, swimming pools, ponds and fountains etc.

Note : Coverage on well finished surfaces about 80 to 100 sq.ft. per kg.

Available Packings :
 100ml., 500 ml., 1 Ltr., 3 Ltr., 5 Ltr.,
 10 Ltr., 20 Ltr., 50 Ltr., 200 Ltr.

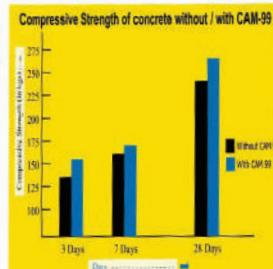


MULTIPLE ADVANTAGES

- Ensure homogeneous and consistent mortar mix with no risk of segregation.
- Due to fast wetting of cement particles lumps are not formed and the cohesive mix ensures compact mass formation thereby increasing strength of the concrete.
- Long lasting control of slumps loss.
- Increases workability and finish without raising water.
- Good green stability with increased durability and low water pick up of concrete.
- Reduces cracks and shrinkages in cement concrete making the concrete impermeable.
- Resists frost and prevents efflorescence.
- Prevents water condensation on interior walls by allowing normal breathing of concrete.
- The life of steel reinforcement increases due to negligible chlorides & sulphates in the product.
- Concrete structure becomes more dependable due to lower permeability and extra strength at an early stage.
- It allows early removal of form work due to early gain of strength gives high mechanical properties to the production of concrete elements.
- Safe, eco friendly, hygienic and powerful fungicidal, antimicrobial.

Chemical Test

Contents	Requirement of ISI 2645	
Total Chloride (d)	0.05% max.	0.030%
Total Sulphate (So3)	0.05% max.	0.038%
Days	Requirement of ISI 2645	Without CAM-99 With CAM-99 2ml/kg. cement
3 Days	-----	134.4 mpa 152.5 mpa
7 Days	-----	155.5 mpa 170.7 mpa
28 Days	150 mpa	229.6 mpa 261.3 mpa
Slump	20mm	35mm



How to Use

- Add only 100ml. of CAM-99 for every 50 kg cement. To disperse thoroughly, the recommended dose of CAM-99 is mixed into the gauging water required to prepare concrete mortar. Cure with water as per good construction norms.



Precaution & Limitations :

If splashes on body, wash with soap and excess of water immediately.

DISCLAIMER : The product information & application details has been given in good faith and as a general guideline. The company does not assume any liability for unsatisfactory results and damage.



Description

Leaksil-99 is a 100% Reactive Organosilane Nano - Sealer.

When applied on a siliceous substrate, it penetrates up to 2 mm inside the substrate and becomes an integral part of the structure. It converts the nature of the substrate from hydrophilic to hydrophobic. Leaksil-99 is water dilutable, safe, sprayable and easy to apply. Leaksil-99 acts like a 'skin' up to 2 mm deep for your building as against a polymer or paint film that acts like a 'Band-Aid' on your Building. The peel-off issues are eliminated as Leaksil-99 is non-leachable & UV-Resistant. It has a dual property of preventing of ingress of liquid water while allowing moisture vapours to escape.

Area of Application

- Waterproofing Membrane : Roof terraces, sunken portion of toilets & bathrooms, chhajas, balcony, etc.
- Concrete Repairs : Spalled concrete of slabs, chhajas, beams, columns, parapet, floor, etc.
- Waterproofing or Bonding Primer : Walls & slabs

Features & Benefits

- Novel Bactericidal self-Repairing Nanotechnology of waterproofing.
- Easy to apply, economical, water repellent property maintained for years (20+years.)
- Breathable coating allows water vapour to pass. Keeps substrate dry. No deterioration occurs.
- The treated surface turns hydrophobic and no longer allows to penetrate water into cracks. It cannot be wetted by water.
- Reduces thermal conductivity.
- Through capillaries drastic reduction in water uptake.
- Resistant to Abrasion, Thermal, UV.
- No shining, no tackiness, No health risk.
- Environment friendly.

Method of Application

- The substrate should be cured, dry and free from internal voids (honey combs).
- If honey combs are present, drill a hole and inject Engineer Plus Leaksil-99 solution 1:20 in water. Allow it to dry and then inject a suitable grout to fill and close the hole.
- For substrates with oil, grease, fungal growth etc., clean and dry the surface thoroughly before application.
- Engineer Plus Leaksil-99 should be diluted with potable water (TDS <1000 ppm) to obtain a clear transparent solution.
- The diluted solution should be liberally sprayed with low pressure until flood saturation is achieved.
- Flood saturation on horizontal surfaces means no further absorption of Engineer Plus Leaksil-99 even after 5 minutes of saturation.
- On vertical surfaces apply Engineer Plus Leaksil-99 from bottom to the top to eliminate drip-mark formation.
- To achieve full saturation on vertical surface, after repetitive light spray (3-4 times after 30-45 seconds) the solution should drip down the wall.
- Best applications are best done at a temperature between 10°C (50°F) to 35°C (95°F). It is best to do the application during the morning or evening hours to avoid peak heat of the Sun.
- For doing any Screeding / Plastering / Tiles / Paint Work on the treated surface, Engineer Plus Leakprime-99 (Acrylic Binder) must be added to the Engineer Plus Leaksil-99 Solution during preparation in the recommended ratio of 2 parts of Engineer Plus Leakprime-99 1 part of Engineer Plus Leaksil-99 & 20 parts of water.

Technical Data Sheet

PROPERTIES	SPECIFICATION	RESULTS
Form		Rust Clear Liquid
Viscosity	@25°C	<100cps
Specific Gravity		0.91±0.01
Flash Point		12°C
Odour		Low Odour
Solubility (in Water)		Easily Soluble
pH	Approx	6±1
Diuliant	Clean Potable Water TDS	<1000 ppm
pH		6.5 to 7

POWER SILICON COATING



Waterproofing of Micro and Hairline Cracks are

NOW TREATABLE



Organosilane Based Reactive Waterproofing Nano Technology

- Slab / Terrace / Balconies
- Bathroom / Toilet
- Basements
- Water Bodies
- Vertical Walls
- Retaining Walls
- Exposed Brick Walls
- Sewage Treatment Plants

पानी में मिलाओ
दिवारों को पिलाओ
सदा सुखे रहो





Description

Engineer Plus Leakprime-99 is an Acrylic co-polymer emulsion, supplied as a ready to use bonding agent in liquid consistency. It is a versatile product and can be used as a cement modifier for repair of spalled concrete - slabs, balconies, beams, columns, floors & waterproofing of toilets, bathrooms and terraces. Leakprime-99 plays major role in facade coating system. It forms a dry water repellent zone beneath the coating consolidate the substrate and enhance bonding of the coating. It is gas permeable, durable, protects paints & plasters against harmful influences form within the masonry.



Areas of Application

- **Waterproofing Membrane**: Roof terraces, sunken portion of toilets & bathrooms, chhajas, balcony, etc.
- **Concrete Repairs**: Spalled concrete of slabs, chhajas, beams, columns, parapet, floor, etc.
- **Waterproofing or Bonding Primer**: Walls & slabs



Features & Benefits

- Fast drying, excellent adhesion to most building materials & no need to cure.
- Increase in durability & toughness of concrete.
- Increase flexural and bond strength of concrete.
- Forms a very tough bond with substrate having good permeability rating.
- High scrub & impact resistance.
- Excellent elastomeric and crack bridging capability.
- Good weathering characteristics.
- No water absorption, withstanding hydrostatic pressure.
- Not susceptible to alkali degradation. Resistance to high alkali, sulfates and salts.
- Good colour retention. High resistance to stain, dirt pickup & UV.
- Breathable coating, allows vapor transmission.



Method of Application

Clean the surface with wire brush, scrubber or air blower to remove hidden dirt, loose particles, laitance & dust. De-grease the surface by using suitable solvents, if needed.

- **Bonding Primer**
To be used as a clear bonding primer by diluting 1:5 with water. Apply on the walls before painting or during putty rendering.
- **Waterproofing Primer**
For priming of concrete substrate, the surface should be thoroughly saturated with Engineer Plus Leaksil-99 solution (Dilution Ratio - 1 part Engineer Plus Leaksil-99 : 20 parts potable Water : 2 parts of Engineer Plus Leakprime-99).
- **Waterproofing Membrane**
For a waterproofing coating mix 1 part Engineer Plus Leakprime-99 with 1 part of cement & 1 part of 100 mesh sand.
Add water for brushability.
Brush apply the mix in span of 4-6 hours on the prepared concrete substrate. It is recommended to saturate the surface with Engineer Plus Leaksil-99 solution prior to this application.
Overlay the coating with a protective screed to the desired slope and thickness.
Coverage : 4-5 m² for a 0.2 mm (200 microns) coat.
- **Repair Mortar & Renders, Floor Screed & PCC**
Prepare the Mortar in the following proportion:

Cement 50 kg
Washed Sand 75 kg
6 mm Down size aggregates 75 kg
Engineer Plus Leakprime-99 (6 - 7.5 litres)
Water 10 litres

For PCC & Plaster work : Engineer Plus Leakprime-99 200 ml per bag cement.

Coverage

- 3 sq.mtr per coat on a brick masonry surface (mixed with cement):





Leakprime-99 Multiple Usages & Application Chart

No.	Application	Composition	Qntity of Aquaprime-99
1.	Concrete & masonry surface Repair mortar	OPC : 50 kg Washed Sand :10 kg water : 10 ltrs.	6-7.5 ltrs.
2.	Bonding Primer	Water : 5 ltrs.	1 Ltr.
3.	Concrete /Plaster	OPC : 50 kg	150-250 ml
4.	Waterproofing	OPC : 1 kg Sand : 1 kg	1 Ltr.
5.	Putty	Putty-20 kg	150-250 ml
6.	Primer	Primer 20 ltr (water base)	1 Ltr.
7.	Coving	Water : 2.5 ltrs Cement : 5 kg Sand : 15 kg Mix manually / mechanically use the Mixture for smooth coving	1 Ltr.
8.	Enhance washability coverage Bonding, brightness & life of Water base paint	20 lit water base paint	Upto 4Ltr.
9.	Waterproofing with Aquasil-99	Portable water 20 parts Aquasil-99 1 part	2 Ltr.

Technical Data Sheet

PROPERTIES	SPECIFICATION	RESULTS
Physical form		Milky white free flow liquid
Odour		low characteristic
Specific Gravity		1.03 ± .02
Solids		35 % + 1 %
PH		7-9
Solubility		Radily soluble in water
Viscosity	@ 25°C	<500 cps
Dilutant	Clean Potable Water TDS	< 1000 ppm
Flash Point		Non Flammable

Leakproof 99™

WATERPROOF STRETCHABLE
MEMBRANE & CRACK FILLER



Description

An acrylic co-polymer emulsion, used to form on-site seamless, cross-linked elastometric membrane on the concrete. The polymer composition ensures excellent UV stability, high strength and elongation of up to 250%..

Area of Application

Roof Terrace, Sunkens, Balconies & Utilities, Podiums, Water Tanks and STP (Sewage Treatment Plants), Basements, Retaining Walls, Water Reservoirs etc.

Features & Benefits

- Stretchable membrane for leakage proofing of concrete surfaces
- Excellent UV stability
- High bonding strength
- Water-resistant
- Up to 250% elongation

Method of Application

Surface Preparation

- Clean the surface and remove all dust, foreign matters, loose material or any deposits of contamination which could affect the bond between the surface and Leakproof-99 coating. The surface cleaning can be done by wire brush, air blower, grinder, high pressure water spray, sand blasting followed with air blowing or water wash.
- Smoothen the horizontal / vertical concrete surface.

Repair Work

- Attend damaged / spalled concrete with Leakproof-99 mixed mortar. For filler, the mixing ratio is 1 kg cement : 1.5 kg fine sand : 0.25 kg of Leakproof-99 : Water 0.4 to 0.5 litre. Cure with water for 2-3 days.

Membrane Top Coat

- Mix 1 part (by volume) of Leakproof-99 : 1 part (by volume) of cement, 1 part (by volume) sand and stir to get a uniform paste. Add required amount of water to bring this mix to desired consistency apply by brush or roller.
- **Curing & Drying:** Sun dry for ($\geq 25^{\circ}\text{C}$) 6 - 12 hours & reapply.

Technical Data Sheet

PROPERTIES	SPECIFICATION	RESULTS
Form		Milky White, Free Flowing, Liquid
Specific Gravity		1.02 ± 0.01
Solid Content		$50 \pm 1\%$
Viscosity		< 500 cps
pH	@ 25°C	7.5 to 8.5
Diluent		Clean Potable Water TDS < 1000ppm
Flash Point		Non Flammable
Elongation		up to 250%





PROTECTION HIGH STRENGTH STRONG ADHESION DURABLE 100% Silane Eco Friendly Long Life

Description

Engineer Plus WPC-99 is a boon for modern living. It is an amazing, powerful chemical to stop water leakage & dampness from cement concrete structure like terraces, water tanks, kitchens, bathrooms, sidewalls, swimming pools, safety tanks, bridges, dams, cannels etc. It is easy to handle eco-friendly, water thinnable, stable on dilution, economical, ready to use anywhere anytime.

Areas of Application

Bridges, decks, parking areas in highways. Reinforcement steel to prevent corrosion. Stepping terraces and flat roofs. Repairs of worn, damaged & spoiled concrete. For injection, pressure & precision grouting. Kitchen, bathrooms, Side Wall, Swimming pool, Safety Tanks etc.



Features & Benefits

- Fast drying, excellent adhesion to most building materials & need to cure.
- Increase in bonding of new wet concrete to old concrete.
- Increase in durability & toughness of concrete.
- Increase flexural and bond strength of concrete.
- Forms a very tough bond with substrate having good permeability rating.
- Excellent elastomeric and crack bridging capability.
- Good weathering characteristics.
- Very low water absorption, withstanding hydrostatic pressure.
- Not susceptible to alkali degradation. Resistance to high alkali, sulfates and salts.
- Good colour retention and low dirt pick up. Breathable coating, allows vapor transmission.
- Repairs asbestos roofs, gutters, drain pipes and tile joints.



Method of Application

Surface for treatments must be thoroughly cleaned of all laitance, loose materials, oils, greases etc. Mix Engineer Plus WPC-99 in water thoroughly in 1:1 proportion in weight. Apply 1st coat, allow it dry for 60 minutes. Apply second coat and allow it to dry. If required overlay concrete screed/mortar when 2nd coat is tacky. Cure the screed/mortar for minimum 3 days.



Coverage

- 2 Coats 100 sq. ft./kg.

Technical Data Sheet

PROPERTIES	RESULTS
Physical form	Free flow liquid (Transparent)
Solids	50% + 2%
pH	8-9
Solubility	Readily soluble
Odour	Characteristic
Specific Gravity	1.1
Surface Drying	5 minutes
Dried film	Transparent
Solubility after drying	Fully stable, not soluble in water





Description

Engineer Plus WAC-99 is a highly Concentrated multipurpose Latex Emulsion based liquid modifier useful as an additive for concrete mortars in repair/Water proofing application as well as protective coating to cementitious substances.

Areas of Application

Bridges, decks, parking areas in highways, Reinforcement steel to prevent corrosion. Stepping terraces and flats roofs. Repairs of worn, damaged & spoiled concrete. For injection, pressure & precision grouting. Kitchen, bathrooms, Side Wall. Swimming pools, Safety Tanks etc.

Feature & Benefits

- Produces high compressive flexural and tensile strength for durable repairs.
- White brushable liquid.
- Useful as bonding agent for old and new concrete.
- Useful as an additive to water proofing mortars/concrete.
- Excellent as a protective coat cementitious substances.
- Antimicrobial prevent fungal & bacterial growth economical in application.
- Excellent barrier to carbon dioxide , chloride, sulphate & nitrates icons, for carbonation resistance coating for protection of concrete subject to adverse climatic condition .
- Highly elastomeric and crack bridging characteristics.
- Prevent corrosion
- Very low water absorption.

Method of Application

Surface for treatments must be thoroughly cleaned of all laitance, loose materials, oils, greases etc. Mix Engineer Plus WAC-99 water and cement thoroughly in 1:1:3 proportion in weight. Pre wet the surface before application. Apply 1st coat, allow it dry for 30 minutes. Apply second coat and allow it to dry. If required overlay concrete screed/mortar when 2nd coat is tacky. Cure the screed/mortar for minimum 3 days

At the time of Construction

When used as an admixture with cement concrete mortar it works as a hardner, wetting and finishing agent. For fast setting it is recommended in cement concrete mixture @ 100gms. To 500gms. Per bags of cement (50kgs.) when used with cement curing is must as per norms.

Coverage

- 4 Coats 25 sq. ft./kg.

Technical Data Sheet

PROPERTIES	RESULTS
Appearance	Milky White
Base	modified polymer
State	liquid Emulsion
pH	8 to 9
Solid Content	50 ± 2 %
Coverage	60-70 sq ft/kg (Depends on surface)
specific Gravity	1.1
Pot-Life @30°C	30 min
Application	Above 10°C & below 45°C Temp.



MAGIC COAT®

ADVANCE

WITH NANO TECHNOLOGY

Description

Engineer Plus Magic Coat Advance(PU) is a fiber reinforced elastomeric liquid applied waterproofing membrane. It is formulated with PU hybrid polymers and reinforcing acrylic fibers. Upon curing, it forms a thick, seamless, durable membrane thus offering ultimate waterproofing.

Area of Application

- Roof, terrace, parapet wall and vertical walls.

Features & Benefits

- Water proofing:-** Resists positive hydrostatic pressure of upto 10 bars
- Crack bridging:-** Effectively bridges cracks up to 2.5 mm
- Surface Temperature Reduction :-** Provides surface temperature reduction up to 10°C.
- Special Additive:-** Reinforced with fibers to improve mechanical properties and abrasion resistance.
- Adhesion:-** Excellent adhesion to substrates like concrete and masonry.
- Durability:-** Excellent resistance to water, UV rays and ageing.
- Anti-fungal and Anti-algal :-** Excellent anti-fungal and anti-algal properties.
- Excellent Anti-Carbonation:-** Acts as an effective barrier against carbon dioxide thus prolonging the life of the structure

Method of Application
HORIZONTAL SURFACE

Prepare the surface by cleaning with a high pressure water jet/wire brush and ensure that it is free of dust, oil, grease, grime and loose particles etc. In the existing terraces, the substrate must be checked for its soundness, damaged portions & hollow areas must be repaired with Polymer modified mortar. Small cracks 3mm or less should be open out, cleaned & filled with Engineer Plus Crack Fill Paste & wider cracks should be filled with Polymer modified mortar. All corners and joints of drain pipes, channels etc. must be treated with polymer modified mortar prior to coating application. Ensure that the coating is applied at least 6 inch inside the drain pipe. Horizontal Slab area: Apply self-priming coat (diluted with water in 3:1 ratio by volume). Allow to dry for at least 3-4 hrs prior to application of subsequent coat. Apply two coats of Magic Coat Advance(PU) without dilution to achieve forced coverage of 10 sq ft/ltr for all coats put together. For best performance on terraces, ensure that the product is applied on the entire roof including parapet wall to form a continuous blanket.

VERTICAL SURFACE

On vertical surfaces, Magic Coat Advance(PU) is to be applied followed by top coat application in the manner detailed below:

Magic Coat Advance(PU) Application

Fresh surface (Must be a cement plaster in sound condition with no debonding. Localized repairs done as per standard civil practices in case it is required). Apply a fresh coat of Magic Coat Advance(PU) mixed in ratio of 3:1 and applied with a spreading rate of 5.5 Sq meter/ltr (60 sq feet/ltr). Allow to dry for 4-6 hours and then apply another coat of Magic Coat Advance(PU) without dilution with a spreading rate of 4.6 to 5.1 Sq meter/ltr (50-55 sq feet/ltr).

Precautions

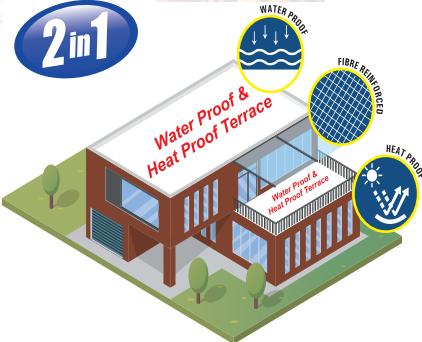
- Do not apply during rains or extreme temperatures.
- Avoid abuses which may lead to puncturing of membrane.
- Ensure that the product is applied at least 6 inches inside the drain pipe.
- For best results, apply parapet to parapet to envelope the entire building.

Coverage

- On RCC or plaster using brush or roller.
- Horizontal Surface** 10 sq. ft. / ltr.
- Vertical Surface** Fresh painting: 25 sq. ft. / ltr.
Re-painting: 35 - 40 sq. ft. / ltr.

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*Fiber Reinforced Elastomeric
Water Proof & Heat Proof Coating
For Exterior Surfaces.*


Technical Details

- Form:** Ready to use viscous liquid
- Application temperature:** 5°C to 35°C
- Appearance:** Viscous Liquid
- Color:** White
- Specific Gravity:** 1.15 gm/cc
- Water Resistance:** 10
- Alkali Resistance:** 8
- Viscosity Sormer:** 124-138 KU
- Solids by wt. %:** 50.5 to 55.90%
- Tensile strength:** 2.90 Mpa
- Elongation:** upto 350%



HPC 99™

HEAT PROOF COMPOUND



Description

Engineer Plus HPC-99 is a matchless heat proof compound which wonderfully works on masonry surface. It stops heat penetration and keeps cool by reflecting more than 90% heat of the sun from surface. It makes you comfortable to walk on, to live with and to save electric energy. It keeps water cool in any type of water storage tank.

Area of Application

- Terrace of Commercial Buildings/Offices
- Hospitals
- Shopping Malls
- Home
- Apartments
- Oil Storage Tanks
- Factories
- Sintex tanks / water tanks and pipe lines
- Any type of old or new sheets and RCC roofs

protects coating from damage and reduces heat conductivity.

Features & Benefits

- Very low heat penetration.
- Very high heat reflection.
- High resistance to ultra violet light.
- Considerable decrease in room temperature and electric consumption.
- High heat stability (between 0°C to 90°C).
- High freeze thaw stability.
- Good weathering characteristics.
- Excellent adhesion to most building materials and no need to cure.
- It produces excellent result on almost all absorbent mineral substrates by increase durability, toughness, flexural and bond strength.
- Excellent elastomeric and crack bridging capability.
- Very low water absorption.
- Resistance to high alkali, sulphates and salts.
- Low dirt pick up.
- Anti corrosive, protects reinforcement steel and increase life of building.
- Anti-Fungal, Anti Microbial.
- Economical
- Safe, eco-friendly, hygienic.

Method of Application

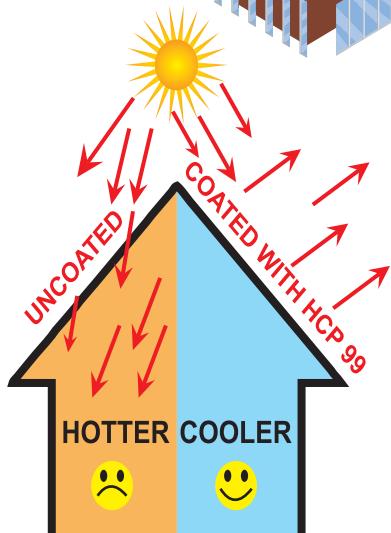
- Clean the surface by rubbing with wire brush and other tools as per required to remove dust, fungus, grass root, rust, tar coal & loose material.
- Wash with clean water. Repairing of Cracks work will be carried out as per requirement on terrace.
- Apply 1st coat of HPC-99 layer for Heat proofing & mix with water in the ratio of 1: 0.5 kg.
- Then apply 2nd & 3rd coat of Pure HPC-99 layer for giving Final touch of Heat proofing.

Coverage

- 3 Coats 25 sq. ft./kg.

FEATURES & BENEFITS :

- ✓ Heat Insulation - Reduces the conductivity of heat from exterior to interior, thus lowers the temperature.
- ✓ Solar Reflectance - 83.8% solar reflectance (ASTM E-903), re-radiated heat back to atmosphere
- ✓ UV and IR resistant - Resistance to UV & IR emission, protects coating from damage and reduces heat conductivity.
- ✓ Energy Saving - Reduction in electrical consumption for air-conditioners, saves energy cost.



Save Water & Electricity

Technical Data Sheet

PROPERTIES	RESULTS
Appearance	Free, flowing, homogeneous & uniform paste
Colour	Ultra White
Solid Content %	>60%
Sp. Gravity	1.1 to 1.2
SRI value %	120 to 125
Total solar energy rejected	95%
Elongation, %	200
Thermal Conductivity	0.029 w/mk





IS 2645 : 2003

Description

Engineer Plus CAM-99 is triple action unique composition of Organic & Inorganic chemicals. Specially formulated for integral self waterproofing, free flow concrete, to resist growth of micro-organisms and fungus. For effective waterproofing to fill up capillaries in concrete and masonry work. Water reducer and plasticizer cement concrete to manufacture precast concrete elements, cantilevers, structure pretressed concrete, tiles etc. CAM-99 ensures substantial saving in cement, water, time, labour, cost etc. Long life of steel reinforcement is also considerably enhanced.



Areas of Application

Waterproofing of concrete and sand-cement mortars used in

- Basements
- Roof slabs and screeds
- Water tanks & water retaining structures
- External plastering
- Bathrooms and balconies
- Sumps and drains

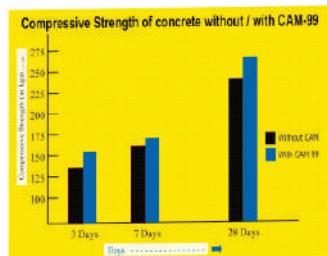


Features & Benefits

- Corrosion resistant** - Makes concrete more cohesive, hence protects steel better against corrosion.
- Compatibility** - Being a liquid, easily dispersible & compatible with concrete/mortar mixes.
- Permeability** - It reduces the permeability of water into concrete.
- Strength** - The setting time and compressive strength of the concrete remains within the specification limits.
- Shrinkage** - Reduces shrinkage crack development in plaster & concrete.
- Workability** - Improves workability of freshly mixed cement concrete.
- Durability** - Increases durability by improving waterproofing of concrete.

Method of Application

- Add 100ml of Engineer Plus CAM-99 for every 50kg bag of cement in the concrete mortar mix.
- The recommended dose of Engineer Plus CAM-99 should be mixed into the gauging water while preparing concrete or of mortar. The concrete or mortar should be mixed 2 to 3 minutes thoroughly to disperse the liquid.
- Cure the applied mortar or concrete as per good construction practice.



Technical Data Sheet

PROPERTIES	RESULTS
Appearance	Free flowing liquid
Colour	Blue
Sp. gr. @ 25°C	1.04 - 1.09
Non volatile content	13.5 - 14.5%
pH value	11.0 - 14.0
Solubility	Water Soluble
Setting time, minutes	Passes
Chloride content	Max. 2.00%
Water permeability	Passes
Compressive Strength N/mm ²	As per the standard

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સાડી વર્લ્ડ





Description

Engineer Plus CAM-90 is triple action unique composition of Organic & Inorganic chemicals. Specially formulated for integral self waterproofing, free flow concrete, to resist growth of micro-organisms and fungus. For effective waterproofing to fill up capillaries in concrete and masonry work. Water reducer and plasticizer cement concrete to manufacture precast concrete elements, cantilevers, structure pretressed concrete, tiles etc. CAM-90.ensures substantial saving in cement, water, time, labour, cost etc. Long life of steel reinforcement is also considerably enhanced.

Areas of Application

Waterproofing of concrete and sand-cement mortars used in

- Basements
- Roof slabs and screeds
- Water tanks & water retaining structures
- External plastering
- Bathrooms and balconies
- Sumps and drains



Features & Benefits

- Corrosion resistant** - Makes concrete more cohesive, hence protects steel better against corrosion
- Compatibility** - Being a liquid, easily dispersible & compatible with concrete/mortar mixes.
- Permeability** - It reduces the permeability of water into concrete.
- Strength** - The setting time and compressive strength of the concrete remains within the specification limits.
- Shrinkage** - Reduces shrinkage crack development in plaster & concrete.
- Workability** - Improves workability of freshly mixed cement concrete.
- Durability** - Increases durability by improving waterproofing of concrete.



Method of Application

- Add 200ml of Engineer Plus CAM-90 for every 50kg bag of cement in the concrete mortar mix.
- The recommended dose of Engineer Plus CAM-90 should be mixed into the gauging water while preparing concrete or of mortar. The concrete or mortar should be mixed 2 to 3 minutes thoroughly to dispense the liquid.
- Cure the applied mortar or concrete as per good construction practice.

Technical Data Sheet

PROPERTIES	RESULTS
Appearance	Free flowing liquid
Colour	Pink
Sp. gr. @ 25°C	1.04 - 1.09
Non volatile content	13.5 - 14.5%
pH value	11.0 - 14.0
Solubility	Water Soluble
Setting time, minutes	Passes
Chloride content	Max. 2.00%
Water permeability	Passes
Compressive Strength N/mm ²	As per the standard



ADVANCED URP 99® SBR LATEX



PROTECTION HIGH STRENGTH STRONG ADHESION DURABLE 100% Silane Eco Friendly Long Life

Description

Engineer Plus Advanced URP 99 is based on modified styrene butadiene latex supplied as a ready to use bonding agent in liquid consistency. It is used for repair of spilled concrete – floors, columns, beams, chhajas, slabs, waterproofing of toilets & bathrooms, small terraces etc. It bonds strongly to old & new concrete and to plasters. It reduces shrinkage, prevents cracking, dust pick up & improves abrasion resistance.

Features & Benefits

- Multipurpose – It is multipurpose & economical product, easy to use.
- Cracking – It prevents cracking by improving flexural strength.
- Hardness – Improves the hardness & prevents dust generation.
- Shrinkage – Reduces drying & aging shrinkage cracks.
- Bonding – Bond strongly to concrete, masonry, stonework, plasters, cementitious surfaces, asphalt & most of the building materials.
- Erosion & corrosion – Improves erosion resistance & prevents corrosion.
- Abrasion resistance – Improves abrasion resistance of the cement mix.
- Grouting – Reduces viscosity of cement injection grout for better fluidity & bonding.



Method of Application

1. SURFACE PREPARATION

- Clean the surface with wire brush or scrubber to remove hidden dirt, loose particles, laitance & dust. Degrease the surface by using suitable solvents.
- Repair the spilled concrete portion by saw, cutting the extreme edges of the repair location to a depth of at least 10 mm to avoid feathering & to provide strong bond.
- Clean the concrete surface to remove any contamination where breaking is not possible. Roughen the surface by light scabbling or grit blasting.
- Expose corroded rebar in the repairing area fully. Remove all loose scales & corrosion deposits and immediately clean the surface.

2. PRIMING

- For priming of steel surface, apply Engineer Plus Rust Arrest to all exposed reinforcement area and wash it with water jet before applying Engineer Plus Epoxy Zinc Rich Primer on the rebar.
- For priming of concrete substrate, the surface should be thoroughly saturated with potable water. Remove any excess of water prior to application. Slurry of primer coat is prepared by mixing of one part Engineer Plus Advanced URP 99, one part of water and 3 parts of fresh OPC cement. Slowly mix cement with binder to obtain a smooth consistency. Continue mixing the slurry during application to prevent settlement.

3. MIXING

- A forced action mixer is essential (Pan Mixer) & recommended to ensure that Engineer Plus Advanced URP 99 mortar is thoroughly mixed or Use a suitable sized drum with heavy-duty electrical drill machine fitted with spiral paddle mixer at slow speed of 400-500 rpm.
- Hand mixing is permissible only for 25 kg or less quantity.
- Charge the mixer with required quantity of clean & dry sand, cement & mix for 1-2 minutes, then add Engineer Plus Advanced URP 99 as per the dosages recommended. Mix for 2-3 minutes to avoid air entrainment. Keep on slowly adding water until the required consistency is achieved. Do not add extra water.

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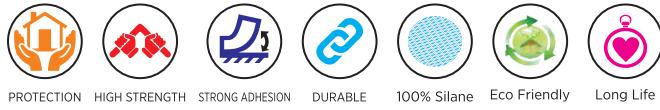
UNIVERSAL REPAIR & WATERPROOFING SOLUTION

FEATURES & BENEFITS :

- ✓ Styrene Butadiene co-polymer latex liquid that improves waterproofing
- ✓ Strengthens bonding of new and old concrete & plaster
- ✓ Enhances strength & water resistance of repair mix - concrete & mortar



ADVANCED URP 99® S B R L A T E X



Multiple uses and Applications

- Surface for treatment must be perfectly cleaned of all latent, oil, greases, mechanically and chemically finally vacuum cleaned & water washed to remove all loose material.
- For waterproofing :** Mix Engineer Plus Advanced URP 99 with neat cement in ratio of 1:1.5 by weight. Apply 2 coats in the interval of 2 hours. After 2nd coat when it is tacky protective screed is must.
- As a mortar :** for repairs prepare a mortar with Engineer Plus Advanced URP 99 in the following proportion in the given sequence to get workable consistency.

333-URP	Water	Cement	Sand
150gm	200ml	1kg.	3kg
- As Screed Concrete :** Concrete screeding mix Engineer Plus Advanced URP 99 with other ingredients in the following ratio as per the sequence for uniform consistency.

333-URP	Water	Cement	Sand	6mm crushed stones
150gm	200ml	1kg.	1.5kg	1.5kg
- As a bond Coat :** Mix Engineer Plus Advanced URP 99 and neat cement in 1:1 ratio by weight. Apply on pre-wetted substrate immediately overlay repair mortar on the tacky surface.
- As a protective coating** to robar's and cementitious substrate. Mix Engineer Plus Advanced URP 99 with neat cement in 1:1.5 proportion by weight and apply.

Areas of Application

- For concrete repairs - spalled concrete of floors, columns, beams, chhajas, slabs, parapets, etc.
- For waterproofing - small roof terraces, sunken portions of toilets & bathrooms, chhajas & lift pits, balconies & staircases.
- For waterproofing - liquid & effluent tanks, car decks & walkways.
- As a bonding agent - bonding mortar for tiles & panels, as undercoat for special finishes such as top rendering coat for chemical resistant floors.
- As a bond coat - for bonding of new concrete to old concrete, masonry stone work, plastering.
- For cladding - fixing or re-fixing of slip bricks, tiles, stones & marble bedding.
- As external rendering - weatherproof & frost resistant render, high wear & erosion resistant render. As bonding slurry coat for pinhole treatment on concrete surface & as repair mortar for overhead application.

Coverage

- 2 - 2.2 sq.mtr/kg for 2 coats. (URP+cement in the proportion 1:1.5)

Technical Data Sheet

PROPERTIES	RESULTS
Base	SBR Latex (styrene, butadiene rubber)
Coverage OPCS:URP 1:5 pbwt	20-22 sq ft/kg for two coats
Total active solid content	1:1.5
pH	34 ± 2%
pot life @ 30°C	8 - 9
Specific gravity at 30°C	30 - 45 minutes at 30°C
pH	1.01 + / - 0.02
Compressive strength, N/mm ² -7 days	7 to 9
Tensile strength, N/mm ²	Passes the specification
Flexural strength, N/mm ²	Passes the specification
Slants shear bond, N/mm ²	9>
Chemical resistance to mild acids, alkalies, sulphates,	30
Resistance to water pressure, bar	Resists
Freeze thaw resistance	Upto 2
	Excellent



Pour Grade



Description

Engineer Plus PSS-99 is a two component, self smoothing, elastomeric sealant which when mixed and applied cures by chemical reaction to form a tough, flexible rubber seal.

Typical Application

- Concrete pavements.
- Factory floors.
- Car parks.
- General construction and expansion joints.

Features & Benefits

- Self smoothing.
- Highly elastic.
- Excellent adhesion.
- Accommodates continuous and pronounced cyclic movement.
- Non shrink.
- UV resistant.
- Chemical resistant.

Method of Application

1 SURFACE PREPARATION

- Joint surfaces must be sound thoroughly clean and dry and free from grease, oil and any other contamination. All dust and debris must be removed by wire brushing, grinding and vacuuming. Damaged joints should be repaired first using a suitable mortar from the Engineer Plus range.
- Ensure that the filler material such as closed cell polyethylene sheet or rod is tightly packed and no gaps or voids are evident at the base of the joint. Where backing rod is not fitted a bond breaker tape must be used.
- Fix masking tape on both sides of joint surface to provide a neat appearance.

2 PRIMING

- Prime with Engineer Plus Aquaprime-99 A by brush (avoiding ponding at the base of the joint). Particularly porous surfaces should be primed twice. Apply the second coat of primer when the first is tack free but within 3 hours. Sealants should be applied as soon as the primer is touch dry and within 8 hours. If this time is exceeded a fresh coat of primer should be applied.

3 MIXING

- Add curing agent to resin and mix thoroughly with a slow speed electric mixer (300 – 450 rpm) for approx. 1-2 minutes until a homogenous and uniformly grey coloured material is obtained.

4 APPLICATION

- PSS-99 is a self smoothing material, after mixing it can be poured directly from the container.

5 FINISHING

- Due to the liquid nature of the material it should require no finishing. Allow the material to cure for approximately 1 hour, as the viscosity increases due to curing the tape can be removed.

6 CLEANING

- After sealing the joint the tools and equipment should be cleaned immediately with cleaning solvents/thinners.

7 CURING

- Allow sealant to cure for 7 days before carrying out any testing. Protect the joints from water for at least 24 hours and chemicals for 7 days.

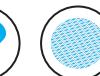
Technical Data Sheet

PROPERTIES	RESULTS
Form	Base : Viscous liquid Curing Agent : Paste
Colour	Grey Solids
Content	100%
Density	1.60kg/litre
Physical/Chemical Change	Chemical Cure
Hardness Shore 'A' @ 25°C	15-23
Application Temperature	10°C to 50°C
Service Temperature	-20°C to 80°C
Cure Time:	2 weeks @ 15°C 1 week @ 25°C



S.No.	Size in MM	Running Ft. 1 Kg.
1.	5x5	164 Running feet
2.	10x5	82 Running feet
3.	10x10	41 Running feet
4.	20x10	20.5 Running feet
5.	40x20	5.04 Running foot





PROTECTION

HIGH STRENGTH

STRONG ADHESION

DURABLE

100% Silane

Eco Friendly

Long Life

Description

Engineer Plus Strong Latex is based on modified Styrene butadiene latex used for high performance applications in waterproofing and repairs. It is used for repairs of spalled concrete such as – floors, columns, beams, chhajjas, slabs & waterproofing of toilets & bathrooms & terraces. It bonds strongly to old & new concrete & plaster.

Typical Application

- As a bond coat - Plaster to plaster, concrete-to-concrete, plaster to concrete for plastering over brick masonry
- Bonding coat & mortar for tiles & panels, under lays for special finishes such as top rendering coat for chemical resistant floors.
- As waterproofing – Waterproofing of small roof terraces, sunken portions of toilet & bathrooms, chhajjas & lift pits, balconies & staircase.
- As crack repair - Repairs of plaster cracks more than 5 mm & in gaps developed between masonry and RCC members.
- As rebar coating - Coating for prevention of corrosion over rebars.
- For Cladding – Fixing or refixing of slip bricks, tiles, stones & marble bedding.
- Concrete repair mortars - Improves the durability of the mortars and it can be used for making polymer modified mortars for patching and concrete repair.
- Cement mortars - For filling holes, reconstructing damaged areas and finishing surfaces on buildings and precast elements in concrete .

Features

- Multipurpose – It is multipurpose & economical product, easy to use
- Cracking – It prevents cracking by improving flexural strength
- Hardness – Improves the hardness & prevents dust generation
- Shrinkage – Reduces drying & aging shrinkage cracks
- Bonding – Bonds strongly to concrete, masonry, stone work, plasters, steel & most of the building materials.
- Erosion & corrosion – Improvers erosion resistance & prevents corrosion.
- Abrasion resistance – Improvers abrasion resistance of cement mix.
- Waterproofing - Prevents leakage & dampness.
- Durability - Enhances strength of a repair mortar & provides durability.
- Rebound loss - Less material wastage- material does not fall back/ rebound, when used as bonding agent.
- Coverage - Excellent Coverage -70-80 sq.ft per kg/ in 2 coats, hence economical.

Method of Application

SURFACE PREPARATION

- Clean the surface with wire brush or scrubber to remove hidden dirt, loose particles, laitance, & dust. Degrease the surface by using suitable solvents.
- Repair the concrete spalled portion by saw cutting the extreme edges of the repair location to a depth of at least 10 mm to avoid featheredging & to provides strong substrate.
- Clean the concrete surface to remove any contamination where breaking is not possible. Roughen the surface by light scabbling or grit blasting.
- Expose corroded rebars in the repairing area fully. Remove all loose scales & corrosion deposits & immediately clean the surface.



StrongTM Latex 99



PROTECTION HIGH STRENGTH STRONG ADHESION DURABLE 100% Silane Eco Friendly Long Life

Application Mixing

Sr. No.	AREAS OF APPLICATION	MIX (POWER LATEX : WATER : CEMENT)	METHOD OF APPLICATION
1	As bond coat	1:4:7	Apply a single coat of the mixed quantity of Engineer Plus Strong Latex. When coat is tacky, apply the plaster or concrete according to the situation. Always add cement to the liquid (Engineer Plus Power Latex : water =1 : 4).
2	As waterproof coating	1:4:7	Brush apply the 1st coat. Apply 2nd coat after 1st coat is dry approximately 4-6 hrs between two coats. Overlay the 2nd coat with screed/plaster for protection and finish.
3	Rebars coating	1:4:7	Rusted rebars must be thoroughly scraped, by mechanical means if required. Brush apply a single coat of prepared mix over the rebars. Apply concrete/mortar when the coat is tacky.
4	For 'salt petre'- free plaster Brick masonry	1:4:7	Brush apply the 1st coat on brick. Apply 2nd coat after 1st coat is dry. When 2nd coat is tacky, place plaster as per instruction in no. 5
5	Renders, Patching & Crack Repair Mortar	5 kg Engineer Plus Power Latex +15 ltr Water 50 kg Cement + 150 kg Sand	Mix 5 kg of Engineer Plus Strong Latex with pre-measured water for 50 kg of cement. Use this mix to add to the recommended dry mortar mixes. Mortar mixes may be as rich as 1:3 (cement: sand) Keep water-cement ratio in Mortar as low as 0.4 but not more than 0.45. Clean the cracked area properly of all loose materials. Wet the crack completely using a bottle spray. Apply a single coat as a bond coat prior to the crack filling of the Engineer Plus Strong Latex as per the mixing proportions mentioned earlier. Fill the crack with above prepared mortar. Compact it into the crack fully and trowel finish to level.
6	As waterproof plaster	50 kg OPC cement 150 kg Sand 1 kg Engineer Plus Power Latex	Mix 1 kg of Engineer Plus Strong Latex with pre-measured water for 50 kg cement. Use this mix to add to the recommended dry plaster mixes. Plaster mixes may be as rich as 1:3 (cement : sand) Keep water-cement ratio in Plaster as low as 0.4 but not more than 0.45. For better application apply a bond coat with Strong latex as suggested earlier. 2nd and final layer of plaster must not be mixed with Engineer Plus Strong Latex. Add Engineer Plus CAM-90 to the second coat plaster. Take care to scratch-key the 1st coat surface for effective bond with the 2nd coat.

Coverage

Preparing the Mixes for Bonding & waterproofing applications

• 1 kg of Strong Latex will cover 70 - 80 sq. ft. area in 2 coats for a proportion mix 1:4:7 (Power Latex : Water : Cement).

For Patching and concrete repair

Recommended mixing ratio: 5 kg Engineer Plus Strong Latex-502 + upto 15 ltr Water 50 kg Cement + 150 kg Sand.

Technical Data Sheet

PROPERTIES	RESULTS
Appearance	Free flowing liquid
Colour	Milky white
Specific Gravity @30°C. gms / ml	1.02 ± 0.02
pH Value	7 – 9
Non Volatile matter, %	42 – 44
Bond strength, N/sq mm	5 +
Chemical resistance	Resists mild acids & alkalies
Freeze thaw resistance	Excellent



Leak LockTM 2K



Description

ENGINEER PLUS LEAK LOCK 2K is 2 parts polymer-modified flexible cementitious waterproofing membrane coating specially formulated for Concrete and Masonry Surfaces which is supplied in ready-mix kits (2 parts). When the dry part is mixed with acrylic-modified emulsion and applied according to direction, the cured.

ENGINEER PLUS LEAK LOCK 2K will become a tough, flexible and seamless waterproof membrane and acts as an excellent water barrier to Concrete and Masonry Surface.

Process of Application

1. Surface preparation

- The surface of application must thoroughly prepared by mechanical means, to remove all loose particles, laitance, grease, etc and washed off with water.
- Cracks and crevices must be duly filled or repaired with polymer modified mortar (PMM) made with appropriate products such as Engineer Plus Leak Lock 2K / Engineer Plus Aquaprime -99, Engineer Plus Supercrete URP / Engineer Plus Power Latex.



2. Mixing

- Shake the liquid component well to get homogenous milky colour.
- In a mixing vessel, slowly add the powder component in to the liquid under continuous stirring, with a heavy duty mechanical mixing machine, continue to stir thoroughly to achieve a lump free homogenous slurry.

3. APPLICATION

- Thorough surface preparation of the surface is a must.
- The surface of application must be pre-wetted thoroughly with water & brought to a touch dry state. Take up the first coat application with a stiff nylon brush. Work well into the substrate, to ensure that all small undulations are completely filled with the coating.
- 6 to 8 hrs after completion of first coat, take up second coat application in a direction perpendicular to the first.
- Complete the application and leave to air cure for 2 days. A moist hessian cloth can be kept over the coated surface to protect it from the effect of direct sunlight, in case of small open balconies of terraces, in bathrooms and internal areas. Leave the coating without water curing for 2 days at least.
- For plumbing pipe intents, grouting details etc. refer the product data sheet.



Areas of Application

- Excellent as a waterproof coating for bathrooms, kitchen sinks, balconies, etc.
- Ideal as a coating for waterproofing of chhajjas, canopies, etc.
- As waterproof coating on internal sides of domestic water tanks.
- Good for waterproofing of sloped roofs.
- As a waterproof coating for terraces of areas up to 100-150m².



Features & Benefits

- Elastomeric - elastomeric flexible flexing coating that accommodated crack up to 2 mm with an elasticity of 40-50%.
- Low water permeability - excellent resistant to ingress of water.
- Adhesion - excellent concrete and masonry surfaces.
- Eco-friendly - Non-toxic with low VOC content.
- Conforms to US-FDA - as a "potable water safe" coating for waterproofing for water tanks.

Coverage

Approximately 0.6-0.75 m²/kg at 1mm thickness in 2 coats depending on the level of the substrate.

Technical Data Sheet

PROPERTIES	RESULTS
Mix Component	Mix Ratio 1:2 (A: B)
Polymer Content	>18%
Water Absorption	<8%
Proprietary Polymer	High quality modified acrylic polymer
Set-to-touch time	45min
Tensile Strength as cast	2.5 N/mm ²
Elongation at Break as cast	60%
Adhesion to Substrates	0.80 N/mm ²
Immersion in water Adhesion to Concrete at 7 day	1.75 N/mm ²
Crack Bridging	1.00 N/mm ²



CRACK SEAL PASTE



PROTECTION



HIGH STRENGTH



STRONG ADHESION



DURABLE



100% Silane



Eco Friendly



Long Life

Description

Engineer plus Crack Seal Paste is a ready to use fiber glass reinforced crack filling compound for both interior and exterior surfaces. It ensures unmatched crack bridging ability for plaster cracks of up to 3 mm.

Areas of Application

- Internal & external plastered masonry wall.
- To fill crack up to 3mm width of masonry surf.



Features & Benefits

- Crack Filling Ability**:- Strong filling capacity for cracks of up to 3mm width.
- Flexibility**:- High elongation film that accommodates movement.
- Mechanical Strength**:- Reinforced with glass fibers for superior mechanical strength.
- Waterproofing**:- Water resistant film stops water ingress through cracks.
- Adhesion**:- Very strong adhesion on all absorbent surfaces like plaster, wood, gypsum, POP, asbestos, etc.
- Usage**:- Single pack and easy to apply
- Over Coating**:- Easily over coated by emulsion paints.



Method of Application

- Surface must be free from dust, oil, grease, loose particles, etc.
- Moisten the surface before applying Engineer Plus Crack Seal Paste is
- Before filling widen hair crack in V Shape minimum for 1mm.
- For filling engineer Plus Crack Seal Paste on Internal surface expose plastered surface by removing existing POP or painter's putty.
- For porous surface, apply primer coat prepared with engineer Plus Crack Seal Paste and water in 1:1 proportion over crack. Fill Engineer Plus Crack Seal Paste on tacky surface before primer dries.
- To level with surface press Engineer Plus Crack Seal Paste firmly into crack with a spatula or putty knife.
- Care must be taken to avoid formation of cavities or bubbles during application.
- For perfect leveling allow it to set for 24 hours and then apply another coat of Engineer Plus Crack Seal Paste
- POP or painter's putty can be applied on it after drying it fully.
- For best results allow Engineer Plus Crack Seal Paste to dry 7 days.

- Apply Crack Seal Paste at least 3 cm on either side of the crack for better adhesion.
- Apply an additional coat of Crack Seal Paste in case of severe dampness.
- For best results, follow the recommended application procedure.



Precautions

- Do not apply for cracks of more than 3mm width.
- Do not apply on wet surfaces. Meant for plaster cracks.
- Do not apply on structural joint cracks.

Technical Details

PROPERTIES	SPECIFICATION	RESULTS
Form		Ready to use paste
Density	at 25°C: 1.28	
Drying Time:		Minimum 8 hours depending on temperature and humidity
Flash Point:		Crack Fill Paste is a water based which is not flammable
Consumption:	75-80 running feet/kg/2 coats (3mm wide and 5mm deep)	



MAGIC COATTM

PREMIUM

WITH NANO TECHNOLOGY

Description

Engineer Plus Magic Coat is a fiber reinforced elastomeric liquid applied waterproofing membrane. It is formulated with select elastomeric and resilient acrylic polymers and reinforcing polyester fibers. Upon curing, it forms a thick, seamless, durable membrane thus offering ultimate waterproofing.

Area of Application

Can be used for building roofs, terraces, parapet, sunshades and exterior vertical walls. It can also be applied on existing IPS, sound brick-bat coba or cementitious waterproofing.

Features & Benefits

- Waterproofing**:- Waterproofing protection of up to 7 bars hydrostatic pressure.
- Crack bridging**:- Unmatched crack bridging ability due to elastomeric properties.
- Mechanical strength**:- Reinforced with glass fibers for superior abrasion resistance.
- Adhesion**:- Strong adhesion to masonry substrates.
- High sheen**:- High sheen, brilliant white colour and thick coat results in high levels of heat reflectance.
- Anti carbonation**:- Reduces carbon dioxide and chloride ion diffusion thus protecting re-bars against corrosion.
- Use & maintenance**:- Single pack, easy to apply and simple re-coating.

Method of Application

SURFACE PREPARATION

- Prepare the surface by cleaning and ensure that it is free of dust, oil, grease, grime and loose particles etc.
- The substrate must be checked for its soundness small crack (3mm or less) should be opened cleaned and filled with Engineer Plus Crack Fill Paste Bigger cracks, damaged portions & hollow areas must be repaired with polymer modified screed.

APPLICATION METHOD HORIZONTAL SURFACE

- Apply a self-priming coat of Magic Coat (diluted with water in 3:1 ratio.)
- Apply a second coat of Magic Coat without dilution.
- Apply two perpendicular coats of Magic Coat without dilution.
- Achieve a forced system coverage of 10sq. ft/ltr.
- Allow it to dry for 4-6 hours between coats.
- For best performance on terraces, ensure that the product is applied on the entire roof including parapet wall

APPLICATION METHOD VERTICAL SURFACE

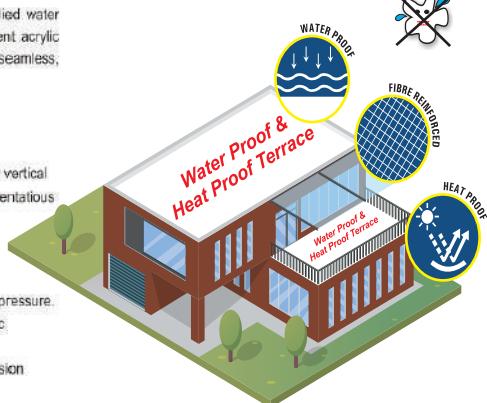
- Fresh painting: Apply a self-priming coat of Magic Coat (diluted with water in 3:1 ratio)
- Achieve a forced system coverage of 25 sq. ft/ltr.

मेरा घर
रंडा-रंडा..कुल-कुल..
*Fiber Reinforced Elastomeric
Water Proof & Heat Proof Coating
For Exterior Surfaces.*

Save Water &
Electricity



एंजीनर प्लस कॉम्पोजिट



2 in 1



MAGIC COATTM

PREMIUM

WITH NANO TECHNOLOGY

मेरा घर
रंडा-रंडा..कुल-कुल..
*Fiber Reinforced Elastomeric
Water Proof & Heat Proof Coating
For Exterior Surfaces.*



Precaution

- Repair the hollow surface area before applying Magic Coat.
- For miscellaneous surface like tiling, smooth and glossy cementitious surface, product should be used with Engineer Plus Magic Coat terrace tile primer.
- For horizontal surfaces, use Engineer Plus Magic Coat fibermesh at all joint & corners for better reinforcement.
- For oily, existing failure coating surface, carry patch tests to check adhesion of product to substrate.
- The forced coverage leads to long term performance hence it is recommended to ensure coverage as per datasheet only.
- Do not apply during rains or extreme temperatures.
- Not recommended for rain water harvesting purpose. Avoid abuses which may lead to puncturing of membrane.
- Ensure that the product is applied at least 6 inches inside the drain pipe.
- For best results, apply coating on parapet walls as well.

Coverage

RECOMMENDED SYSTEM

On RCC or plaster using brush or roller

Horizontal Surface 0.93 Sq. mtr/Ltr

Vertical Surface

Fresh painting: 2.32 Sq. mtr/Ltr

Re-painting: 2.79 – 3.25 sq. mtr/Ltr



Technical Data Sheets



Save Water &
Electricity

Properties	Results
Appearance	Viscous liquid
Colour	White
Specific Gravity	1.25
Water Resistance	10
Alkali Resistance	8
Viscosity Somer	122-134 KU
Solids by wt, %	54.6 - 60.4
Tensile Strength	2.82
Elongation	220
Adhesion to dry concrete	5.47
CBA, mm	1 mm (Horizontal)
Water vapour permeance	4.41
Anti Carbonation, R Value (@ 207 DFT)275	
Form	Ready to use viscous liquid
Mix Density :	1.26
Application Temperature	5°C to 35°C

PUS-99

POLY POLYURETHANE SEALANT



PROTECTION



HIGH STRENGTH



STRONG ADHESION



DURABLE



100% Silane



Eco Friendly



Long Life

Description

Engineer Plus P PUS-99 is a one-part polyurethane joint sealant suitable for horizontal and vertical use.



Typical Application

- Movement joints in precast concrete construction.
- Balcony parapets.
- Retaining walls.
- Bridge culverts.
- Floor joints.
- General caulking to windows, door frames & skirting etc.

Features & Benefits

- Ready to use single component product.
- Forms a permanent, tough, elastic rubber seal.
- Excellent adhesion to concrete, brickwork, painted wood, glass, glazed surfaces, aluminium, stainless steel, steel and plastics.
- Non-sag.
- No staining of cementitious substrates.
- Accommodates continuous and pronounced cyclic movement.

Packaging

600 ml sausage, 20 per box.

Methods of Application

1. SURFACE PREPARATION

- The joint surface should be sound, thoroughly clean, dry and free from grease, oil or any other contamination. All dust and debris must be removed by wire brushing, grinding and vacuuming. Damaged joints should be repaired using a suitable mortar from the Engineer Plus range.
- Ensure that the filter material such as a closed cell polyethylene sheet or rod is tightly packed and no gaps or voids are evident at the base of the joint. Where backing rod is not fitted a bond breaker tape must be used.
- Fix masking tape on both sides of joint surface to provide a neat appearance and ensure the tape is removed immediately after tooling.

2. APPLICATION

- Insert the sealant sausage into a hand operated application gun and apply nominal pressure over the trigger of the gun so that sealant starts extruding out of the nozzle and apply the sealant into the joint. Apply a slight excess for tooling and finishing purpose.

3. FINISHING

- Tool the sealant immediately with a tooling knife by pressing against the joint to remove air pockets and to ensure 100% contact and adhesion with the joint arris.

4. CLEANING

- After sealing the joint, tools and equipment should be cleaned immediately with any Engineer Plus Resin Cleaner.

5. PAINTING

- Engineer Plus Sealant can be over coated with most paints, however non flexible coatings may crack. We recommend a trial application. Best results are obtained if the sealant is allowed to cure fully prior to painting.

Joint Design

The joint width must be designed to suit the movement capacity of the sealant. All joints must be properly designed and dimensioned by the specifier and the main contractor in accordance with the relevant standards. The basis of the calculation for the necessary joint width are the technical values of the joint sealant and the adjacent building materials, the environmental exposure of the building, its method of construction and its dimensions. In general, when wider than 10mm the width to depth ratio of 2:1 must be maintained.

Standard design dimensions for concrete elements as per DIN 18 540

Joint distance	2 m	2-3.5 m	3.5-5 m	5-6.5 m	6.5-8 m
Design joint width	15 mm	20 mm	25 mm	30 mm	35 mm
Min. joint width	10 mm	15 mm	20 mm	25 mm	30 mm
Joint depth	8 mm	10 mm	12 mm	15 mm	15 mm

Minimum joint width for perimeter joints around windows: 10 mm

Technical Data Sheet

PROPERTIES	RESULTS
Minimum/Maximum joint width	10mm/35mm
Colour	Grey/White/Beige
Density (g/cc)	1.25 +/- 3
Skinning time, minutes	40-45 mins
Service temperature range	-40°C to +70°C
Tear strength	60N/mm (+23°C/50%RH)
Hardness, Shore A	30 (+23°C/50%RH)
Staining	No staining
Emulsions	0.4 N/mm ² @100% elongation (23°C/50% RH)
Movement accommodation factor	+/-25%
Elongation at break	500% (+23°C/50%RH)
Cure rate	2 mm per day





Description

Engineer Plus Krystal Seal is composed of high quality cement, properly selected & graded Inert aggregates, proprietary waterproofing active chemicals & additives. It is Krystal Seal chemically active waterproofing treatment for concrete. Engineer Plus KrystalProof when mixed with water and applied as a brush coat to concrete, it penetrates deeply into the capillaries of the concrete & protects it against the permeability of water.

How Engineer Plus Krystal Seal Works ?

- The proprietary waterproofing active chemical plays very important role & it is a very simple reaction with the natural chemical by products of cement hydration, such as calcium hydroxide, various mineral oxides, hydrated & unhydrated cement particles of the concrete in wet condition. The result of chemical reaction is the formation of billions of needles like non-soluble crystals which block the pores of the capillaries, voids & micro-cracks in concrete. After blocking, the pores & capillary tracts of the concrete become discontinuous which stops the permeability from all directions of the treated concrete. Engineer Plus Krystal Seal remains active wherever water is present.
- Pre-saturation & subsequent re-wetting of the surface will cause diffusion of the organic chemicals & formation of crystals by reaction at greater depth. It may take from seven days to one month to reach its maximum waterproofing capability, depending on the thickness of the concrete.
- Environmental factors such as ambient temperature, density of concrete, moisture presence & weather conditions can affect the timing of sealing process. Under dry conditions, Engineer Plus Krystal Seal lies dormant. However it becomes reactive whenever it is re-exposed to moisture.
- It penetrates even against strong hydrostatic pressure, becoming an integral part of the concrete. The waterproofing chemicals remain active for the life of the structure, permanently sealing it for water seepage.

Coverage

- 1.4 - 1.6 sq. m / Kg in single coat

Technical Data Sheet

PROPERTIES	RESULTS
Appearance	Grey powder
Bulk Density, g/cc	1.35 to 1.55
Water permeability	Nil
Water pressure head, mtr	40 - 50
PH (mixed with water 1:1)	11 - 14
Particle size, micron	40 - 150
Penetration rate	2 mm / week



Typical Application

Water Retaining Structures.

- Water tanks & reservoirs.
- Swimming pools.
- Water treatment works.
- Dams & canals.
- Concrete pipes.
- Harbours.

Water Excluding Structures

- Foundation & Basements.
- Tunnels & subways.
- Inspection pits & lifts shafts.
- Retaining walls & sea defence walls.
- Construction joints.
- Bridge decks.
- Jetties.
- Parking structures.

KRYSTAL SEAL +



PROTECTION



HIGH STRENGTH



STRONG ADHESION



DURABLE



100% Silane



Eco Friendly



Long Life

Features

Eco Friendly Long Life

- Application advantage - Does not require protective plaster, applicable over SSD & wet surface.
- Waterproofing - Stops water movement through concrete, becomes integral part of the structure.
- Corrosion - Protects reinforcing steel against corrosion.
- Sealing - Waterproofs minor cracking & seals shrinkage cracks up to 0.4 mm width.
- Permeability - Resists permeation of water from positive & negative side of the concrete.
- Chemical activation - Its waterproofing capability increases with time, i.e. It remains permanently active.
- Abrasion - Does not get affected by surface wear or abrasion, once the penetration is complete.
- Hydrostatic pressure - Treated concrete withstands hydrostatic water pressure up to 15 metre head.
- Ease of application - Easy in application, only to be mixed with water at site.
- Protection - Protects concrete against contaminated water & corrosion.
- Monolithic - Forms monolithic layer with the concrete & becomes integral part of concrete.



Method of Application

SURFACE PREPARATION FOR OLD AND EXISTING SUBSTRATES

- Remove dirt, laitance, loose particles, paints, etc., by means of mechanical grinding, sand blasting, pressure water cleaning or suitable mechanical means.
- Remove all protrusions, chisel out honeycombed & damaged areas, repair the cracks and work back to sound concrete.
- It is extremely important to ensure that the surface should be sound, thoroughly prepared and vacuum cleaned to a finish of a sand paper to allow Engineer Plus Krystal Seal to penetrate effectively. This can be achieved by mechanical surface scarification, shot blasting, etc.
- Thoroughly rinse the surface with water several times to reach a "saturated surface dry" (SSD) condition, where the surface should be damp without any standing water.



MIXING

- Mix Engineer Plus Krystal Seal powder to water in ratio 5 parts powder : 2 parts water for waterproofing purpose and 5 parts powder : 1 part water as a putty for repair purpose.
- Always mix powder to water & stir it well to obtain a lump free mixture. Only mix quantities to be used within 30 minutes. Mix Engineer Plus Krystal Seal mechanically with clean water to a thick consistency. Separate containers of same volume should be used to measure powder & water.



APPLICATION

- On existing or old substrates with dampness
- Ensure thorough surface preparation by mechanical means, to remove all laitance, etc., to expose the pores in concrete which will allow the penetration of the Engineer Plus Krystal Seal
- All crevices and holes in concrete shall be filled with Engineer Plus Krystal Seal powder mixed with water in a ratio of 5 parts powder : 1 part water. Over a concrete substrate in a SSD condition, apply Engineer Plus Krystal Seal mixed in a ratio 5 parts powder : 2 parts clean water, with a clean brush. Use an aggressive circular motion of the brush or wooden float with Engineer Plus Krystal Seal slurry. Apply a second coat after 3 to 6 hours.
- Engineer Plus Krystal Seal treated surface shall be left to cure for 2-3 days, as mentioned above and protect from direct sunlight for this initial period. For full cure, give 28 days along with concrete.



Precautions & Limitations

- Application can be done under normal temperature conditions.
- Heavy traffic should be avoided until the surface is hardened for at least 5 days.
- Finishes containing portland cement may be applied over Engineer Plus Krystal Seal after 3 to 4 hours.
- Any paint or coating should be applied after 28 days only, over Engineer Plus Krystal Seal application, after thorough wire brushing, washing & removing any Engineer Plus Krystal Seal residual on surface.
- Not recommended over moving joints and structures subjected to movements.
- Do not apply on dry substrate.
- Water tanks, etc., can be carefully filled with water after 3 to 7 days. Do not fill large tanks faster than 6.5 feet per hour (2 m²/24 hrs).
- After complete curing of Engineer Plus Krystal Seal, potable water tanks should be thoroughly rinsed with potable water prior to being placed in service.

TM TR-WPC TRANSPARENT COATINGS



Description

Engineer Plus Transparent WPC-99 is a boon for modern living. It is an amazing, powerful chemical to stop water leakage & dampness from cement concrete structure like terraces, water tanks, kitchens, bathrooms, sidewalls, swimming pools, safety tanks, bridges, dams, cannels etc. It is easy to handle eco-friendly, stable on dilution, economical, ready to use anywhere anytime.



Area of Application

Bridges, decks, parking areas in highways, Reinforcement steel to prevent corrosion. Stepping terraces and flats roofs. Repairs of worn, damaged & spoiled concrete. For injection, pressure & precision grouting. Kitchen, bathrooms, Side Wall, Swimming pools, Safety Tanks etc.



Feature & Benefits

- Fast drying, excellent adhesion to most building materials & need to cure.
- Increase in bonding of new wet concrete to old concrete.
- Increase in durability & toughness of concrete.
- Increase flexural and bond strength of concrete.
- Forms a very tough bond with substrate having good permeability rating.
- Excellent elastomeric and crack bridging capability.
- Good weathering characteristics.
- Very low water absorption, withstanding hydrostatic pressure.
- Not susceptible to alkali degradation. Resistance to high alkali, sulfates and salts.
- Good colour retention and low dirt pick up. Breathable coating, allows vapor transmission.
- Repairs asbestos roofs, gutters, drain pipes and tile joints.

Method of Application

Surface for treatments must be thoroughly cleaned of all laitance, loose materials, oils, greases etc. Mix Engineer Plus Transparent WPC-99 proportion in weight. Apply 1st coat, allow it dry for 30 minutes.

Coverage

- 1 Coats 75 sq. ft./kg.





BLACK PAINT FOR WATERPROOFING



हवा का प्रतिरोध करता है - एंटी-कार्बोनेशन - वॉटरप्रूफिंग - लचीलापन - कठोरता

Description

Engineer Plus Leakshield Black is cold applied liquid waterproofing membrane, specially designed from a blend of special resin and rubber, reinforced with special water repelling fillers, minerals stabilizers and gelling agent.

Uses

Ideal waterproofing system for concrete roofs, polyurethane foam slabs, polyester built up roofs, maintenance of existing roofs, masonry and concrete walls, bathrooms, basements, bridges, decks, metal surfaces etc. Used as a sandwich membrane in new construction and as surface treatment on existing slabs.

Method of Application

SURFACE PREPARATION

The surface must be thoroughly cleaned and should be free of dirt, gravel, dust and oil. The concrete should be dry and smooth. When applying directly over concrete or old, dry asphalt, prime first with primer coat. When using as a top coat to protect and rejuvenate existing smooth asphalt roofs, first repair all blisters, cracks, split seams and flashing.

PRIMER: For priming, primer coat of Engineer Plus Leakshield Black is applied on prepared surface. For primer coat use Engineer Plus Leakshield-Black diluted with water in ratio of 1:2.

FIRSTAND SUCCEEDING COAT

The coating is applied straight by using standard roofing brooms, brushes, squeegees or airless spray equipment, please check the viscosity to insure smooth spray of the product. Allow full curing of coating, (8 – 10 hours) before applying succeeding coats. For better results use Glass Fibre Reinforcement embedded into 1st Coat while it is still wet. To make the material more workable dilution with water upto 20% for 1st coat & upto 10% for 2nd coat is allowable.

Outstanding Features

- Engineer Plus Leakshield Black is a highly elastic product, and cures to a rubber like membrane capable of withstanding severe cases of expansion, contraction and deck movements.
- Highly resistant to oxidation, UV light and ozone because of unique additives used in compounding it. It does not crack.
- More durable than normal asphalt coating and lasts longer than most other coatings.
- Superior wetting and adhesion properties ensure durable bond and resistance to peeling, chipping, and/or separation and a longer life.
- Has the unique property of adapting itself over the irregular contours of the deck and forming a waterproof and impervious blanket.
- Single component, cold applied requiring no mixing or heating; saves labor costs.





BLACK PAINT FOR WATERPROOFING



हवा का प्रतिरोध करता है - एंटी-कार्बोनेशन - वॉटरप्रूफिंग - लचीलापन - कठोरता

Storage & Shelf Life

Shelf life is 12 months in unopened container. Store away from sunlight and preferably below 30°C. Storage should be frost protected.

Cleaning

Tools: Clean all the tools immediately with water. Use of thinner may be necessary for dried up material.

Hands: Use a hand cleaner or water followed by soap.

Health & Safety

As with all chemicals, caution should always be exercised. Protective clothing such as gloves and goggles should be worn.

Coverage

- Approximate coverage of Engineer Plus Leakshield Black for a 2 coat application is around 20-25 sq. ft / kg in Metals ; 15-20 sq. ft / kg in Asbestos & 13-17 sq. ft in Concrete depending on surface porosities. DFT of approx 200-300 microns will be achieved in 2 coats.



Technical Data Sheet

Sr. No.	Properties	Result's
1.	Appearance	Smooth, Thick Paste
2.	Color	Black
3.	Specific Gravity	0.95 ± 0.10
4.	Solid Content %	55 ± 2
5.	Elongation @ Break	> 1365 %
6.	Viscosity (Spindle No: 7; RPM : 10 @ 25°C	50000 – 70000 CPS
7.	Water vapor Transmission (g / h – m ²)	0.46
8.	Tensile Set recovery, %	95
9.	Tear Resistance, KN/m	28 ± 10
10.	Service Temperature, 24 hrs @ 120°C	No shrinkage, brittleness
11.	Chemical Resistance, % Weight Change - 10 % Salt (Sodium chloride) - 5 % Alkali (Caustic Soda) 5 % Acid (Sulphuric)	3 . 0 2 . 0 3 . 0
12.	Tack Free Time @ 35°C	10 - 12 hrs
13.	Drying Time @ 25°C	10 - 20 min
14.	Flammability & Toxicity	0 . 95 ± 0 . 1
15.	Tensile Strength	0 . 51 N / m m ²

Advance/ Flex™

High Elastomeric Waterproof Compound



PROTECTION



HIGH STRENGTH



STRONG ADHESION



DURABLE



100% Silane



Eco Friendly



Long Life

Description

Engineer Plus Advance Flex is two component cementitious coating system for waterproofing of wet areas and any water retaining structures such as swimming pools and water features.

Typical Applications

- Any concrete, cement or masonry surface that are subject to moisture ingress.
- Swimming pools, water features and water tanks.
- Bathrooms, toilets, balconies, planters etc.

Features

- Seamless, impervious membrane.
- Elastomeric. High film build-up.
- Excellent adhesion to concrete and masonry substrates.
- Low VOC.
- Easily applied by brush, roller or trowel.
- can be applied on damp surface.

Method of Application

1. Surface preparation

- The substrate must be sound, clean and free from dirt, oil and loose material.
- Masonry surfaces should be fully cured (minimum 28 days) prior to application.
- All surface cracks, undulations and voids must be repaired before application using a suitable Engineer Plus repair material.
- Substrates must be surface dry prior to application.

2. Mixing

- Using a slow speed mechanical mixer and a clean suitable mixing vessel, slowly add the powder component to the liquid polymer and stir until a smooth and homogenous slurry is achieved.
- Allow the mixed slurry to stand for 5-10 minutes before use.
- Do not dilute with water.

3. Application

- Apply Engineer Plus Advance Flex slurry by brush, roller or trowel.
- Allow the first coat to dry completely for 6-8 hours before applying the second coat.
- Apply second coat at right angles to the first coat.

Coverage

- 1.25 ltrs/mm/sq.mt per coat (DFT 1 mm).

Technical Data Sheet

PROPERTIES	SPECIFICATION	RESULTS
VOC Content	Maximum allowable 140 g/ltr	1.1.4
Mix ratio (Liquid : Powder) parts by wt.		45
PH		>10
Inter Coat Application Time Hours		6-8
Cure Time after 2nd coat		7 Days
Tensile Strength N/mm ²		>1.0
Elongation at Break		145%
Adhesion Strength N/mm ²		0.8 Minimum
Crack Bridging		No cracking up to 2 mm
Water Penetration (5 bar pressure)		1%
Hardness Shore A		60
Reduction of Rapid Chloride		92%
Permeability (Compared to Control)		



**ACRYLIC CEMENTITIOUS
WATERPROOF COATING**



WATERPROOF TILE FIXER

WTF-99 is an unique and highly concentrated water proof polymer based strong tile fixer used with white/grey cement for interior & exterior tiling works. It improves compressive and flexural strengths with dimensional stability and also create tile joints that are impermeable to water and resistat to flaking and cracking.

Area of Application

For Domestic Flooring : Floors, walls, stairs, bathrooms, roof, terraces, kitchen, water tank, shower recesses, laundries, also suitable for glazed surfaces , vertical cladding and terrazzo tiles.

For Industrial Flooring : Laboratories, basement, exhibition halls, hotels, shopping malls, shops, schools, water houses, swimming pools, bridges, dams, canals, harbors, tunnels, pavements, car parking space, dado areas, footpath, subways etc.

Multiple Advantages

- Easy fixing of tiles vertically or horizontally.
- Very strong bond formation with concrete.
- Easy laying with flexibility. Even on vertical surface fixing of tile easy & effective.
- Self curing No Shrinkages.
- No hacking required.
- Develop good workable strength within 24 hours.
- Safe, eco-friendly hygienic.
- Anti-fungal & antibacterial.
- Non-sagging.
- Forms impermeable joints.
- UV stable.
- Suitable for indoor as well as outdoor applications.
- Soaking of tiles and not rust. Improves mechanical properties of finished floors.
- Non-combustile.
- Added safety, being not electrostatically chargeable.

Highly Concentrated

POLYMER TECHNOLOGY
DEVELOPS STRONG BONDS WITH FLOORING

Coverage Chart

Size of the Tile cm x cm	Thickness in mm	For 2mm Joint width consumption kg/m ²
4 x 4	5.5	0.40
8 x 6	5.5	0.30
8 x 8	7.0	0.30
12 x 8	10	0.35
12 x 12	10	0.30
13 x 11	10	0.30
16 x 16	12	0.25
18 x 18	12	0.25
24 x 24	15	0.22

Technical View

(1) Base	:	Modified polymers
(2) pH	:	8 to 9
(3) Appearance	:	Blush Paste
(4) Mixing	:	Easy mix with water
(5) Mix Ratio	:	1 : 100 : 40 (1gm WTF - 100 gms Cement : 40 ml water)
(6) Open Time	:	40 minutes @ 30° C after mixing with cement.
(7) Curing Time	:	Self curing 8 days @ 30° C
(8) Coverage	:	3.4 Kg/m ² for 3mm thickness.
(9) Non-Trafficable Time	:	24 Hrs. maximum
(10) Tension Adhesion Strength	:	After 14 days (Cement : 48.2 N/mm ² / Cement+WTF : 54.8 N/mm ²)

How to Use

- See the surface to be tiled must be sound.
- Thoroughly clean old surface for oil, wax, dust, fungus, grass roots, rust and loose material.
- For fixing tiles on tile the old tiled surface must be properly scratched by hard wire brush, by mechanical tools or acid. For 50 Kg of gray/white cement mix 1/2 kg. of WTF-99 with 20 litres of clean water to prepare homogeneous paste.
- Spread the cement paste as usual keeping approximate 4 to 5 mm. thickness by ensuring proper coverage on the back side of tiles and eliminate possibility of any air voids.
- Readjustment of tiles is possible upto 40 minutes.
- For heavy tiles on vertical surface use mechanical clamps.

General Tiles Fixing Site...

Available Packing :	100 g., 500 g., 1 kg., 5 kg., 10 kg., 20 kg.
• Floors • Walls • Bathrooms • Terraces • Kitchens	
• Water tanks • Safety tanks • Swimming pools	
• Bridges • Dams • Canals etc. For fixing tiles like ceramic, mosaic, marble, granite, natural Dholpur Stones (For external walls)	



Ready to use extra quick setting/plugging compound. Emergency crack sealing in concrete & masonry surfaces. Can stop the leaking dripping water until the final repairs are carried out. Hardens instantly under continuous wet conditions. Single component. Low heat evolution minimizes cracking.

How to use

Cut the location / hole to a V-groove shape. Mix ICS-99, Water & cement thoroughly in 1:1:2 ration by weight at the time of application. Within 10 seconds instantly push the semipaste material inside the prepared groove and keep pressure of trowel/ palm on it for about 5 minutes.

Area of Application

Basements, Pits, Dams, Cellars, Tunnels (dusts), Concrete pipe, water retaining structures, RCC water tank. Suitable for old surface, new surface, repairs and normal applications in concrete & masonry works.

COMPRESSIVE STRENGTH 1 hour - 70 Kg. Per Cm², 3 hour - 80 Kg. Per Cm²



PRECAUTIONS & LIMITATIONS

ICS 99 will plug leakages only on cementitious substrates. Only used for plugging leakage instantly, till permanent repairs are carried out. Permanent

SETTING TIME : 2 minute
PACKING : 100 gm, 1kg, 5 kg, 20 kg
SELF LIFE : Six months from the date of manufacturing.
CHLORIDE FREE

An unmatched the ultimate admixture for cement concrete specially developed for fast hydration of cement with water ratio at given workability by increasing compressive strength at all ages without affecting the long term mechanical properties of concrete.

In cement concrete phenomenon of FSP-99 is observed as under:

- Even with 20% less water ensures homogeneous and consistent mortar mix with no risk of segregation.
- Due to fast wetting of cement lumps are formed and the cohesive mix insures compact mass formation thereby increasing strength of the concrete up to 20%.
- Increase workability and finish without raising cement water ratio. Reduces, cracks and shrinkage in cement concrete.
- Early extra strength.
- It allows fast removal of form work due to early gain of strength with high mechanical properties.

Doses : (a) 200 gms. of FSP-99 is sufficient for 50 kg. of Portland cement which requires 8 days curing only and produces very dense water impermeable concrete. (b) using 500 gms. of FSP-99 per 50kg. of Portland cement no curing is required, produces dense and water impermeable concrete within 8 days, resumes workable strength in 72 hours.

Comparative Compressive Strength chart with FSP-99

	Without FSP-99	FSP-99 with 200 g	FSP-99 with 500 g
3 days	135 KN	150 KN	152 KN
7 days	203 KN	213 KN	220 KN
28 days	235 KN	246 KN	252 KN

Note : Above readings are as per control mix Birla Plus Cement 1 part + Silica Sand 3 part. No change in W/C ratio.

Uses : • Very powerful admixture for cement concrete. • For getting early strength it can be used conveniently in plinth, reservoirs, safety tanks, basements, toilets, bathrooms, kitchens, water tanks, bridges, tunnels, sea walls, dams, highways, swimming pools etc. • For effective waterproofing to fill up capillaries in concrete and masonry work. • To manufacture precast concrete elements, cantilevers, structure, prestressed concrete, tiles etc.

Gauging Water : 15 to 20% Less

Increase in Strength : 20%



A Poly Carboxylic Based

An unmatched the ultimate admixture for cement concrete. Specially developed for delaying hydration of cement with reduced cement water ratio at a given workability by increasing compressive strength at all ages without affecting the long term mechanical properties of cement.

In cement concrete phenomenon of **SPC-99** is observed as under :

- 1) Facilitate transportation of readymix concrete (RMC) over long distances even in hot climates without loss of strength.
- 2) Mass concrete and high reinforcement concrete structures where construction joints have to be avoided.
- 3) Cementation of oil wells, ready mix oil well cement.
- 4) High quality concrete pours which demand good workability throughout placement in large section.
- 5) Hot weather concreting with long and difficult pours.
- 6) Produces extremely workable, high strength, pumpable water tight dense concrete.
- 7) Produces durable, crack resistance, frost resistance deicing salt resistance concrete.

TEST RESULTS CONDUCTED ON CONCRETE USING SPC-99

MIX: Cement (OPC) + Sand = 32%

Crushed Aggregate (5-20 mm) = 68%

Description of mix	Dosage ml/kg of Cement	W/C	Cement Content kg/m ³	Slump (mm)	Compressive strength (kg/cm ²)	0' min	30' min	3 days	7 days	28 days
Control	-	0.62	308	045	-	120	165	243		
Increased Workability	6.00	0.62	308	175	100	140	198	270		
Increased Strength	8.00	0.55	308	040	10	170	225	335		
Cement Saving	-	0.50	380	040	-	180	240	380		
	8.00	0.50	342	040	-	-	250	395		

PACKING :

50,220 Litres

Many Fold Advantages :

- ❖ High workability
- ❖ High Strength at all stages
- ❖ High slump retention
- ❖ High retardation
- ❖ High water reduction
- ❖ Highly durable concrete
- ❖ High increase in the surface area
- ❖ Lower W/C ratio: reduction 10% to 25%
- ❖ Improve surface finish
- ❖ Easier placing & compaction.
- ❖ Reduces risk of segregation
- ❖ Crack resistant
- ❖ Free flow concrete
- ❖ Cohesive pumpable mix
- ❖ No bleeding
- ❖ Allows more time for handling
- ❖ Decrease water permeability
- ❖ No toxic
- ❖ Smooth hot weather concreting
- ❖ Better thermal insulation
- ❖ No corrosion.
- ❖ Avoid cold joints
- ❖ Less energy for curing
- ❖ No honey combing
- ❖ Frost resistant
- ❖ Deicing salt resistant
- ❖ Cement saver
- ❖ Chloride free

Area of Application

Most suitable for construction of high ways, roadways, aprons & hard standings, very useful in dams, reservoirs, power station, under ground tanks etc. Ideal for ready mix plants, pre-cast concrete, prestressed concrete, hot weather concrete closely space & areas, large bay areas, floor slabs, bridge decks and other areas when high slump property is required.

HOW to Use

- 1) As per the job condition in general add **100ml. to 500ml.** of SPC-99 with required gauging water for every 50kg. cement in the concrete/ mortarmix. Cure as per the construction norms.
- 2) Effect of SPC-99 may vary with cement type, grading of sand, size & shape of aggregates, temperature, other job conditions etc. Therefore to facilitate addition and to prevent over dosing, it is advised to determine on trial mixes the actual dosage.



Super Plasticizer for Concrete with built-in Biocides. Used in Concrete construction for improvement in workability & water reduction. To reduce the water/cement ratio in order to improve hardened concrete properties. It also acts as a water reducing and retarding admixture at higher dosages. It disperses instantly in the gauging water and forms a film on the cement particles. It is highly effective set retarder.

ADVANTAGES:

- ♦ Improved workability. ♦ Improves compressive strength. ♦ Saving in cement. ♦ Liquid admixture ensures homogeneous mixing.
- ♦ Reduces water/cement ratio. ♦ Low dosage thus economical.
- ♦ Retards concrete setting. ♦ More time is available between continuous pours. ♦ Avoids cold joints. ♦ Lowers rebound losses.
- ♦ Prevents shrinkage cracks. ♦ Versatile product, multiple uses.
- ♦ Improves adhesion and durability of the plaster.

CONSUMPTION & COVERAGE

Dosed between 0.6% to 1% by weight of cement. The dosage can be increased upto 2% in order to extend workability time at higher temperatures.

HOW TO USE

It is dosed in the mixing water which is then added into the mix subsequently.

In cement concrete phenomenon of SPC 90 is observed as under :

1. Type of Cement Mix
 - Normal Consistency
 - Initial Setting Time
 - Final Setting
 - Degree of Control
 - Degree of workability
2. Cement to aggregate ratio
3. Water Ratio
4. SPC 90 (Plasticizer Ratio)
5. Workability of concrete (slump)
 - Compressive strength of Concrete characteristic at 28 days
 - Strength of design mix concrete at 28 days
6. a. Increment in design mix to characteristic concrete at 28 days
- b. Increment in design mix to characteristic concrete at 28 days

NON SHRINK GROUT ADDITIVE

NSGA 99

Non shrink Grout Additive for Cement is powder admixture, which after mix with cement, cement-sand, mortar or concrete ingredients flowable grout at low water cement ratio for high interfacial contact and shrinkage compensation by expanding during initial setting of the mix.

Advantages :
Provides free flowing expansive grouting slurry even at low w/c for shrinkage compensation and retention of the filled volume. Effective on cement, cement-sand, mortar and concrete ingredients. Effective for achieving high early strength. Easy to mix, economical, non corrosive, non toxic.

Uses :

NSGA-99 is recommended to mix with cement slurry to get a free flowing expansive grout for under noted application.

- Grouting of machine foundation.
- Concrete anchors.
- Grouting of prestressed anchors in rock and soil.
- Grouting of castle ducts.
- Grouting of cavities, gaps, recesses etc.
- Grouting of bearing plates.
- Grouting of boiler foundation.
- Injection grouting of porous concrete structures in rehabilitation works.

How to Use

NSGA-99 is fine gray powder which is mixed with dry ingredients say cement / cement-sand / cement-sand-aggregates in dry form mechanically. After dry mixing all the ingredient as above mix NSGA-99 thoroughly @ 1 kg per 50 kg bag of cement. After dry mixing add water per the doses recommended.

Doses

NSGA-99 is used @ 1 kg per of 50 kg cement in the mix for shrinkage compensation, suggested w/c ration 0.4

packaging :

NSGA-99 is available in

(1) 200 gm pouch - 5 kg pack contain 25 pouches of 200 gm each

(2) 1 kg sachet - 10 kg pack contain 10 sachet of 1 kg each.

Precaution

Make trial batches to arrive at proportions of site ingredients for a cohesive mix. Always use fresh cement. Use potable water only. After mixing with water use the mortar with in 30 minutes. Store in cool, dry place in its original packing. Always. Always mix NSGA-99 with cement and ingredients in dry form only mechanically.

Disclaimer :

The product information and application details has been given in good faith and as a general guideline. The company does not assume any liability for unsatisfactory result and damage.

CONCRETE CURING AID
CCA 99
SYNTHETIC RESIN BASE

Standard Compliance
Internationally Recognised
ASTM C 309-1990

CCA-99 is a white pigmented emulsion of synthetic resin & wax in viscous condition. After application on green concrete a film is formed with good solar reflectance, reduces surface temperature and prevents the premature water loss by evaporation. It allows full hydration of cement essential for optimum strength developments

Technical View

Appearance	: Super White paste
pH	: 7 to 8
Solubility	: Water reducible
Water retention	: About 95%
Self life	: 6 Months in the original packing
Storage	: Keep away from direct sunlight and extreme heat
Coverage	: In general 3.5 sq. m / kg. pre mm. layer
Application	: By painting brush / by spatula

Method of Application

to the freshly placed concrete after finishing apply evenly CCA 99 by painting brush or by spatula. About 1mm. thick layer is sufficient for getting desired results. While applying with brush make it brushable with 10% clean water.

While application the surface must be free from oil, greases etc. For horizontal surface on - exposed slabs it should be applied as soon as the initial sheen disappear from the surface or - the surface is free from excess visible water. On vertical & formed surface apply it after dampening down the concrete with clean water. The film dries with in 2 hours, but shall not subjected to rain water or otherwise before 12 hours of application.

Advantages : • Very effective and economical alternative to conventional water curing where water curing is difficult and unreliable. • Reduces surface temperature being solar reflective. • An efficient moisture barrier for optimum curing of concrete. Minimizes drying shrinkage, prevents surface cracks. • No side effects with green concrete. • Non toxic & non flammable. • Does not damage the surface can be renovate easily from the concrete surface after curing.

फाइबर मिश्रण के साथ मौसम संरक्षण

Rainsheild
(Colour Waterproofing)

- PROTECTION
- HIGH STRENGTH
- STRONG ADHESION
- DURABLE
- 100% Silane
- ECO FRIENDLY
- Long Life

घर को ऐंगो से सजाएं.... लिंकेज प्रूफ बनाएं...



पानी के प्रवाह के द्वितीय एक अंतरिक्ष बनाता है।

और अतिथरात्र बटिप्रूफिंग प्रदान करता है।

वारिंग, घूम या तुकारा आने पर जली

दीवारों के लिए सामग्री तक ताजा रहे।

हवा का प्रतिरोध करता है - ऐंटी कावॉर्नेशन - लचीलापन - कठोरता



Final Waterproof Terrace

तुनने के लिए 700 + शेड - संरचनात्मक सुरक्षा फ्रेंजिंग - बेहतर सफाई - लो शोअरी

MICRONISED ORGANIC GRANDE

MOG 99

MOG-99 is micronised amorphous silicium

Advantages

Flawless repairing : Durable & tough film formation Impermeable plastic film developed on the top Good weathering characteristics Negligible water absorption Withstand hydrostatic pressure Not susceptible to alkali degradation & resistance to high alkali, sulphates and salts Very low dust pick up Eco-friendly Economical High heat resistance.

How to Use

- For surface preparation before waterproofing mainly used with WAC-99 & WPC-99 for crack filling.
- Due to it's out standing effect coating with WAC-99 or WPC-99 a uniform tough hydrophobic, impermeable plastic film is developed on the surface.
- The Plastic film developed with MOG-99 and WAC-99 or WPC-99 is durable to chemical attack, abrasion, corrosion and carbonation.
- Used in high performance concrete for high workability, very high early strength and long term durability.
- Acts as a very good heat insulator with WPC-99 & WAC-99.

Physical Properties

(a) Physical state	: Micronised powder
(b) Colour Appearance	: Grey
(c) Odour	: Odourless
(d) Bulk density	: 0.561gm/cc without compact
(e) Specific Gravity	: 5

Chemical Properties

(i) Silica SiO ₂	: 88% + 2%
(ii) Carbon	: 5%
(iii) Moisture	: 2.5% maximum
(iv) pH	: 8
(v) Water soluble	: 6.4%

Method of Application for Surface preparation & Waterproofing

- Surface for treatment must be thoroughly cleaned of all laitance, loose material, oil, grease etc.
- Look for big & medium crack repair as follows :
- Cut the crack to a V-groove shape, mix thoroughly one part of WAC-99, one part of water & three part of MOG-99 by weight, push the prepared paste in side the V shape crack.
- Let it dry for 2 hours.
- Prepare brushable mortar with WAC-99, water and MOG-99 in 1:1 proportion by weight.
- Apply 1st coat of the mortar on the surface treatment and again after 30 minutes apply 2nd coat.
- After 12 hours apply two coat of WPC-99 as per the norms within 40 minutes interval.

Area of Application • Terrace • Side Wall • Staircase

Precaution Store in a cool & dry place



High Strength coating for all type of Surface

APPLICATION METHOD:

❖ Brushing, Roller Coating or Spraying.
(for continuous operation special two components external mixtures are available)

❖ Brush or painting apparatus must be cleaned immediately after use with PUC-99 thinner.

DIRECTION FOR USE : Surface must be cleaned properly for dust, rust, oil, greases and any pre coat. Moisture free surface is must. For optimum results the resin and catalyst as directed with the system are to be mixed correctly and properly. Always take a small quantity which can be used within 30 to 40 minutes. Second coat can be applied after one hour of the first coat. For best results 3 coat are recommended. The application area must be dust free and properly ventilated.

CURING : Within one hour touch dry and within 7 days of coating fully cured.

PACKING : 1Kg.



SEP-99 is a flexible elastomeric two components cementitious system has unique bonding property with concrete and most of the construction materials with noted advantages.

- Effective waterproofing which prevents leakage and dampness due to tough surface formation.
- Good chemicals resistance against soft water, domestic waste water, mineral oils, mild acid, mild alkali etc.
- Having anticorrosion effect acts as carbon dioxide barriers.
- Excellent adhesion to most building substrates with high bond strength to porous and non porous surfaces.
- Flexible and elastomeric in nature even when submerged.
- Occasionally useful in traffic area.

Application Fields:

- For water proofing water retaining structures
- Terrace, parapets, bathroom, water tanks, sumps, sunken floors of toilets.
- As a cold bonding Agent : For cementitious surface like plaster to plaster, concrete to concrete, brick masonry plastering, old to new concrete.
- Repairing of damages in precast concrete, Pipelines, RCC, Plaster etc.
- To improve durability of cement structure.

Application System:

Surface preparation

See that the surface to be coated must be sound, clean it from oil, dust, fungus, grass roots, rust, all types of form work and any other contamination that may affect the bond adversely with wire brush, finally thoroughly wash the surface with clean potable water to remove dust and loose material.

Mixing Instructions:

Take 1 part of liquid by weight in a clean container and add slowly 3 part by weight of the powder to the liquid (Say 1:3 ratio liquid to powder) After thorough mixing allow the mix to stand for 5 minutes for getting full saturation of the system.

Use mixed chemical with in 30-40 minutes and restore consistency by remixing, if required.

Apply :

Before application the surface must be well dampened but take care there is not free standing water. The prepared material must be used with in 40 minutes under working temperature i.e. 10°C to 40°C.

Apply first coat by brush or broom firmly on the clean predampened surface moderately not too thin. If the material drags, dampen the surface again but avoid diluting after mix.

Allow to cure the 1st coat overnight.

Dampen the 1st coat or remove excess moisture and apply subsequent coat (2nd coat) by finishing in the opposite direction to the 1st coat.

MULTIPLE ADVANTAGES : • Resistant to acids, alkalis, oils, common solvents. • Anti-corrosive, Waterproof. • Practically adherent to all common surfaces. • Dried films is tough, abrasion resistant. • Highly stable to sunlight and weather conditions. • Outstanding glass and colour stability in outdoor exposures. • Dried film imparts high class electric insulation. • Dried film stands in big range of temperature from sub 0° to 130°C. • Air drying system, no stoving and to baking required. • Because of very durable coating economical to conventional systems of coatings. • Common technic of coating by brush, roller, dipping etc. • Useful in varieties of application in buildings, chemical industries, fibre glass moulds & articles, marine, oilfields, sugar, fertilizer, cement industries, wood finish, sport goods etc. • Available in bright and pleasant colours.

COVERAGE

100-120sq. ft. per litre,
for normal surface primer not essential

HANDLING

Avoid skin contact and inhalation.

STORAGE

Use hand gloves apron & eye protection
In original & dry condition under 25°C,
6 months.



Polymer Modified Cementitious Flexible Membrane System

PMF-99 : Two component polymer modified cementitious flexible membrane system for waterproofing application as well as protective coating to cementitious substances.

Application procedure:

Surface for treatments must be thoroughly cleaned of all laitance, loose materials, oils, greases etc. Mix one part of Resin (White Liquid) with 2 part of Gray powder by weight. Pre wet the surface before application. Apply 1st coat allow it to dry for 60 minutes apply second coat and allow it to dry. If required apply 3rd coat. Cure the screed/mortar for minimum 3 days.

Area of application:

Bridges, Decks, Parking areas in highways, Reinforcement steel to prevent corrosion, Stepping terraces and flats roofs, Repairs of worn, damaged & spoiled concrete. For injection, pressure & precision grouting, Kitchen, bathrooms, side walls, swimming pools, safety tanks etc.

Advantages:

- * Produces high compressive flexural and tensile strength for durable repairs.
- * Off white brushable mix excellent as a portative coat on cementitious substance.
- * Antimicrobial prevent fungal & bacterial growth, economical in application.
- * Highly elastomeric and crack bridging characteristics prevent corrosion.
- * Very low water absorption.

Technical View

Part I

Appearance	Milky white
Base	Modified acrylic liquid emulsion
PH	8-9
Application Temp.	Above 10°C & 45°C

Part II

Gray fine powder	1 sq m/kg (mix)
Coverage	Store in cool & dry place.
Precaution	3 month
Self life	



SCOPE— A two pack epoxy primer, Recommended as a priming coat for concrete and steel structural of bridges, flyovers, fertilizers, chemical, power plants, hospital etc. due to excellent mechanical, waterproofing, thermal, electrical installation corrosion resistance and adhesive properties.

PRODUCT DATA

Type	: Two pack, cured with Polyamide
Contents	: Epoxy resin/titanium dioxide or Red Oxide of Iron / additives
Mixing Ratio	: Base/Catalyst-3:1 by volume
Pot Life	: 4-6 hours
Application	: Brush/Airless Spray/Conventional Spray
Recommended DFT	: 50-65 microns per coat
Covering Rate	: 5-6 sq.mtr./Ltr.
Drying Time	: TOUCH: 2-4 hours
HARD	: 24 hours
Full Curing	: 6-7 days.
Flash Point	: Above 22 C
Colour	: White/Red oxide
Finish	: Low sheen
Packing	: 10Ltr./20Ltr.
Thinner / Cleancar	: Thinner (ICO make)
Self Life	: Company's sealed container in covered shade under normal temperature and dry condition up to twelve months.

PRECAUTIONS :

1. Do not overwork as wet
2. Do not apply when temperature falls below 10 C or rises above 50 C and when relative humidity rises above 90%. Do not apply during rain, fog or mist.
3. Brushes and spray equipment should be cleaned with Thinner otherwise equipment is likely to be damaged.

Safety : As a general rule inhalation of solvent vapors or paint mist, and contact of paint liquid with skin and eyes should be avoided. Forced ventilation should be provided when applying in confined area. In any case skin and eye protection is of at most importance

RESISTANCE GUIDE

EXPOSURES	SPLASH & SPILLAGE	OUTDOOR MILD FUMES RESISTANCE
Acids	Good	Good
Alkalies	Very Good	Very Good
Solvents	Very Good	Excellent
Salt	Very Good	Very Good
Water	Excellent	Excellent

TEMPERATURE RESISTANCE :

Continuous : 90 C Intermittent : 110 C

Flexibility : Very Good

Abrasion Resistance : Excellent

Weatherability : Excellent with recommended top coat.

SURFACE PREPARATION

• Clean the surface for oil, laitance and loose particles. See the surface is fully dried.

• The surface should be clean and dry before application.

• Before application insure that the new concrete is cured minimum for 90 days.

APPLICATION

- Stir the base thoroughly and then mix three parts of base and one part of catalyst to uniform consistency. Allow the mixture to mature of 25 minutes and stir well before and during application.
- Brush : Apply without thinning.
- Conventional Spray : Add upto 10% Thinner and use standard equipment at a pressure 3.5-4.9 kg/cm.

USES : Recommended as a priming coat for concrete and steel structural of bridges, flyovers, fertilizers, chemical, power plants, hospital etc.



SCOPE— A two pack epoxy coating system with excellent results in industrial highly corrosive environments. Recommended for use on MS & concrete areas of fertilizer plants, chemical units, refineries, petrochemicals, hospitals etc.

PRODUCT DATA

Type	: Two pack epoxy, cured with Polyamide resin
Composition	: Epoxy resin + pigment with additives
Mixing Ratio: Base	: Catalyst-3:1 by volume
Pot Life	: 4-6 hours
Application	: Brush/Airless Spray/Conventional Spray
Recommended DFT	: 100-125 microns per coat
Covering Rate	: 6-7.5 sq. Mtr./Ltr.
Drying Time	: • TOUCH: 3-4 hours • HARD: 24 hours
Full Curing	: 6-7 days.
Overcoating Interval	: • MIN: Overnight • Max : 4 days.
Flash Point	: Above 22 C
Colour	: As per requirement
Finish	: Low sheen
Packing	: 10Ltr./20Ltr.
Thinner / Cleancar	: Thinner (ICO make)
Finish	: Semi glossy
Self Life	: Company's sealed container in covered shade under normal temperature and dry condition up to twelve months.

PRECAUTIONS :

1. Do not overwork as wet
2. Do not apply when temperature falls below 10 C or rises above 50 C and when relative humidity rises above 90%. Do not apply during rain, fog or mist.
3. Brushes and spray equipment should be cleaned with thinner otherwise equipment is likely to be damaged.

Safety : As a general rule inhalation of solvent vapors or paint mist, and contact of paint liquid with skin and eyes should be avoided. Forced ventilation should be provided when applying in confined area. In any case skin and eye protection is of at most importance when spraying the paint. Available Packing : 10 Ltr, 20 Ltr.

RESISTANCE GUIDE

EXPOSURES	SPLASH & SPILLAGE	OUTDOOR MILD FUMES RESISTANCE
Acids	Good	Good
Alkalies	Very Good	Very Good
Solvents	Very Good	Excellent
Salt	Very Good	Very Good
Water	Excellent	Excellent

TEMPERATURE RESISTANCE :

Continuous : 90 C Intermittent : 110 C

Flexibility : Good

Abrasion Resistance : Very Good

Weatherability : Excellent in combination with primer.

SURFACE PREPARATION

- Clean the surface for oil, laitance and loose particles. See the surface is fully dried.
- The surface should be clean and dry before application.
- Before application insure that the new concrete is cured minimum for 90 days.

APPLICATION

- Stir the base thoroughly and then mix three parts of base and one part of catalyst to uniform consistency. Allow the mixture to mature of 25 minutes and stir well before and during application.
- Brush : Apply without thinning.
- Conventional Spray : Add upto 10% Thinner and use standard equipment at a pressure 3.5-4.9 kg/cm.

TYPICAL PAINTING SPECIFICATIONS

Surface	1st Coat	2nd Coat	3rd Coat
Steel	EWP-99 (Primer)	EPW-99	EPW-99
Concrete or	EWP-99 (Primer)	EPW-99	EPW-99
Plastered Surfaces			



It is a two component solvent free self leveling wear resistant high viscous, epoxy compound.

ADVANTAGE

Excellent resistance to chemical & high abrasion. It is wear resistant and water impermeable. The flooring compound is capable of withstanding high loading with excellent scratch resistance. Easily applied as a universal screed in all industries with a coloured overcoating of epoxy/polyurethane based coatings. Has excellent abrasion and chemical resistance, with a medium resistance for impact at higher thickness of application. Can also be used for small repairs to concrete industrial floors. Seamless, dust free, hygienic and non-slip surface. High early strength, hence floor can be used quickly. Can be used in preparation of perimeter edge coving upto a height of 225mm.

HOW TO USE

Clean the surface for oil, laitance and loose particles. See the surface is fully dried. Prime the surface with ECP-99, mix the two component as per the ration prescribed. Let it stand for 10 minutes before application.

APPLICATION

In chemical and engineering industries, refineries, paint shops, battery rooms, internal loading and unloading bays and ramps. As a protective coating for steel & concrete structures in various industries. Can be applied on walls/ceilings.

CONSUMPTION

2mm thick at 3kg./m

TECHNICAL INFORMATION

Pot life :	30 min. at 30C.
Foot traffic	: After 24 hrs.
Compressive strength	: 80 N/mm at 7 days.
Flexural Strength	: 27 N/mm at 7 days.
Tensile Strength	: 14 N/mm at 7 days.
Full cure & Chemical resistance	: 7 days at 30C.
Over coating time	: Min 6 hrs at 30C.
Application temp	: 15C to 35C.



SCOPE : A two component clear epoxy priming system cured with polyamide provide very though prime coat for subsequent epoxy coating suitable for protection of steel structure in aggressive coastal and industrial atmosphere.

The product has good water, solvent and chemical resistance. The product is specially developed for direct application on steel and concrete surfaces for subsequent epoxy coatings.

SURFACE PREPARATION

STEEL :

Remove oil, grease and other contaminants by using degreasing solvent and blast to sa 2 ½ (Swedish Standard SIS 05 5900) with a surface profile up to 65 microns maximum.

CONCRETE :

Before application insure that the new concrete is cured for 90 days. Clean the surface for oil, laitance and other contaminants and salt deposits by high pressure water hosing and rough it up manually by wire brush to adhesive prime system firmly. Before application insure all dust other particles are fully removed by sunction or air blast and the surface is fully cleaned and dry.

RESISTANCE GUIDE

Chemical Resistance : EXPOSURES	SPLASH & SPLILLAGE		MILD FUMES & OUTDOOR RESISTANCE	
	Acids	Good	Good	
Alkalies	Good	Good		
Solvents	Good	Good		
Salt	Very Good	Very Good		
Water	Excellent	Excellent		

TEMPERATURE RESISTANCE

Continuous	: 90 C	Intermittent : 110 C
Flexibility	: Moderate	
Abrasion Resistance	: Good	
Weatherability	: Excellent.	

APPLICATION

Stir the base thoroughly and then mix base with hardner to uniform consistency. Allow the mixture to mature of 25 minutes and stir well before and during application.

Brush : Apply without thinning.

Conventional Spray : Add up to 10% Thinner and use standard equipment at a pressure 3.5-4.9 kg./cm.

PRECAUTIONS :

- Do not overwork as wet
- Do not apply when temperature falls below 10 C or rises above 50 C and when relative humidity rises above 90%. Do not apply during rain, fog or mist.
- Brushes and spray equipment should be cleaned with Thinner otherwise equipment is likely to be damaged.

SAFETY :

As a general rule inhalation of solvent vapors or paint mist, and contact of paint liquid with skin and eyes should be avoided. Forced ventilation should be provided when applying in confined area. In any case skin and eye protection is of at most importance when spraying the paint.

PRODUCT DATA

Type	: Two pack Polyamide cured Epoxy
Full Curing	: 7 days.
Composition	: Epoxy resin + additives
Drying Time	: TOUCH : 3-4 hours
HARD	: 24 hours
Mixing Ratio	: Base: Hardner 75:25
Overcoating Interval	: MIN : 12 Hours
Pot Life	: 3-4 hours
Flash Point	: Above 25 C
Application	: Brush/ Spray
Colour	: Clear
Recommended DFT	: 130-160 microns per coat
Finish	: Glossy
Covering Rate	: 12-15 sq. Mtr./Ltr.
Packing	: 10Lit. / 20Lit.
Thinner / Cleneair	: ICO Epoxy Thinner

AVAILABLE PACKING ; 10 LTR, 20 LTR



EFR 99

EPOXY MIDDLE COAT SELF LEVELING FOR FLOORING

SCOPE – A three component Epoxy Resin based self leveling floor topping heavy duty and chemical Resistant. The cured mass provides a hard, tough and abrasion resistant surface with excellent adhesion to cementitious surface. The surface is readily cleaned and is hygienic.

Uses: Recommended for diverse industrial & domestic application & specially used as anti corrosive, chemical resistant, hygienic & anti fungus. Having excellent mechanical, waterproofing, thermal and electrical, industrial & sanitation properties on MS and Concrete areas of fertilizer plants chemical units, refineries, petrochemical, Auto Industries, hospital, kitchens and stores.

PRODUCT DATA

Type : Three pack, cured with Polyamide
Contents : Epoxy resin, silica and mica, floors, pigments, additives etc.

Mixing Ratio : A-Base -2 part
B-Hardner -1 part
C-Powder -3 part

Pot Life : 20 minut 30°C

Application : By spatula, steel roller, Trowel.

Covering Rate : 6 sq.mtr./per kg/mm.

Drying Time : 25C - 24-30 hours

40C - 12-16 hours

70C - 4-6 hours

Full Curing : 6-7 days.

Colour : Gray

Finish : Hard

Packing : 6kg

Thinner/Clenear : Thinner (ICO make)

Self Life : Company's sealed container in covered shade under normal temperature and dry condition up to twelve months.

MOSTLY USED IN:

Thermal Industries, Textile Industries, Effluent and sewage treatment plant, Pharma Industry, Automobile Assembly Shop, Paint Industries, Research Institute, Hospital & Sanitation, Swimming Pools, Dam & Water tank to prevent erosion of concrete, DM plant, Laboratory, Residential Kitchen, Bathroom etc

RESISTANCE GUIDE

Chemical Resistance : EXPOSURES	SPLASH & SPLILLAGE	MILD FUMES OUTDOOR RESISTANCE
Acids	Good	Good
Alkalies	Very Good	Very Good
Solvents	Very Good	Excellent
Salt	Very Good	Very Good
Water	Excellent	Excellent

TEMPERATURE RESISTANCE

Continuous : 90 C Intermittent : 110 C

WEATHERABILITY

Excellent with recommended top coat

PROPERTIES AFTER CURING

Tensile Strength	- kg/cm2	- 560.
Compressive Strength	- kg/cm2	-1000.
Flexural Strength	- kg/cm2	- 950.
Impact Strength	- kg/cm2	- 52.
Dielectric Strength	- Kv/mm	- 18.
Hardner	- Shore D	- 82
HDT	- C	- 82

SURFACE PREPARATION AND USE

1) Clean the surface for oil, laitance and loose particles. See The surface is fully dried. The surface should be clean and dry before application. Before application ensure that the new concrete is cured minimum for 90 days.

2) Apply clean primer (ECP-99) on the clean surface and let it dry for 24 hours.

3) Stir 2 parts of A with 3 parts of C till uniform consistency is obtained than add one part of B(Hardner) to the uniform mix slowly, apply within 15 minutes

4) Apply top coat : EPW-99 after 72 hours.



ALLERY



Sales Team Annual Meeting



Receiving National Award
(Mr. P.C. Bhandari, MD-ICO Ltd.)



ICO Team with Super Stockist



Mr. Deepak Bhandari
(CEO and Director-ICO Ltd.)
addressing To The Sales Team

PRODUCT APPLICATION



TERRACE GARDEN WATER PROOFING PROCEDURE



TILING TERRACE WATER PROOFING BY GROUTING PROCEDURE



BEFORE APPLICATION

BEFORE APPLICATION

BEFORE APPLICATION

BEFORE APPLICATION

DURING APPLICATION

DURING APPLICATION

DURING APPLICATION

DURING APPLICATION

AFTER APPLICATION

RAILWAY HEAD OFFICE (CHURCH GATE, MUMBAI) WATER PROOFING MANGLOTE TILE WATER PROOFING PROCEDURE



"PRECAUTION IS BETTER THAN CURE"

COMMON CAUSES OF WATER LEAKAGE

Leakages are common in any structure, caused either by the age of structure or defects in construction and design. Some of the most common reasons for water leakage in structure are as follows:

CONSTRUCTION PRACTICES:

Untrained man power, improper preparation of mortar and concrete mixes. Use of excess water to make mixes easily workable, which in porous concrete, inviting leakage from the start itself. Bleeding and segregation in concrete resulting in honey combing / voids. Inappropriate compacting/ vibration of concrete. Inadequate curing in early and later stages.

Inappropriate material selection : enough care is not taken in selecting various construction materials like cement, Stone aggregates, sand. This result in poor concrete. The following should be taken care of while selecting material.

Right quality & grade of cement depending on service requirement. Good quality crushed aggregates of various sizes depending on mix proportion. Site is free from dust and other chemicals. Potable water, i.e. water should not contain any chlorides etc.

Importance of diagnosis: Diagnosing the root cause of the problem is vital. Only then a suitable solution can be arrived. The treatment will then be cost effective from the long term point of view. There are different methods available to diagnose the root cause. Visual inspection. Non destructive using ultrasonic pulse velocity, rebound hammer, half cell potentiometer, cover meter etc.

Once the diagnosis is done, a proper scheme can be made undertake repair and rehabilitation work using suitable construction chemicals.

AGGRESSIVE CLIMATIC CONDITIONS:

Environment plays an important role in determining of any structure. More aggressive the climate, more stringent are the precautions to be taken. Structures which are exposed to marine regions or situated in pulling industrial belts, as more prone to chemical attack. It is therefore essential that concrete should withstand the conditions for which it has been designed without deteriorating. The damage to concrete largely contains sulphates which attack the concrete, decreasing its protective ability weathering and corrosion.

MECHANICAL DAMAGES:

Concrete structures are not obtain used only for the purpose they have been designed, but subjected to other forces such as excessive loading , impact, abrasion and other mechanical damages. As a result cracks develops in slabs, columns, beams, walls, basements etc. allowing water and liquid ingress. This becomes the starting point for all kinds of water leakage problems.

INADEQUATE MAINTENANCE :

Problems like cracks, dampness etc. are neglected in the initial stages and timely corrective measures are not undertaken, ultimately leading to deterioration of concrete structures.

It is advisable to undertake preventive maintenance any carry out timely repairs through a competent contractor, using proper materials and methods depending upon the problem.

वॉटर प्रूफिंग... नो प्रॉब्लम !

वाटर प्रूफिंग, हीट प्रूफिंग, ग्राउटिंग वर्क, कोटा स्टोन ट्रिटमेंट, ब्रिक बेड कोवा या चूरीमाल से वॉटर लेवल मिला कर छत फिनिश, इपोक्सी/पॉलीयुरेथिन (पी.यु.) फ्लोरिंग और वॉल कोटिंग, एस्बेस्टोंस व जी.आई. शीट वॉटर प्रूफिंग, कॉमन वॉल/स्ट्रक्चरल जॉइन्ट/एक्पांशन जॉइंट रिपेरिंग, पानी की टंकी, बेसमेंट, डक्ट, रोशनदान, डोम, खिड़की, पेराफिट, बीम/कालम/लेन्टर्न तथा संकंन पोरशन एवं बाथरुम वाटर प्रूफिंग का कार्य अनुभवी कारीगरों द्वारा गारंटी के साथ किया जाता है।



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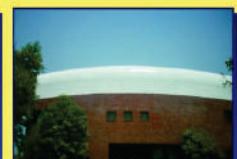
Kawloo Repairing



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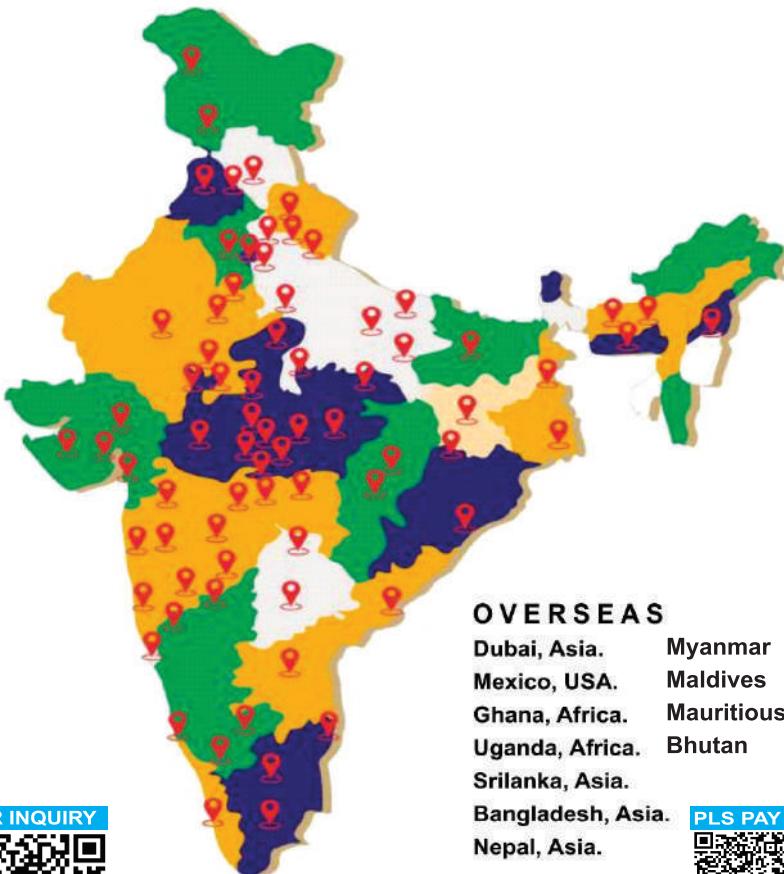


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