



A BENCHMARK FOR QUALITY AND TRUST

ADMIXTURE SYSTEMS FOR HEALTHY
CONSTRUCTION



Content

01

Construction Chemicals

01 - 14

Admixture Systems
Readymix Concrete
Self Compacting & High Flow Concrete
Precast concrete
Shotcrete or Sprayed concrete
Pavement quality concrete
Roller-Compacted Concrete (RCC)
Value Added Service

02

Grout and Anchors

15 - 16

Cemgrout GP
Cemgrout HR
Cemgrout HES
Cemgrout AD
EP Grout LV
EP Grout MV



03

Repair and Restoration

17 - 18

MiCrete
Repcon FC
Repcon CS
Repcon TI
Plugcon

04

Flooring and Coating

19 - 21

Hardtop NM
Tophard SS
Tophard LS



05

Waterproofing

22 - 24

Cembond SBR
Cemcoat AR
Elastocem
Waterbar SW
Aquaproof IW
Aquaproof Crystalline

07

Surface Treatment

27 - 32

Curing Compound
Mould Releasing Agent Shuttering Oil
Rust Remover
Pumping Aid

06

Adhesive & Sealant

25 - 26

PU Seal
Polyseal P
Polyseal G

08

Our Value Differentiator Trusted By the Best

33
34

A ONE STOP SOLUTION PROVIDER FOR CONCRETE TECHNOLOGY

CONSTRUCTION CHEMICALS

VISION

FCSC aims to become one of the leading Construction Chemicals manufacturers and Solutions providers in the country, exceed quality benchmarks, and expand its client base.

MISSION

We are determined to cultivate a global vision with an approach to realise our outlook by adapting to international quality norms and standards to provide you with the best products of Construction Chemicals and any other products under its umbrella.

ABOUT US

Firstchoice Specialty Chemicals Pvt. Ltd. (FCSC), has three state-of-the-art manufacturing facilities in Kolkata, Bardhaman, and Siliguri.

We are committed to providing the best quality product and complete technical support to our customers to produce the most durable and sustainable construction.

Thus Customer satisfaction is our main objective.

In all our endeavours, we ensure to understand the customers' needs and meet our objective by enhancing the performance of concrete with a suitable product, technology, and service and optimizing the construction process and cost.

Continuous improvement of technology is the key to our success. Our research and development team focuses on technical innovations with the ultimate benefit to our customers.

We believe in teamwork, as quality work is possible by good teamwork only.

We remain focused on the industrial and construction segments with quality products of a wide range of construction chemicals.

- **Admixtures**
- **Surface Improvement**
- **Grouts and Anchors**
- **Industrial and commercial flooring**
- **Concrete Repair system**
- **Protective Coatings system**
- **Joint Sealants and Adhesives**
- **Waterproofing system**
- **Tile Adhesive**
- **Tile Grout**
- **Block Adhesive**
- **Wall Putty**



READY-MIX, PRECAST AND MANUFACTURED CONCRETE

ADMIXTURE SYSTEMS

One of our core competencies is chemical admixture for the construction industries, including ready-mix, precast, and manufactured concrete products and cement manufacturing units.

Chemical admixture is a material other than water, aggregates, and cementitious material used as an ingredient of concrete or mortar and added to the batch immediately before or during its mixing to modify the properties of concrete in the plastic or hardened state.

Admixture technology is a scientific discipline in concrete technology.

Our systems and infrastructure's integrity and the high standards we apply to all our processes and interactions make sure we deliver the best quality products.

Continuous innovations include admixtures, and it is the prime job of our R&D, technical services, and specification team to deliver the right product with the best technical support to our customers for their high-performance concretes, durable structures, and fast-track construction processes. All these and more have been tailored to suit local conditions and construction practices.

Ready-mix Concrete

Precast Concrete

Self Compacting & High Flow Concrete

Shotcrete or sprayed concrete

Pavement Quality Concrete

Roller Compacted Concrete

Waterproof Concrete

Supplementary Systems - Adding

Value to concrete

Value Added Services



ACHIEVE HIGH-QUALITY CONCRETE WITH EXTENDED WORKABILITY

READY-MIX CONCRETE

ESTEEMA SERIES

High-quality concrete with extended workability is the main requirement of RMC industry. Also, industry needs a robust single admixture that is workable for different types of cement and compensates for the difficulties due to the variation of aggregates.

We are ensuring **"A Complete Solution System"** to our customers by proposing our **ESTEEMA** Range of products and also by optimising the mix design with variable cement and aggregate qualities to achieve high-quality concrete with extended durability.

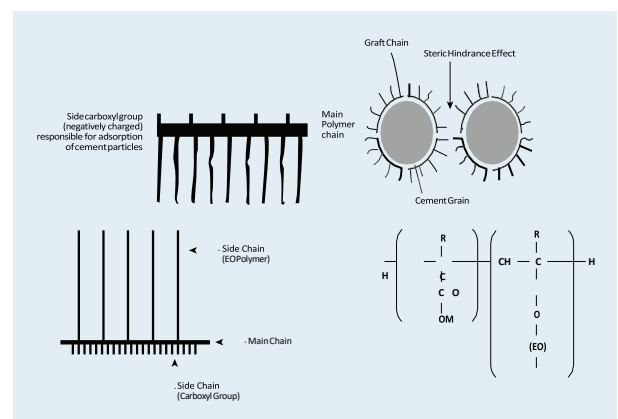
PRINCIPLES OF THE ESTEEMA SERIES TECHNOLOGY

ESTEEMA SERIES are retarding type high range water reducing admixtures based on polycarboxylic ether (PCE) molecules which adsorb onto the cement particles and disperses them through ionic charges causing electrostatic repulsion and steric hindrance. The resultant dispersion reduces water requirement of the mix and increases workability of the concrete. ESTEEMA SERIES is configured with special PCE molecules to delay adsorption onto the cement particle. This ensures that optimum dispersion over a longer period of time, gives very long retention without any retardation effect.

ESTEEMA SERIES complies with IS: 9103, BS:5075 and ASTM-C-494 Type 'A, D, F & G' depending on the dosage.

FEATURES

- Ensuring a constant high-quality concrete at low water/ cement ratio
- Providing a concrete with extended workability at high temperature, without delayed strength development
- Guaranteeing a concrete that meets the original specification from the fresh to the hardened stage
- Offering a single, versatile admixture for many types of applications and conditions
- Good dispersion even in mixes with high fines
- Lower pumping pressure
- Resistance to segregation even at high workability
- Suitable for high volume replacement of GGBFS or fly ash in concrete mix
- Higher ultimate strengths
- Reduced shrinkage
- Increased ease in finishing concrete
- Increased durability



SNPLAST are Sulphonated Naphthalene Formaldehyde (SNF) based plasticizing / superplasticizing Concrete and mortar Admixtures (ASTM C494 : Type A, F and G), which are to be used where a high degree of workability is required and also as an aid to workability retention where delays in transportation or placing are likely or when high ambient temperatures cause rapid slump loss. To facilitate production of high quality concrete of improved durability and water tightness. To produce high workability concrete requiring little or no vibration during placing.

ELIMINATE VIBRATION, ENHANCE FLOW PROPERTIES, REDUCES BLEEDING, SEGREGATION, YIELD STRESS AND MODIFY VISCOSITY

SELF COMPACTING & HIGH FLOW CONCRETE

A concrete mix can only be classified as Self Compacting Concrete (SCC) if the same is able to flow under its own weight and completely fill the formwork, even in the presence of dense reinforcement, without the need of any vibration, whilst maintaining homogeneity. More technically, SCC should meet the requirements for filling ability, passing ability and segregation resistance, as mentioned in below table:

Sl. No.	Method	Property	Unit	Typical Range Values	
				Min.	Max.
1	Slump-flow by Abrams cone	Filling Ability	Mm	650	800
2	T50cm slump flow	Filling Ability	Sec	2	5
3	J - Ring	Passing Ability	Mm	0	10
4	V-Funnel	Filling Ability	Sec	6	12
5	V-funnel at T5minutes	Segregation Resistance	Sec	0	(+)-3
6	L - Box	Passing Ability	h2/h1	0.8	1
7	U – Box	Passing Ability	(h2-h1) mm	0	30
8	Fill Box	Passing Ability	%	90	100
9	GTM Screen Stability Test	Segregation Resistance	%	0	15
10	Orimet Filling Ability	Filling Ability	Sec	0	5

It is also suitable for high strength concrete (more than M40 Grade)

We are offering ESTEEMA PLUS Range of concrete admixtures, having a unique proprietary molecular structure of PCE, to fulfill the above mentioned requirement of Self compacting concrete.

ESTEEMA PLUS with combination of CRETE VMA (Viscosity Modifying Admixture), if required, a perfect solution of Self compacting concrete (SCC), it produces extremely fluid as well as cohesive concrete, which is very easy and fast to pour and place without the need of vibration. The concrete moves effortlessly, even through intricate formwork and dense reinforcement, without bleeding or segregation.

The outstanding properties and advantages of use of ESTEEMA PLUS Range admixture are of considerable benefit to everyone involved in the project: Contractors, Specifiers, and Clients.

Improves Productivity and Placing Process:

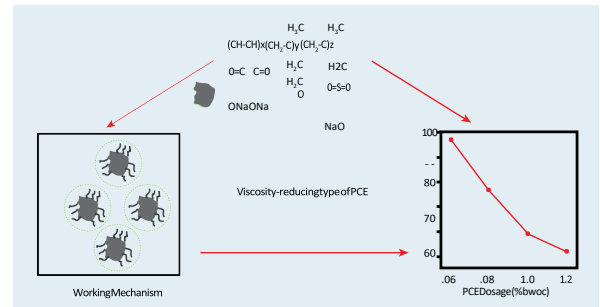
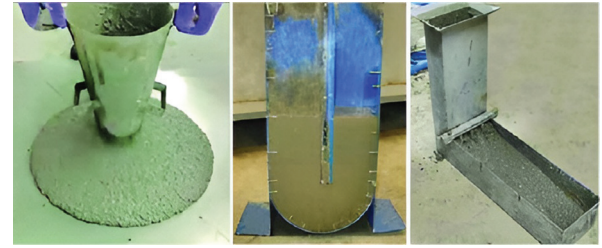
- Faster construction
- Reduction in site workforce and equipment costs
- Faster and Easier placing
- Thinner concrete sections
- Faster turnaround of formwork and moulds

Improves Quality and Durability:

- Greater freedom in design
- Better surface finishes
- Reduce rejection
- Improve durability

Improves Health and Safety:

- Reduced noise levels, absence of vibration
- Safer working environment
- Minor disturbance of other trades or neighbours



Main Applications:

Self Compacting Concrete is highly suitable for concreting subjected to congested reinforcement and where the possibility of using vibrators for compacting concrete is limited, like:

- Residential or commercial high-rise towers
- Multi-tower complexes
- Ideal for thin section concreting
- Architectural elements having intricate formwork where concrete requires little finishing after de-shuttering



ELIMINATE VIBRATION, ENHANCE DURABILITY AND
SHORTEN THE PRECAST PRODUCTION CYCLE

PRECAST CONCRETE

Precast concrete is a form of concrete that is prepared, cast, and cured off-site, usually in a controlled factory environment, using reusable moulds. Precast concrete elements can be joined to other elements to form a complete structure. The precast industry is driven by continually increasing of productivity with high-quality concrete components that satisfy industrial and economical requirements.

We are offering our **HIPROCAST** Range of products to a wide range of markets of Precast Industries, including components for buildings, civil engineering, drains, art stone, agriculture, roads and highways, railways, and telecommunications. It can also be used in the casting of girders, prestressed floor support slabs, floor slabs, panels, segments, pipes, blocks, vaults, cross-beams, façade units, paving, and copings.

The manufacture of precast concrete relies on quality constituent materials and the production process.

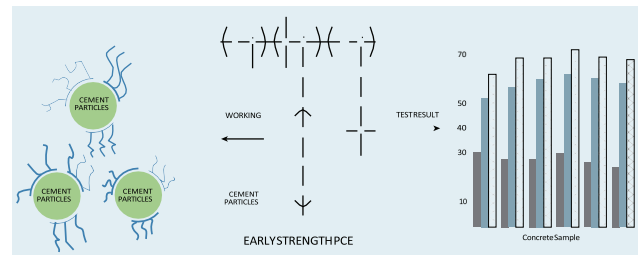
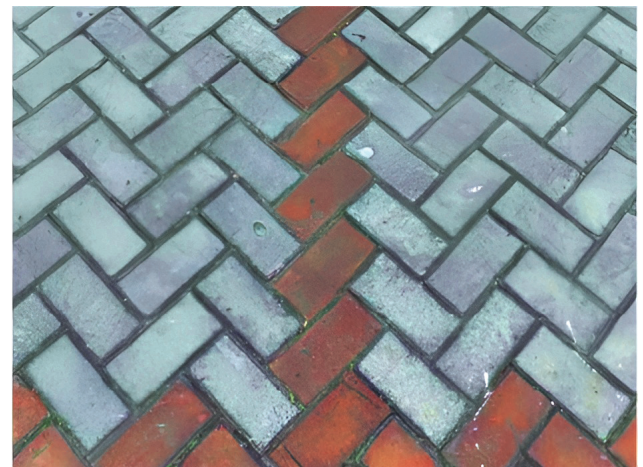
HIPROCAST Range of products now allows for the optimisation of:

- Rapid rotation of moulds
- Improved surface finish
- Early prestressing at low temperatures
- Reduced energy consumption for heating or steam curing
- Reduced cement volume and use of pozzolonic materials
- Accelerated strength development

PCE molecules of **HIPROCAST** Range are rapidly adsorbed on the surface of the cement grains and disperse them through electrostatic and steric repulsion, as a result of this high dispersion, high flow/self-compacting character developed in concrete which minimises the vibration process, reduces the energy consumption and labour, and also enhances the durability of the concrete.

Unlike conventional PCE molecules, which cover the entire cement grain, the **HIPROCAST** molecules progressive adsorption leaves sufficient space on the cement surface to allow a rapid hydration. As a result of this effect, setting time / de-moulding time of concrete become faster, which Increase the Productivity process in the precast industries.

Due to faster hydration process, development of higher strengths at very early age of concrete become faster, and this advantage minimises the heat curing process in the precast industries.



The **HIPROCAST 50E** is suitable for all large precast elements, **HIPROCAST 30E** is suitable for medium range precast elements & The **HIPROCAST 20E** is ideal for all small precast elements.



TO US QUALITY IS NOT
WHAT HAPPENS WHEN
WHAT TO DO MATCHES
OUR INTENTIONS. QUALITY
TO US IS WHEN WE MATCH
OUR CUSTOMER'S
EXPECTATIONS.



FLEXIBLE, ECONOMIC, REDUCES REBOUND LOSSES, AND INCREASES CONCRETE CONSTRUCTION PROCESS

SHOTCRETE OR SPRAYED CONCRETE

Shotcrete or sprayed concrete are concrete or mortar conveyed through a hose and pneumatically projected at high velocity onto a surface. It is typically reinforced by conventional steel fibers.

Shotcrete is placed and compacted/consolidated at the same time, due to the force with which it is ejected from the nozzle. It can be sprayed onto any type or shape of surface, including vertical or overhead areas.

We are offering **SPRAYCON AF** as a best solution of Shotcrete or sprayed concrete in liquid form. It is a highly effective alkali free Chloride free liquid accelerator, which confirms to ASTM C 1141 Type II Grade 9.

SPRAYCON AF is suitable for all applications where high early strength, good final strength and thick layers are required:

- Temporary and permanent rock support in tunnels
- Rock support in mining
- In poor ground conditions Slope stabilisation
- Also suitable for acceleration of cementitious grouts, such as used in tunnel linings, cement ground injection and foam concrete backfill operations

SPRAYCON AF is the ideally suited accelerator for wet mix sprayed concrete for rock support because:

The quick setting property allows rapid work progress and the ability to construct thick sprayed concrete linings via layered application during one construction sequence. The unique product formulation provides continual early-age strength development whilst also achieving excellent long-term strength and durability.

SPRAYCON AF is a liquid product and thus provides easy handling, as well as facilitating accurate addition to the concrete.

SPRAYCON AFP is an alkali-free shotcrete accelerating admixture. It is a liquid admixture whose dosage can be varied to the desired setting and hardening times.

SPRAYCON A, which is a chloride free liquid accelerating admixture based on modified silicate, which is added to a sprayed concrete mix to impart properties of high build and low



QUALITY, IN OUR
PERSPECTIVE, GOES
BEYOND INTENTION
FULFILLMENT; IT'S THE
CRAFTSMANSHIP OF
EXCEEDING THE SILENT
EXPECTATIONS WHICH OUR
CUSTOMERS CARRY IN
THEIR HEARTS.





WE ARE PASSIONATE ABOUT
SOLVING YOUR PROBLEMS
AND PROVIDING YOU THE
RIGHT SOLUTION.



MAINTAIN DESIRED WORKABILITY AND REDUCES BLEEDING AND DRYING SHRINKAGE, INCREASES COMPRESSIVE STRENGTH, AND FLEXURAL STRENGTH

PAVEMENT QUALITY CONCRETE

Pavement Quality Concrete (PQC) is cement concrete made with large size aggregates in accordance with IRC specifications and laid over a dry lean concrete sub-base. This construction is used specifically for highway concrete pavements and for airport runway pavements as it can take heavy loads.

Pavement quality concrete is different from normal conventional concrete by using 32 mm size aggregate and very less slump of 15-25 mm. This type of concrete requires little more cement content as compared to that of normal concrete (min. 360 Kg/Cum) and is mostly designed for M40 grade of concrete. It is suitable for heavy traffic volume and mostly for construction of national highways.

Slump Requirement for PQC is very small around 15-25mm when laying with automatic pavers. LDPE sheet is provided between PQC & DLC.

We are offering **ESTEEMA PQC** (PCE Based admixture) and **SNPLAST PQC** (SNF Based admixture) as a best solution of Pavement Quality Concrete (PQC).

Advantages :

- Increased compressive and flexural strengths
- Improved workability using less water
- Reduced Segregation
- Superior finishing characteristics
- Helps eliminate cold joints
- Improved texturing characteristics
- Greater edge stability and slump control
- Flexibility in scheduling of placing and finishing operations
- Offsets effects of too early stiffening during extended delays between mixing and placing
- Reduced thermal peaks
- Reduced permeability
- Relative durability to damage from freezing and thawing

Applications :

All types of concrete road laying using paver machine.

Complies with IS 9103 -1999 and ASTM C 494 Type G.

UNLIKE CONVENTIONAL CONCRETE, IT'S A LITTLE DRY MIX—STIFF ENOUGH TO BE COMPACTED BY VIBRATORY ROLLERS. TYPICALLY, RCC IS CONSTRUCTED WITHOUT JOINTS

ROLLER-COMPACTED CONCRETE (RCC)

Roller-Compacted Concrete (RCC) or rolled concrete (rollcrete) is a special blend of concrete that has essentially the same ingredients as conventional concrete but in different ratios, and increasingly with partial substitution of fly ash for Portland cement. The partial substitution of fly ash for Portland Cement is an important aspect of RCC dam construction because the heat generated by fly ash hydration is significantly less than the heat generated by Portland Cement hydration. This in turn reduces the thermal loads on the dam and reduces the potential for thermal cracking to occur. RCC is a mix of cement/fly ash, water, sand, aggregate and common additives, but contains much less water. The produced mix is dry and essentially has no slump. RCC is placed in a manner similar to paving: the material is delivered by dump trucks or conveyors, spread by small bulldozers or specially modified asphalt pavers, and then compacted by vibratory rollers.

Some of the benefits of using Roller compacted concrete are:

- No need to use forms
- Rebar is not required
- It provides great strength
- High Volume Placement
- It can be used as a roadway after only 24 hours of being placed
- Span soft localized subgrades
- Will not be affected by oil spills, fuels and/or hydraulic fluids

The dry consistency and lack of adequate paste in RCC makes its fresh behaviour very different from other types of concrete. This also leads to challenges in characterizing its properties adequately to be translated to practice.

The workability of RCC is considered to be constituted by the cohesion, compatibility, and segregation resistance, retention of workability, water reduction and consistency.

In association with Conset R (water-reducing and retarding admixture), AEA PLAST (air entraining agent) offers distinct benefits and improves different properties of fresh RCC including changing the setting behaviour, cohesion, compatibility, consistency, water reduction, and finishability.

Advantages:

- Reduced cement consumption
- Pipe cooling not required because of
- low temperature rise
- Extended workability during hot
- weather conditions

Applications

- Irrigation dam construction
- Hydroelectric stations

Complies with IS 9103-1999 and ASTM C 260



QUALITY IS THE CULTURAL
ENVIRONMENT OF OUR
ORGANISATION AND THAT
IS THE FABRIC.



ADDING VALUE TO CONCRETE

VALUE ADDED SERVICE

We have a broad range of speciality products, other than the above mentioned products, which enhance concrete specifications and performance.

VMA CRETE is an organic compound based liquid viscosity-modifying admixture (VMA) for concrete and mortar, which improves viscosity by reducing friction between the internal particles of concrete/mortar mix allowing them to flow freely and it also controls the bleeding / segregation characteristics of mix. Thus CRETE VMA helps to produce Self-compacting.

CORROTECH BCI is an organic Bipolar concrete penetrating corrosion inhibiting admixture containing molecules in which electron density distribution causes the inhibitor to be attracted to both anodic and cathodic processes. Due to the good quality of its vapour pressure and distribution with the moisture within the concrete, these molecules migrate to the steel and form a monomolecular layer along the reinforcement in concrete. Thus corrosion vis-à-vis micro cell formation is inhibited.

CORROTECH CI is a calcium nitrite based corrosion-inhibiting admixture used for reinforced concrete. Corrotech CI admixture contains a minimum of 30% active ingredients by mass and meets ASTM C 494/C 494M requirements for Type C, accelerating admixtures as well as the requirements of ASTM C 1582/C 1582M.

CONSET R is a high performance retarding plasticizer based on selected hydroxycarboxylic materials, beneficial in maintaining workability especially in high ambient temperatures. It is supplied as a colourless to brownish solution which instantly disperses in water. It disperses in the concrete mix, enabling the water content of the concrete to perform more effectively. The initial hydration of the cement is also delayed.

CONSET RP is a retarding (ASTM C494: Type D) admixture have a unique dual function of improvement workability and delay in initial set of concrete mixes. This improvement can be utilised to provide increased strength, density and workability without increase in cement, whilst retardation of setting times enables avoidance of 'cold joints' where delays in transporting and placing concrete occur.

Application:

Towers, chimneys, high buildings, slipform structures, tunnel/ shaft lining. offshore construction and in-situ piles.

CONSET SRA is formulated from selected polymers specially designed to resist drying shrinkage of concrete.

Uses:

- All types of cement
- Ready-mix concrete
- Prefabrication
- Flooring, industrial slabs.
- Bridges and dwellings.

Advantages:

- Reduces alkali content
- Reduces the risk of cracking
- Increases adhesion
- Does not impact the water/cement ratio
- Used with superplasticisers and air entrained concrete

CONSET NCA is ready to use liquid accelerating admixture for use in concrete and portland cement. It brings down setting times in general and specially under cold weather, leading to early high and ultimate increased strengths. In addition, it reduces bleed and segregation while improving workability. CONSET NCA does not contain any added chloride ions ensuring that the product does not contribute to the corrosion of reinforcing steel. In fact studies indicate CONSET NCA helps in reduction of chloride attack on concrete.

CONSET CA is a Chloride based accelerating admixture (Rapid Hardening admixture) for non reinforced cement concrete/mortar. When added to cementitious mixes it accelerates hydration and enables the water content to perform more efficiently by dispersing agglomerated cement particles. This further improves strength by enabling water reduction to be made at constant workability. This is not recommended for reinforced cement concrete/mortar.

FOAMCRETE is an efficient low dosage foaming admixture, which is used to produce lightweight cementitious materials (Concrete, Mortar, Cement slurry) for a variety of insulation and construction applications. FOAMCRETE helps to produce a stable aerated mortar, by entrapping air into prepared cement slurry in the shape of discontinued air bubbles to form a cellular structure throughout the mass. The cellular structure significantly reduces the thermal conductivity and density of concrete, resulting in a lower dead load imposed on the structure. It provides excellent resistance to freeze and thaw.

AEA PLAST is an entraining admixture for concrete and mortar. It adsorbs at the interface between the mixing water and cement/aggregate particles to produce microscopic air bubbles which evenly distribute throughout the concrete/mortar matrix.

Application:

Improves cohesion and workability of concrete mixes having poorly graded and/or shaped aggregates. Reduces bleeding and segregation of concrete. Enhances durability by providing protection against the rapid temperature changes found in freezing and thawing conditions and with the use of de-icing salts.

UW PLAST is a chloride-free, ready-to-use liquid anti-washout admixture system specially designed to allow concrete to be placed underwater. It produces a gel in the water that surrounds the cement particles and protects them from washout. It also increases the cohesion of concrete mixes and produces well compacted and high-quality concrete.

Application:

- Underwater concrete applications
- Foundations and piles where high water table occurs
- To produce cohesive concrete mixes
- Does not impact the water/cement ratio
- Fluid grouping that may have subject to washout

FCSC MICROSILICA is composed of silicon dioxide (SiO_2), collected from silicon metal and ferrosilicon. FCSC Microsilica will react with the Calcium Hydroxide from the cement, which will form more of the Calcium Silicate hydrate, increasing the strength of the concrete. Using FCSC Microsilica will also increase the durability of the concrete.



CONSTRUCTION SYSTEM

GROUTS & ANCHORS

Cement and Epoxy resin grouts for construction applications including grouting base plates, machine bases, rails and all sorts of voids in new construction and repair work. With exceptional high stability and strength characteristics, our grouts provide the best solution for high precision and critical applications, together with a wide range of cement and resin based anchoring systems. The range of grouts and anchors is tested and outperforms industry laid norms and standards.

Utilizing our extensive range of products, combined with the expert knowledge and experience of our people, FCSC strives to deliver an innovative and value-driven solution. Always in constant consultation with our customers, FCSC will develop a tailored solution for any construction project, adding value and becoming more than just a materials supplier. FCSC manufactures a full range of world class Grouts & Anchors systems providing the most up-to-date technologies. FCSC India is a leader in tailored Grouts & Anchors solutions.

We have a broad range of speciality products, other than the above mentioned products, which enhance concrete specifications and performance:

CEMGROUT GP is Portland Cement based, shrinkage- compensated, construction grout that conforms to Corps of Engineers CRD-C-621 and ASTM C 1107. It's non-metallic formula does not rust, bleed, or harm metals on contact. Its cost effectiveness makes it ideal for large jobs. The grout undergoes controlled expansion in the plastic stage to compensate for plastic shrinkage.

Uses:

- To grout bearings, machine foundations, columns Joints in precast construction etc.
- To grout anchors in concrete
- To grout cavities, gaps and voids in concrete

Advantages:

- Optimum contact with load bearing areas
- Pre packed and pre formulated
- Consistent performance
- Chloride free
- One component – Mixes easily with water
- Dimensionally stable
- Non - efflorescing – may be painted or coated
- Can be extended with clean water – graded coarse aggregates for large volume filling
- Lowest cost

CEMGROUT HR is a blend of Portland cement, graded fillers and chemical additives which impart controlled expansion, while minimizing water demand. The product is designed to provide resistance to high temperatures up to 500°C without losing its performance characteristics.

Uses:

- Blast furnace grouting
- Chimney grouting
- Flooring around furnace

Advantages:

- Effective in functioning around 500°C
- Easy to use (ready to mix powder)
- Easy to mix, only add water
- Adjustable consistency
- Very good flow characteristics
- Rapid strength development
- High final strengths
- Expands by gas generation whilst in the plastic state of curing
- Impact and vibration resistant
- Non-corrosive
- Not flammable, non-toxic



CEMGROUT HES is a single component pre-weighed factory blended Non-shrink, high early strength free flow grout. It is designed for very high early and final strengths. The flow characteristics allow it to use at various consistencies.

Uses:

- Precision grouting
- Grouting of base plates of turbines, compressors, boiler feed pumps
- Anchoring for a wide range of fixings
- Masts, anchor bolts and fence posts
- Applications requiring high early compressive strengths and high ultimate compressive strengths

Advantages:

- Excellent flow characteristics
- Low creep characteristics under sustained loading
- High early Compressive, Tensile and flexural strengths
- Non-shrink and hence ensures complete surface contact and bond
- Suitable for a wide range of loading situations
- Does not shrink or over expand
- Chloride and iron free

CEMGROUT AD is a specially formulated grouting aid. It plasticizes the mix allowing for substantial reduction in water content without affecting the fluidity, thus improving the strength and permeability of the grout. During the setting period of the grout it produces controlled expansion to compensate the normal plastic shrinkage of cement.

Uses:

CEMGROUT AD is an admixture for cementitious grouts where a reduced water/cement ratio and positive expansions are required. Applications include bed grouting, duct grouting, non-shrink infilling and jointing.

Advantages:

- Gaseous expansion system compensates for plastic shrinkage and settlement in properly designed cementitious grout.
- Reduced water/cement ratio mixes in the grout mix ensures low permeability and long term durability in service.
- Gives grout high fluidity with low water/cement ratio, thus making placement or injection of the grout easy.
- No metallic iron content to corrode and cause staining or deterioration due to rust expansion in the grout. Composition allows high early strength development in grouts, without the use of chlorides.

EP GROUT LV is a two-part epoxy resin system for grouting gaps ranging from 0.2 mm to 10 mm. It is a two-part system consisting of a base and hardener.

EP GROUT MV is a two-part epoxy resin system for grouting gaps ranging from 0.5 mm to 10 mm. It is a two-part system consisting of a base and hardener.

Uses:

EP GROUT LV & EP GROUT MV is developed as high ultimate strength and low viscous injectable epoxy resinous grout to fill cracks, honeycombs and cavities of high strength concrete structures.

- This is the most ideal product for repairs and rehabilitation of structures showing hair line cracks.
- It is used to fill up Cracks in roof slabs and other areas to make them structurally sound.
- Low viscosity - can be injected into cracks and honey combs to strengthen structural members having high density.

Advantages:

Low viscosity allows it to penetrate into finest cracks.

- Formulated for hot climates
- Low creep characteristics
- High compressive, tensile and flexural strengths
- Fast, convenient pumping
- Withstands a wide range of chemicals
- Suitable for structure repairs,
- Adheres to concrete with no loss of bond



CONSTRUCTION SYSTEM

REPAIR & RESTORATION

Repairing Compound is a fast setting, hydraulic cement product formulated to stop leaks in concrete and masonry surfaces. It is particularly effective for stopping the flow of running water.

Repairing Compounds are ready to use and require only the addition of water before plugging and sealing cracks. FCSC manufactures a full range of world class repairing compounds systems providing the most up-to-date technologies.

Type of the deterioration of concrete subjected to repair:

- Carbonation
- Chloride attack
- Shrinkage crack
- Thermal crack
- Honeycomb
- Weathering
- Chemical attack
- Mechanical abrasion
- Freeze and thaw attack

IDENTIFYING THE DAMAGE

If the concrete is not designed and applied properly, steel reinforcement may be corroded, could increase in volume and push the concrete to crack and delaminate and consequently provoke further deterioration.

There are 2 methods to identify damage in concrete: the visual inspection, the physical inspection and the quantitative inspection.

Visual Inspection

- Weathering
- Corrosion
- Segregation
- Cold joints
- Cracks

Quantitative Inspection

- Compressive strength test
- Carbonation depth test
- Chloride diffusion test
- Adhesion test

We have a broad range of speciality products, which enhance concrete specifications and performance:

MiCrete is supplied as a ready to use dry powder which requires only the addition of clean water at site to produce a free flowing non-shrink repair micro concrete.

This is a cementitious material, with additives, which impart controlled expansion characteristics in the plastic state while minimizing water demand. This is specially designed for repairs to damaged reinforced concrete elements, particularly where area is restricted and where vibration of the placed material is difficult or impossible.

For larger repairs, the MiCrete may be modified by the addition of 5mm to 12mm clean, graded, saturated surface dry aggregates at site. For exceptionally large repairs, the local FCSC office shall be consulted.

Uses:

MiCrete is used for repairs to damaged reinforced concrete elements, particularly where access is restricted and where vibration of the placed material is difficult or impossible.

Typical applications are:

- Extensive repairs to beams, columns and other structural elements
- Repairs to industrial structures
- Repair of structural members subjected to repetitive loading
- Jacketing of beams, columns and other structural elements for strengthening

Advantages:

- Can be pumped or poured into restricted locations
- Flowable mortar hence does not require compaction
- Develop high initial and ultimate final strengths
- Offers excellent resistance to moisture ingress.
- Makes repaired sections highly durable
- Can be applied at 100 mm thickness at one stroke



- Contains no chloride admixture.
- Rapid strength gains to facilitate early reinstatement
- Gaseous expansions system compensates for shrinkage and settlement in the plastic state

REPCON FC is supplied as a single component, ready to use blend of dry powders and fibres which requires only the addition of clean water to produce a highly consistent, hand and spray grade, repair mortar suitable for most structural and load bearing repairs.

Uses:

REPCON FC is suitable for wet spraying and hand application in a wide variety of repair applications, and is particularly well suited to vertical and overhead repairs. Typical applications would include, but not be limited to, the following:

- Mass infill to large areas
- Repairs to irregular profiles
- Excellent for repairs to fire-damaged concrete
- Fast track repair programmes, where rapid application at high volume is required
- Single layer, high build applications.

Advantages:

- Cost effective - shrinkage control enables repairs to be completed, right first time. Very low rebound is an additional cost benefit
- Enhanced durability - works in tandem with extremely low permeability to prolong effective working life

- Compatibility - aligns performance closer than ever before, to that of host concrete
- User friendly - specifically developed to provide an easy to-apply product, suitable for local conditions
- Definable performance - positive benefits are easily demonstrated via a single, simple measurement
- Resistant to Alkali Silica Reaction or Alkali Aggregate Reaction

REPCON CS is a polymer-modified, shrinkage compensated mortar. For interior and exterior use without corroding substances. Good processability of the flexible, pasty and stable mortar.

Uses:

For repair work of ruptures and defects in walls and ceiling made of concrete and precast concrete. For the preparation of concave mouldings.

Advantages:

- Cost effective - shrinkage control enables repairs to be completed, right first time. Very low rebound is an additional cost benefit
- Enhanced durability - works in tandem with extremely low permeability to prolong effective working life
- Compatibility - aligns performance closer than ever before, to that of host concrete
- User friendly - specifically developed to provide an easy to-apply product, suitable for local conditions
- Definable performance - positive benefits are easily demonstrated via a single, simple measurement
- Resistant to Alkali Silica Reaction or Alkali Aggregate Reaction

REPCON TI is a single component, polymer modified, fibre reinforced, rapid curing cement based repair mortar to fill the hole REPCON TI is supplied in powder form, ready to use with the addition of water to provide a durable, rapid setting, high strength and easy to apply mortar with excellent low sag properties.

Uses:

For the filling of tie-holes formed by formwork bolts in new construction, particularly where a rapid setting, durable, waterproof mortar is required. Can also be used for sealing grout holes and voids around fixings in pre-cast elements.

Advantages:

- Easy to apply. Single component, requires only addition of water
- High bond strength, Durable, ensuring monolithic performance of the repair
- Fast set
- Waterproof seal which withstands up to 5 bar water pressure after only 72 hours curing
- Low permeability to water, providing excellent protection to steel reinforcements and host concrete
- Excellent low sag properties
- Chloride free
- Enhanced tensile and impact strength.
- Cost effective, usually no special priming or preparation is required

PLUGCON is supplied as a ready to use blend of dry powders which requires only the site addition of clean water to produce a highly consistent, rapid setting mortar which is easy to apply in many difficult conditions. The material is based on a blend of cements, graded aggregates, special fillers and chemical additives which control the rate of setting and minimise the risk of thermal cracking.

Uses:

- To instantly seal negative water pressure leaks through cracks, gravel pockets and casting joints
- To instantly seal water leakage during waterproofing of water tanks, basements and sunken pits etc
- Instant sealing of water drainage outlets during waterproofing treatments
- Instant sealing of leakages in concrete/masonry structures
- As plugging mortar for fixing nozzle / grouting ports during injection grouting



CONSTRUCTION SYSTEM

FLOORING & COATING

INDUSTRIAL FLOORING

FCSC Industrial Flooring range has been developed to deliver the ultimate in durability and resistance for hard-wearing surfaces that stand the test of time.

The industrial floor is literally the basis of the production process and therefore plays a major role in the maintenance of buildings, working conditions and hygiene. Production techniques are constantly becoming more advanced, and floor treatments increasingly have to meet very specific requirements. Floors for non-industrial applications such as public buildings, hospitals and commercial developments also have to meet set requirements. The correct floor treatment can only be chosen after an analysis of: the properties of the substrate abrasion and other factors the floor has to resist, and the industry or environment in which the floor is to be used. Only then will the floor treatment function to the user's satisfaction. This brochure provides a survey of the requirements most frequently met in industry and the service sector and is intended to assist with the choice of the most suitable floor treatment.

Various floor types are discussed, together with the properties necessary to meet particular requirements and the preparation of the substrate. FCSC application teams work closely with our network of approved applicators to ensure that projects are completed on time and within budget. Further information on FCSC floor systems is available in the product information data sheets and our technical advisors are always ready to provide detailed advice.

SPECIFIC APPLICATIONS

Buildings

Public buildings such as hospitals, museums, office blocks, hotels and prisons call for a hard-wearing floor treatment but it is not just to be hard-wearing; comfort and colour are at least as important. FCSC floor systems for public buildings can be supplied in a wide range of colours and are also easy to clean, since hygiene is a prime requirement in public buildings.

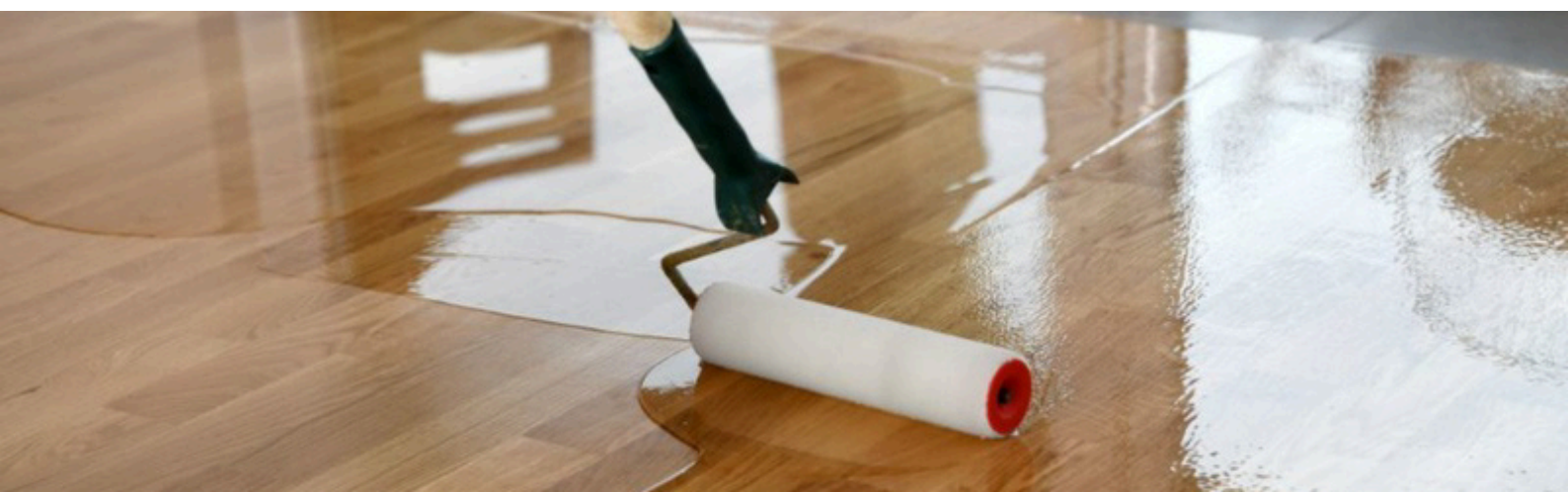
Aviation Industry

More and more companies are becoming aware of the financial consequences of static electricity. A build-up of static electricity can result in damage to computers and electronic products at the production or quality control stage. Employee safety is also a factor. In some industries, for example in the bulk storage of grain, inadequate control of static electricity can have catastrophic consequences. For this reason, the need for a conductive floor treatment should be taken into account in the design of production or processing areas. FCSC has developed both conductive and a dissipative floor system conforming to the BS 2050 and DIN 51953 standards.

Normal Industry

It is of fundamental importance that a floor can be cleaned thoroughly and easily. The most commonly met requirements are hardness of surface, dust free, impermeability to water, an anti-slip surface, resistance spillage. Another major condition is that, both at the time of laying and while in use, the floor should not effect the smell and taste of the foodstuffs.

We have a broad range of speciality products, which enhance concrete specifications and performance:



HARDTOP NM is quality controlled, factory blended powder which are ready to use on site. It contains special non-metallic hardwearing aggregates which have been selected for abrasion and wear resistant properties as well as shape and size. These latter considerations, together with the use of high-performance workability admixtures, produces a material which is easy to trowel into the surface of fresh, wet concrete. HARDTOP NM cure monolithically to provide a dense, non-porous surface which is extremely hardwearing and abrasion resistant. Monolithic cure ensures that problems normally associated with thin 'granolithic' screeds, viz., shrinkage, cracking, etc., are completely overcome. Being non-metallic, HARDTOP NM provides a non-slip surface which will never rust and disintegrate.

Uses:

HARDTOP NM is recommended for treating floor areas, where superior abrasion resistance is desired to minimise dusting and maintenance, but not exposed to serious chemical attack. Application areas include:

- Basements and cellars
- Mechanical workshops
- Garage for light vehicles
- Storage rooms
- Corridors and halls
- Parking areas
- Loading platforms

Advantages:

HARDTOP NM provides a hard-wearing surface on concrete floors. This reduces the rate of abrasion from the pedestrian and vehicular movement and increases the service life of the concrete floor.

- Non-metallic - does not rust or stain.
- Provides a hard, abrasion resistant surface
- Forms monolithic bond with base concrete economical and Easy to apply

SILICOCOAT is a solvented Silane /Siloxane based water repellent compound for protection of concrete and masonry work.

Uses:

To protect atmospherically exposed reinforced concrete structures from attack by chloride ions and water intrusion. SILICOCOAT is also suitable to protect other cementitious substrates and masonry. SILICOCOAT is suitable for use on all types of structures, including those in coastal environments. It is equally suitable for new and existing structures.

Advantages:

- Reduces water and chloride intrusion
- Penetrates into porous substrates
- Non-staining
- Suitable for applications where windy conditions or high temperatures are likely
- Increases freeze thaw resistance
- Minimises efflorescence
- Chemically resistant to ice melting compounds, fuels, oils and atmospheric contaminants
- Allows water vapour to escape from the structure

TOPHARD SS is a special sodium silicate solution that penetrates deep inside the concrete capillaries chemically reacting with the free lime forming a permanent insoluble bond with the concrete, which increase density, hardness and strength of the top layer of a substrate while retaining its breathability. It is an ideal treatment for machine troweled, burnished, or polished concrete surfaces.

Once the sealer chemically reacts with the surface, the TOPHARD SS improves the abrasion resistance and durability of a surface, provides long term protection against wear and traffic, reduces dusting not caused by actual surface defects, and lowers the overall maintenance of a surface.

It can also serve as a concrete polishing aid by producing better initial surface hardness that reduces polishing time and yields a smoother and denser burnished or polished surface. Sealer is environmentally friendly, VOC compliant, non-flammable, and has odorless formula for safe indoor use.

TOPHARD SS has a clear to turbid appearance. Upon proper application, the substrate will have little, or no, noticeable change in appearance when dry. However, a polished appearance can normally be imparted to burnished or polished surfaces by applying with scrubber or polisher and then buffing with a resin pad.

Uses:

TOPHARD SS is recommended as a densifier and hardener for machine troweled concrete surfaces. It can also be used on other cementitious surfaces where densifying and hardening benefits are desired. It is recommended as a polishing aid for burnished or polished concrete surfaces.

TOPHARD SS is ideal for sealing commercial and residential concrete floors such as workshop floors, warehouse floors, automotive garage floors, retail store floors, pole barn and shed floors, basement floors, garage floors, and other machine troweled, burnished, or polished concrete surfaces. Compatible with most glues, mastics, and topical coatings.

Advantages:

- Premixed and ready to use liquid
- Low cost and Easy to apply
- Improved abrasion resistance compared to untreated concrete
- Dust proofer for concrete floor
- Improves cleanability
- Non-yellowing
- Colourless
- Good penetration
- Gives no disturbing order during the application
- Will not scratch or peel
- Given permanent hardness to the applied surface.

TOPHARD LS is a special Lithium based silicate solution that penetrates deep inside the concrete capillaries chemically react with the free lime forming a permanent insoluble bond with the concrete, which increases density, hardness and strength of the top layer of a substrate while retaining its breathability. It is an ideal treatment for machine troweled, burnished, or polished concrete surfaces.

Once the sealer chemically reacts with the surface, the TOPHARD LS improves the abrasion resistance and durability of a surface, provides long term protection against wear and traffic, reduces dusting not caused by actual surface defects, and lowers the overall maintenance of a surface.

It can also serve as a concrete polishing aid by producing better initial surface hardness that reduces polishing time and yields a smoother and denser burnished or polished surface. Sealer is environmentally friendly, VOC compliant, non-flammable, and has odorless formula for safe indoor use.

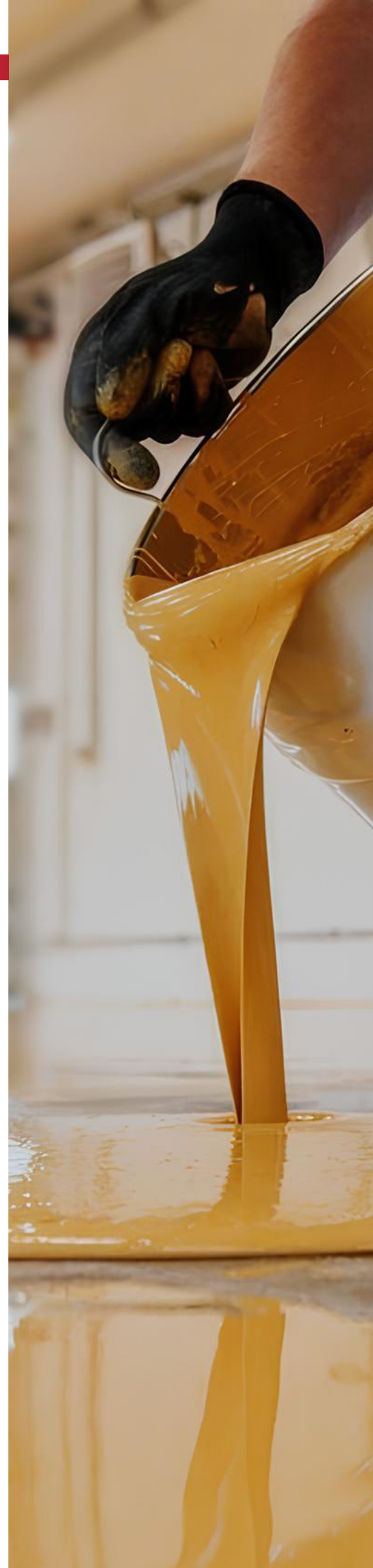
TOPHARD LS has a clear to turbid appearance. Upon proper application, the substrate will have little, or no, noticeable change in appearance when dry. However, a polished appearance can normally be imparted to burnished or polished surfaces by applying with scrubber or polisher and then buffing with a resin pad.

Uses:

- Increasing hardening
- Continuously rising abrasion resistance
- Intensified sheen and colour
- Inhibits crack formation
- Weather resistant
- Inhibits frost damage
- Water vapour permeable
- VOC free
- No surface protection necessary.
- Suitable for Production areas, Storage areas Cool rooms, Warehouses, Food industry
- Car parks, Aircraft hangars

Advantages:

- Premixed and ready to use liquid
- Improved abrasion resistance compared to untreated concrete
- Dust proofer for concrete floor
- Improves cleanability,
- Non-yellowing
- Colourless
- Good penetration
- Gives no disturbing order during the application
- Will not scratch or peel
- Given permanent hardness to the applied surface



CONSTRUCTION SYSTEM

WATERPROOFING

Waterproofing is the process of treating the surface or structure and making it waterproof or water-resistant so that it is protected from damages that water could bring and remains relatively unaffected by water or resists the ingress of water under specified conditions. Water-resistant and waterproof often refer to resistance to penetration of water in its liquid state and possibly under pressure, whereas damp proof refers to resistance to humidity or dampness.

It is essential to waterproof your buildings. Interior areas of buildings must be kept dry from roof to basement. Water infiltration can lead to damages such as insect infestation, mold, and in worst cases building failures. Waterproofing is very important as it helps keep your buildings dry. It helps reduce humidity inside the building and thereby protects things inside the building from damage caused due to humidity or water exposure. It is also important for the veracity of the building. In areas that experience high annual rainfall and occasional flooding events, water-Proofing is a must. Foundations and basements need to be waterproof, especially in areas where the groundwater table is high.

Plaster for complete construction can be made water-resistant with the use of Waterproofing admixes. There are different types of waterproofing methods based on the use of chemicals and methodology.

There are Different Types of Waterproofing Methods Popularly Used in Construction

- Integral waterproofing
- Chemical Waterproofing
- Liquid Waterproofing Membrane
- HDPE, PVC Membrane
- Bituminous Coating Waterproofing.
- Bituminous Membrane Waterproofing
- Polyurethane Liquid Membrane Waterproofing.
- Crystalline Waterproofing

Depending on the level of water damage or owner preference, waterproofing systems can be installed indoors or outdoors.

Advantages of Waterproofing

Risk of damaging your property:

One small leakage can cause a lot of damage to your interior, and it can damage structures such as floor joints, beams, floors, studs, skirting, and frames. It can also cause blistering of paint and swelling of plasterboards. Water leakage might also cause a possible short circuit of lighting and electrical connection. All of this can cause serious damage to the building's appearance and structure and provide a place for mildew and molds to

Health Risks:

When moisture finds its way inside your house, the moisture trapped in the house has the potential to become a breeding ground for fungi, molds, and mildew. It projects spores into the air, which may lead to many health problems. Waterproofing helps to keep away unwanted moisture and damp.

Longevity:

By waterproofing, you will have a membrane protecting your roof at all times, this membrane gives an additional layer of protection from leaks by rain, snow, wind, decay, and wear. This membrane also reflects sunlight, reduces the impact of extreme light and heat on your roof, and makes it more comfortable to live in.

Cost Saving:

A Waterproof roof coating is very simple to repair and also to maintain as it saves a lot of money than your existing roof infrastructure. By having a waterproof coating, you are avoiding frequent maintenance cost. Prevention is always better than cure, so without waterproofing, the cost of the roof repair process might blow your budget. By installing waterproofing, you will experience significant cost savings as a long-term investment.



We have a broad range of speciality products, which enhance concrete specifications and performance:

CEMBOND SBR is a milky-white, Styrene-Butadiene Rubber latex liquid, which consists of microscopic particles of synthetic rubber dispersed in an aqueous solution.

CEMBOND SBR is specifically designed for use with different cement compositions. It is used in mortar and concretes as a polymer modifier to increase resistance to water penetration, improve abrasion resistance and durability. It is used with cement as a reliable water-resistant bonding agent.

Uses:

The scope of application are as follows:

- Concrete repair: Spalled concrete, repairing floors, beams and pre-cast slabs.
- External rendering: Waterproof, weatherproof and frost resistant render.
- Makes waterproof coating for basements, lift pits, inspection pits, water towers, liquid tanks, effluent tanks and swimming pools.
- Long life and watertight masonry joints
- Used in bonding mortar of tiles, fixing or re-fixing slip bricks.
- Bonding between successive concrete casts by incorporating CEMBOND SBR into bonding mortar.
- Injection into cracks or porous concrete works.

Advantages:

- High resistance to water penetration.
- Good abrasion resistance.
- Adhesion to most substrates (concrete, stone, brick, ferrous metals, glass, ceramic tiles)
- Improves elasticity, flexibility and tensile strength
- Easy to use, non-toxic & plasticising mortar.
- Similar thermal expansion and modulus properties to concrete.

CEMCOAT AR is a milky-white, acrylic polymer based liquid. It is specifically designed for use with cement compositions. It is used in cementitious slurry as a polymer modifier to increase resistance to water penetration, improve abrasion resistance and durability. It is also used with cement as a reliable water-resistant bonding agent.

Uses:

Typical applications include:

- Waterproofing and tanking: Basements lift pits, inspection pits, water towers, liquid tanks, effluent tanks and swimming pools, basements, terraces.
- Other typical applications: bonding slurry coat, polymer modified flooring, render key coat, render modification, and patch repair mortars.

Advantages:

- Unaffected by ultra-violet light or contact with water – durable.
- Improved workability of cementitious mixes.
- Lowers water-cement ratio.
- High resistance to water penetration.
- Increases cementitious mix resistance to wear
- Excellent adhesion to a variety of building materials.
- Protects concrete from corrosive elements
- Aids ease of application
- Non-toxic. Can be used with potable water.

ELASTOCEM is an elastomeric flexible, two component polymers modified cementitious system that requires only on site mixing to form an ideal waterproof coating on concrete, masonry, and most other construction materials. ELASTOCEM can simply be applied by stiff brush, roller or trowel to obtain the desired thickness.

ELASTOCEM will bridge an existing crack of up to 0.5 mm in width, or up to 1.2mm when reinforced with 100% virgin polypropylene woven fabric.

Uses:

ELASTOCEM is a high performance elastomeric cementitious coating used for waterproofing and to protect atmospherically exposed reinforced concrete structures from attack by acid gases, chloride ions, oxygen & water. ELASTOCEM is suitable for all types of structures like:

- Water-retaining structures subjected to movements
- Basement-waterproofing
- To protect concrete from water, carbonation and de-icing salts.
- Waterproofing of roofs, sunken floors in bathrooms, Swimming Pools, Drainage culverts, Kitchens, Shower rooms, WC, etc.
- Waterproofing coating for drinking water tanks, sumps, etc.
- Foundations in contact with ground water under saline conditions

Advantages:

- Withstands high positive and negative hydrostatic pressures
- Waterproof-suitable for water retaining structures. Allows water vapour to escape from the structure
- Excellent barrier to carbon dioxide, chloride and sulphate ions
- High resistance to the effect of long-term weathering, durable in all climate conditions including UV attack
- Nontoxic - ideal for potable water tanks.
- Flexible, with thermal expansion similar to concrete.
- Excellent bond to concrete and masonry
- Bonds to green or damp concrete
- Good crack accommodation capacity.
- Minimum surface preparation needed and low labour costs



WATERBAR SW is a rectangular acrylic sealing agent. It swells in contact with water to seal all type of construction joints and penetrate in concrete structures.

Uses:

- Construction joints
- Construction joints in cable ducts
- Most of the penetrations and connection joints
- Pipe and steel work penetrations through walls and floor slabs
- Water tightness upto 3 bar

Advantages:

- Swells upon in contact with water
- Unique properties fill small cracks and voids
- Permanent water resistance (wet & dry cycles)
- Resistance to various chemicals
- No requirement for the imperfect ageing
- Non-adsorbent
- Can be applied to different substrates
- Available in different sizes
- Extremely high, form stability, will not become sticky at high temperatures
- Easy and fast to apply
- Resistance to flex cracking

AQUAPROOF IW is an integral waterproofing liquid which is added into the concrete / mortar at the time of batching/mixing to resist the penetration of water through the capillary action or through water under pressure in hardened state of concrete and mortar. It also improves the workability of the fresh concrete and mortar.

Uses:

AQUAPROOF IW is recommended for use in structural and mass concrete, wherever waterproofing concrete / mortar is required, to minimize the permeability and increase the waterproofing property of water-retaining structures, like:

- Roof slabs and screeds
- Basements
- Reservoir and Dams

- Sewerage Works
- External Plastering
- Canals
- Culvert Tunnels

Advantages:

- Provides resistance to water penetration through the capillary action or through water under pressure in hardened state of concrete and mortar
- Liquid – disperses instantly throughout the fresh mix and produced uniform waterproofing property throughout the concrete and mortar matrix
- Improves workability without increased water content
- Reduced efflorescence
- Reduced sulphate attack
- Increased durability
- Improved pumpability, as it improves cohesion and reduces segregation of concrete
- Does not reduce compressive strengths
- Reduced shrinkage cracks in plasters
- Low dose – cost effective

AQUAPROOF CRYSTALLINE an integral crystalline waterproofing compound, is added to the concrete or mortar mix at the time of batching. The active chemicals react with the moisture in fresh concrete and with the by-products of cement hydration to cause a catalytic reaction, which generates a non-soluble crystalline formation throughout the pores and capillary tracts of the concrete.

Thus, **AQUAPROOF CRYSTALLINE** reduces water permeability of concrete structures which can allow it to be used in place of various surface applied waterproofing membrane systems. This product also has a self-healing property under presence of moisture and can heal cracks up to 0.5 mm.

AQUAPROOF CRYSTALLINE can be used as an applied coating, mixed to a slurry consistency with potable water.

Uses:

- Water tanks, Reservoirs
- Building Basements & foundations
- Swimming pools and water parks
- Sewage and Water treatment plants
- Dams, canals, Tunnels, Harbours
- Retaining walls & sea defence walls
- Concrete pipes

Advantages:

- Easy to use, require only mixing with concrete
- Integral waterproofing system
- Resists positive and negative side hydrostatic pressure
- Can seal hairline cracks up to 0.5 mm
- Exhibits good resistance to hydrostatic water pressure both surface
- Compatible with our full range of water reducing admixture
- More effective due to formation of crystalline in tiny capillaries
- Reduce Shrinkage and Creep
- Increase Durability



CONSTRUCTION SYSTEM

ADHESIVE & SEALANT

Strength in Specification

No matter the application, from foundation to finish, FCSC has the high-performance sealant and adhesive to meet and exceed the challenges posed by weather, moisture, joint movement or dissimilar materials. FCSC's broad product line provides unsurpassed adhesion, durability, flexibility, weather ability, water resistance and has the industry recognized validations to prove it. Available in one and two-component pourable and non sag formulas and a broad spectrum of colour.

The choice of the right sealant is not an easy one. The market continues to provide a huge range of sealants; Polysulphide, Polyurethane, rubber bitumen etc. The chemical composition of the sealant is of little interest and selection should be based on what the joint has to do. An ideal sealant would have the following properties when required of it:

Advantages:

- Stable in storage
- No need to mix
- Easy to apply

- Good primerless adhesion to faces of the joint
- No creep, slump, or cold flow
- Minimal shrinkage once applied to the joint
- Zero bleeding or staining onto surrounding substrates
- Good cohesion: Ability to accommodate movement without splitting
- Resistant to chemical spillage
- Compatible: No chemical reactions with materials in permanent contact
- Resistance to weathering and ageing
- Resistance to bacteriological attack
- Resistance to abrasion
- Paintable
- Retention of elasticity and other desirable physical properties
- No need for regular maintenance
- Repairable if the seal becomes damaged
- Compliant with relevant standards
- Grades of sealants
- Pouring grade sealants - These sealants are designed exclusively for horizontal joints in floors and pavements

- Gun grade sealants - These sealants are suitable for use in vertical and horizontal joints

As a general rule, curing in two-part sealants is more rapid than one-part sealants. The use of two part sealants is appropriate where rapid cure is essential, eg. structural joints subjected to early movement after sealing.

We have a broad range of speciality products, which enhance concrete specifications and performance:

PU SEAL is a single component, moisture cured polyurethane elastomeric sealant, which resists crack arising out of movements of joint materials.

Uses:

PU SEAL is used as a joint sealant for floor joints in heavy duty areas e.g. industrial areas, breweries, dairies, commercial kitchens, balconies, terraces between concrete elements. It seals expansion and control joints, pre-cast concrete panel joints, window perimeters, steps, risers, roof and tilt wall joints.

Advantages:

- Single component – minimizes wastage
- Easy to apply
- Light and UV stable characterized by high elasticity.
- Possesses good resistance to dilute acids and alkalies, salt solutions, neutral water based cleaners as well as hot oils and fats.



POLYSEAL P is two components, polysulphide polymer based, UV resistant, flexible tear resistant, rubbery, self-levelling, pourable, non-staining sealant, which adheres to most of building materials like cementitious substrates, aluminium, glass, wood, mild steel, etc. It cures at ambient temperature, has excellent recovery characteristics after extended periods of compression / elongation with outstanding resistance to most chemicals, weather conditions, ageing and shrinkage.

Uses:

- Joints in concrete roads, bridges, subways, flyovers & airport runways
- Joints in water retaining structures like water tank, swimming pool including, decks, aqueducts, dams, canals & reservoirs
- Expansion joints in industrial, commercial or residential buildings
- Nuclear Power station reactor domes.
- Joints between concrete pipe lines.
- Roof light joints

Advantages:

- Excellent UV resistant

- Provides uniform, water tight seal
- Adhesion compatible to most substrates
- Highly resilient with excellent recovery characteristics and thermal flexibility
- Prevents cracking by allowing expansion / contraction during atmospheric changes
- Flexible, tear resistant, rubbery, self-level ling
- Chemical / flame / fuel resistant
- After full cure, can withstand in fully submerged condition, and the Sealant is suitable for potable water as well

POLYSEAL G is two components, polysulphide polymer based, UV resistant, flexible, tear resistant, rubbery, self-levelling, gun grade, non-staining sealant, which adheres to most of building materials like cementitious substrates, aluminium, glass, wood, mild steel etc.

POLYSEAL G cures at ambient temperature, has excellent recovery characteristics after extended periods of compression / elongation with outstanding resistance to most chemicals, weather conditions, ageing and shrinkage.



SURFACE TREATMENT

One of our core competencies is surface treatment for the construction industries, including ready-mix, precast, and manufactured concrete products, and cement manufacturing units.

Surface treatment is an economical and effective method to improve the quality of surface layer and protect the concrete structure compared with other methods, such as decreasing water to cement ratio and adding admixtures etc. There are a variety of surface treatments that can be used for protection of concrete. Use of the correct product for surface treatment and the appropriate application leads to a longer service life, an extended aesthetic life of decorative surfaces, and provides a better return on investment.

FCSC offers a wide range of products under surface treatment:

- Curing compounds
- Mould release agent/shuttering oil
- Rust remover, cleaning, and etching agent
- Pumping Aid-lubricator for concrete pump hoses and lines



SURFACE TREATMENT

CURING COMPOUND

Curing plays an important role in strength development and durability of concrete. Properly cured concrete has an adequate amount of moisture for continued hydration and development of strength, volume stability, resistance to freezing and thawing, and abrasion and scaling resistance. Even the best quality concrete can fail if it is not cured properly.

Curing compounds are the solution where wet curing is impossible. These materials are applied by rollers, sprays, brushes etc on to wet concrete to act as membranes, which retard water evaporation while the concrete is curing. Curing compounds reduce rapid volume change in the concrete, thus reducing shrink age and maintaining the specified strength requirements.

These are suitable for use as of directly exposed to sunlight, heavy winds and other environmental influences. These can be used for curing concrete pavements, airport runway, and bridge deck.

Used for curing of:

- Concrete pavements
- Airport runway
- Bridge decks
- Precast concrete components
- Roof slabs, columns, and beams.
- Chimneys, cooling towers
- High rise structures.

FCSC is offering following Curing compounds having high degree of curing efficiency:

CUREWELL RB is an on-degrading, continuous film forming, aluminized, polymeric resin based curing compound, suitable for spray application to freshly poured concrete.

CUREWELL RB is available as a silver color liquid. The resultant film retains sufficient moisture in the concrete to ensure full hydration of the cement, essential for optimum strength development. The cured concrete is typically harder and exhibits a dust free surface with a reduced incidence of drying shrinkage cracks.

CUREWELL RB has been tested in accordance with BS7542-1992 and the curing efficiency is greater than 90%.

Uses:

As a more effective and economical alternative to hessian and water and polythene curing regimes. Suitable for use on all large area concrete surfaces, such as airport runways, concrete roads and bridge works.

It is not recommended for application when subsequent renders, toppings or coatings are to be applied within the degradation time unless it is removed by cleaning if insufficient time has elapsed to achieve full degradation.

CUREWELL WB is a white pigmented membrane forming wax based curing compound, suitable for curing of newly placed or freshly de-shuttered concrete, assists in the retention of water during hydration. The resultant film retains sufficient moisture in the concrete to ensure full hydration of the cement, essential for optimum strength development. Membrane cured concrete is typically harder and exhibits a dust free surface with a reduced incidence of drying shrinkage cracks.

CUREWELL WB complies to ASTM C309 Type II Class ABS7542:1992

Uses:

As a more effective and economical alternative to hessian and water and polythene curing regimes. Suitable for use on all large area concrete surfaces, such as airport runways, concrete roads and bridge works.





It is not recommended for application when subsequent renders, toppings or coatings are to be applied within the degradation time unless it is removed by cleaning if insufficient time has elapsed to achieve full degradation.

CUREWELL ARB is a concrete curing compound based on a membrane forming acrylic emulsion in water. The material is liquid and sprayable on freshly poured concrete. The resultant film retains moisture in the concrete to ensure full hydration of the cement and makes optimum strength development of the concrete possible.

Membrane cured concrete is typically harder and exhibits a dust free surface with a reduced incidence of drying shrinkage cracks. It is also suitable for use as a sealer and dustproof for floors and walls. Particularly suitable for situations where after trades, such as paints or renders, are to be applied. The acrylic based concrete curing compound has the property of adhesion to the succeeding plaster. It is used to protect the concrete from the loss of water during the initial time of curing.

CUREWELL ARB Complies to ASTM C309 Type 1, class A and ASTM C1315.

Uses

CUREWELL ARB can be used in a wide range of applications:

- High-rise construction to eliminate water curing
- Floors, warehouses, slabs and columns
- Dust proofing concrete walls and floors
- Clear sealer for concrete
- Self-curing, primer system to subsequent coverings



SURFACE TREATMENT

MOULD RELEASING AGENT SHUTTERING OIL

Mould release agent/shuttering oil provides quick, clean, and easy stripping of moulds, shutters, and formwork. It ensures very high quality and good kind of concrete and with the help of it concrete becomes stain-free and gives it fair-faced as well, it also minimizes cleaning of moulds & shutters before re-use.

Products, which we are offering:

SHUTTEROL RAE is a specially formulated blend of mineral oils and chemicals having release properties which are superior to those of a conventional mould oil. The chemicals react with the alkali in the concrete to form a thin water repellent skin on the surface of the mould, thereby enabling easy stripping from concrete and acting as a protection to steel and wooden formwork. SHUTTEROL RAE is supplied as a pale straw coloured liquid ready for direct application and use.

Uses

To provide quick, clean, and easy stripping of moulds, and formwork and ensure high quality fair-faced and stain-free concrete.

SHUTTEROL RAE is a water-dilutable, non-toxic, non-irritant form-release agent. It is specially formulated to give an easy and complete release of the concrete from the forms and a significantly improved quality of the concrete surface.

Uses

For easy and stain-free release of concrete moulds and formwork of all types. Particularly where wooden formwork is used and de-moulding or stripping times exceed 24 hours. It is safe and eliminates many health and environmental risks as compared to the traditional form release agents based on mineral oils and thus can be used with the maximum confidence by the workers on the job site.

SHUTTEROL RAE has no negative effect on the properties of concrete nor will it impair the adhesion of subsequent surface treatments when applied at the recommended coverage rates.

SHUTTEROL RAS is a specially formulated blend of mineral oils and chemicals having release properties which are superior to those of a conventional mould oil. The chemicals react with the alkali in the concrete to form a thin water repellent skin on the surface of the mould, thereby enabling easy stripping from concrete and acting as a protection to steel and wooden formwork.

SHUTTEROL RAS is supplied as a pale straw coloured liquid ready for direct application and use.

Uses

SHUTTEROL RAS has been specially formulated to provide a critical barrier between mould and cementitious media facilitating easy separation without stains and a significantly improved quality of the concrete surface which is smooth, homogeneous and free of pin-holes.





CLEANING AND ETCHING AGENT

RUST REMOVER

Rust or oxidation is a chemical process that occurs when water and oxygen bond with the iron. It is the enemy of any iron, steel, or galvanized metal you have in your home. It is an eyesore and if not removed or treated properly, rust can eventually destroy the metal it attacks. It can also stain adjacent painted surfaces. Remember that rust will attack through the smallest scratch or bare spot.

Just because there's rust on your tools, doesn't mean you have to discard them. As long as there are no holes in the metal, you can remove the rust from the surface using **RUSTCURE**.

RUSTCURE cleaning agent is a combination of acid-based material, corrosion inhibitors, and dispersing agents and is supplied as liquid form.

Uses

To eliminate the harmful rust from the steel reinforcement and to enable application of an appropriate protective primer while repairing corrosion damaged concrete.

CLEAN MP is a highly concentrated, fast-acting acid-based concrete remover, cleaning, and etching agent. It also removes ingrained dirt and most paints on mineral surfaces such as brick, render, and concrete.

Uses

- Removes concrete spills, waste, and mortar
- Cleans brickwork and tools
- Also removes limescale



LUBRICATOR FOR CONCRETE, PUMP, HOSES, AND LINES

PUMPING AID

Ordinary concrete mixtures are not ideal for pumping. The pressure used to pump the concrete mixture oftentimes forces water out of the cement, leaving some portions dry and others wet. The friction caused by fine particles in the mixture is another concern. Typically, higher pumping pressures are needed in order to overcome the problem. Simply modifying the mix by adding more sand, cement, or water to achieve pumpability often leads to undesirable physical properties and/or increased cost. Admixtures called pumping aids are commonly used to improve the pumpability of concrete and to reduce the overall cost of placement.

A pumping aid is a lubricant that improves the ease with which a given mix can be pumped through a line. This means lower pump pressures, reduced pressure on the mortar phase of the concrete, less chance of segregation, and a reduction in internal friction.

PUMPPRIMO and **PRIMEX** are inorganic components based specially formulated products for the lubrication of pumps, hoses, and lines prior to concrete works.

Uses

PUMPPRIMO/PRIMEX solution creates a thin lubrication film that reduces friction and prevents blockages. It is a cost-effective replacement of other methods of lubrication such as cement slurry. The use of existing cement or mortar as a lubricant induces such strength reduction and environmental waste disposal problems. This product has innovatively improved these issues with the addition of performance lubrication components to exert an effective coating performance of a small amount in the boom pump piping.

OUR VALUE DIFFERENTIATORS



Automated Process:

We have fully automated processes in place to ensure total quality at each stage—all control systems functions are based on user-friendly software.



Batch Process:

All raw materials are weighed meticulously using electronic load cells made up of special alloys. Different weigh-batchers are used and weighed on using advanced electronic weigh batchers only.



Maintenance:

We ensure periodic maintenance of all types of equipment, tools, and machinery, etc.



Controlled Handling:

The process of handling is performed in the most effective manner as nothing is more important than the safety and health of our employees and customers.



Eco-Friendly Policy:

We fully emphasize on environment and eco-friendliness. We have zero discharge plants, using the most efficient techniques and scientific processes.



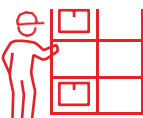
Storage Facility:

Different materials are stored in all side closed racks and storage tanks with proper identification marks for effective control on final products.



Temperature Control:

Manufacturing and testing processes are carried out under complete environmentally controlled systems.



Effective Material Management:

All the raw materials used follow a FIFO process in an organized way with excellent palletized storage methods and areas.



R&D Lab:

Continuous innovation is the prime job of our R&D, Technical services, and Specification Team to deliver right products with best Technical support to our Customers.



Total Quality Assurance:

Before delivering, the Quality of our products are monitored under Controlled Operating Procedures for every batch under the supervision of our highly professional team to deliver quality products.



Homogeneous Mixing:

We have fully automated processes in place to ensure total quality at each stage—all control systems functions are based on user-friendly software.



TRUSTED BY THE BEST

Quality Policies:

We have defined and declared our Quality Policy and objectives so that this is in line with the principles, direction, and philosophy of the organization.

Our policies are:

- We are committed to continually improve the performance standards of our products and services to ensure customer needs and preferences.
- We are committed to continually provide products and services to customers with higher quality, cost performance standard, and expectations are addressed at all times to ensure their satisfaction.
- We manufacture all products in accordance with the environmental regulations.
- We work in accordance with worker health and safety awareness.

- All staff are aware of the processes operated within the company. Staff are encouraged to provide input to the development and improvement of systems.

The management of the company establishes business objectives which support the implementation of this policy. These objectives are regularly reviewed.

Our Promise:

We create added value by appreciating,

- The needs of our customers – with competitive and innovative solutions.
- The needs of our employees – by adhering to our company values.
- The needs of our channel partners and vendors with above average returns.
- The needs of our environment – by acting sustainably



www.fcsc.co.in

support@fcsc.co.in
+91 33 3500 0230



Follow Us:



Corporate Office Address:

Shrachi Tower, 2nd Floor, 686,
Anandapur, E.M.Bypass, Near Ruby Hospital,
Kolkata-700107

Manufacturing Unit Address:

R.S & L.R, Dag No. 409, Mouza - Dangadighila,
P.S.- Khardah Patuli Grampanchayat, Dist- 24 Parganas North,
Kolkata, Pin:700 119