

"World Class Products"

PROTECTIVE COATINGS INNOVATIVE TECHNOLOGIES **★** SUPERIOR PERFORMANCE





STANVAC - SUPERON GROUP - INNNOVATIVE PROTECTIVE COATINGS

Stanvac – Superon group is today, India's leading innovator in the manufacture & marketing of specialised solutions for industrial repair, wear, corrosion, abrasion, electrical insulation, fire suppression, cleaning & degreasing, speciality lubrication.... India's widest variety of such, high performance "World Class Products".

Estd in 1994, with import tie-up's with a number of world leaders, production of indigenized solutions began in 2004.

We today offer the following "**unique**" innovative technology, protective coatings, via technology transfer from leading research & development institutions.

- A. METAL SURFACE PROTECTION against corrosion, temperature, leakages, CUI....
- B. CONCRETE SURFACE PROTECTION against water seepages, oil & acid spillage, algae & fungus formation, crack repairing, tankage boot sealing...
- C. ELECTRICAL INSULATION & FIRE PROTECTION insulation, anti-tracking, di-electric flooring, cable fire protection...
- D. SUPERIOR ALTERNATIVES solvent free epoxy coatings & linings, acid protection coatings, ceramic epoxy putties & coatings, metal repair putties, rubber repair putties & coatings, photo glow safety paints, di-electric paints...

Best in class performance via unique "**Proprietary**" features, ensures solutions to a number of long standing problems in civil, utilities & electrical maintenance departments.











ISO Certified Manufacturing Facilities



Plant-II, Manesar





Plant-IV, Gurgaon

















Plant-III, Gurgaon

1. GENERAL AREA CORROSION PREVENTION

#2050 POLYHYB : Hybrid, co -polymer, cross linked "liquid plastic" anti-corrosion coating - a superior alternative to conventional primer – synthetic alkyd enamel paint systems – **twice the life warrantied.**

Forms a tough co -polymer plastic laminate through intermolecular cross linkages & takes a very strong bonding with clean metal surfaces. The resultant coating is impermeable to fluids, air & gases.

- ★ Hybrid co-polymer cross linked.
- ★ Self priming, ready to use.
- ★ Fast drying. Saves application time.
- Superior corrosion & UV resistance -Excellent durability, gloss & color retention. Nearly 5 TIMES BETTER DURABILITY than conventional primer + synthetic alkyd enamel combinations.









Before Coating

After Coating

TECHNICAL COMPARISON : PRIMER + SYNTHETIC ALKYD ENAMEL vs 2050 POLYHYB

S. No.		Primer + Synthetic Alkyd Enamel System	2050 POLYHYB	
1.	No. of Coats	1 Primer + 2 Enamel coats	2 Coats	
2.	Cure System	Solvent /Oxidative cure	Co-polymer cross linking	
3.	Primer	Yes	Not required. Self priming	
4.	Total System Application Time	- Primer curing : 6-8 hours	- 1st coat curing : 1 hour	
		- Enamel curing : 4-6 hours	- Total time to apply : 2 hours system correctly	
		- Total time to apply : 12-16 hours system correctly		
5.	Cathodic Protection to prevent under coat rusting /Disbondment corrosion/ delamination	Nil	Contains anti corrosive nano additives (zinc compound)	
6.	Barrier Impermeability	Limited	Superior due to co-polymer cross-linking	
7.	Salt Spray Resistance ASTM B117	<100 hours	>500 hours	
8.	UV Weathering Resistance ASTM G154	100 hours. Will chalk /discolor rapidly in outdoor UV exposed conditions	>400 hours. Excellent indoor /outdoor utility.	
9.	Water Immersion Resistance	Poor. Will blister & peel-off	Excellent (>7 days immersion /No damage)	
10.	Humidity Resistance	<400 hours (Blistering observed)	>1000 hours	
11.	Acid /Alkali Resistance	Limited resistance	Good resistance to alkalies & acids. (5% HCL, 5% H_2SO_4 & 5% NaOH)	
12.	Flexibility (Conical Mandrell) – Crack resistance against metal vibration, expansion /contraction	Average (Crack observed after 120°A)	Excellent (No crack up to 180°A)	
13.	Fire Resistance (Cured Film)	Oil based. Flammable.	Polymer based. Self – Extinguishing	
14.	Re – Coatabilty	Limited	Excellent. Easy re-coatability for re-freshing.	
15.	Cost /Benefit	- Low material cost	- Near matching / lower total cost.	
		- High application cost	(Keeping in mind lower application costs)	
	- Short term protection			
		- High hidden cost in terms of metal loss.	LIFE OF CONVENTIONAL PRIMER + SYNTHETIC ALKYD ENAMEL SYSTEMS.	
SUMMAR	SUMMARY: Primer + Synthetic alkyd enamels are an obsolete technology, with low protection capabilities & lifespan.			

2050 POLYHYB is a high technology replacement, as will provide both superior protection & durability, AT LITTLE OR NO EXTRA COST.



2. CRITICAL AREA CORROSION PREVENTION

240 Micron DFT, three part (Epoxy Primer + Epoxy Intermediate + PU Top Coat) or two part (Epoxy Mastic + PU Top Coat), systems are today generally used in critical industrial maintenance applications, for corrosion prevention-fluid /gas handling pipelines, storage tanks, surfaces exposed to acidic fumes, coastal areas, high corrosive areas...

Today these systems do not perform adequately, i.e., corrosion & metal loss are extensively seen in industrial applications, generally due to the following reasons:

- 1. Surface preparation is manual (ST2 /ST3) as results in the incomplete removal of surface contaminants (Rust /Moisture /Oily Residues...) & inadequate anchoring profile = Inadequate /incomplete adhesion = peeling -off, corrosion & metal losses.
- 2. Barrier impermeability is limited. Zinc & MIO are general not incorporated in such systems = Moisture permeation = under coating rusting /peeling off = corrosion /metal losses.

SOLUTION: Modern technology "True surface tolerant" - Ultra low surface tension, epoxy - Zinc & MIO coating systems, designed to provide warrantied barrier corrosion prevention, on ST2 /ST3, manually prepared surfaces, despite the presence of surface contaminants such as, rust, moisture, oily substances... as well as absence of a blasting generated anchoring profile.

Unique "Low Surface Tension" ensures superior surface wetting & adhesion. Zinc-MIO provide enhanced barrier protection.



- (A) CHEMCOINT RL 500 PF : Unique Wet-Tolerant, Rust-Tolerant Epoxy Primer /Finish Providing Both Cathodic Sacrificial as well as Barrier Protection without needing a Top Coat - 3 in 1 System.
- Special applications with unique adversities where no other product can perform: Wet / Rusty / Oily...structures, tanks, pipelines, production machinery, foundations.. Metal as well as concrete /RCC areas.. including water and oil saturated concrete... corrosion under insulation and corrosion on hot surfaces upto 150°C.
- Durable protection: Superb corrosion resistance (new MIO-Zinc technology). DFT >150 microns protects the substrate in excess of 10 years in field conditions (independent test certificates available).
- Excellent acid resistance: Withstands >7 days immersion in 50% H2SO4, 33% HCL... ideal for protecting metallic & concrete structures against acidic fumes & even intermittent acid spillages.
- 5 Year warrantied corrosion prevention on ST2 / ST3 prepared surfaces (150 to 200 microns DFT/2 brush applied coats).





Application on wet surface

Application on rusty /damp surface

PROPERTY	VALUE
Pull Off Adhesion Values ASTM D4541 (on wet & rusty surface)	>1000 Psi
Accelerated Weathering Prohesion Test ASTM D 610 (150-200 microns DFT)	>2000 Hours

Comparative Penetration & Adhesion



(B) 1040 STANGARD (ST) "TRUE" SURFACE TOLERANT EPOXY + 725 PUTC : 3 Years warrantied corrosion prevention on ST2/ST3, manually prepared, rusty /moist surfaces.

"True surface tolerance" - excellent penetration & adhesion, even on rusty, wet, contaminated surfaces. With combination of MIO, provides an impermeable barrier. Excellent resistance to both mild acids & alkalies. Protects metal – long term. Superior durability...far better than epoxy mastic systems.

- ★ Expected corrosion resistance life is>5years.
- Unique quality MIO with surface tolerant epoxy provides long life impermeable barrier protection.
- ★ Excellent tolerance to moisture, oil and flash rust.
- ★ Excellent corrosion resistance(>2000 hrs as per ASTM B-117).
- ★ Excellent UV resistance(>1000 hrs as per ASTM B154).
- ★ Excellent Adhesion with metal(>1100psi).

"TRUE SURFACE TOLERANCE - A QUICK TEST"



APPLICATIONS:

- ★ Sweating pipelines, wet surfaces.
- ★ Oil and gas storage tanks & pipelines to prevent metal loss.
- ★ Critical industrial structures especially on "hand prepared" surfaces Where SA 2.5 blasting is not feasible yet 3-5 years warrantied corrosion prevention is desired..
- ★ Hand Prepared, rusty production machinery (Transformers, Motor Casings, Paper, Textile...).
- ★ Galvanised metal (Pylon's, Switchyard, Gl. Roofing, Fences, Railings...).

PROPERTY

Pull of adhesion testing on moist surface

Pull of adhesion testing on oily surface

Pull of adhesion testing on ST2 surface

Surface Tension (Liquid)

- ★ Deteriorated /Thin walled pipe exteriors, tank exteriors, structures... where further metal loss "HAS" to be prevented with "Hand Preparation".
- ★ Protecting structures, both metal & concrete, against attack from acidic fumes.
- Coastal belts. No dew point restrictions. Immediately applicable, post water washing for soluble salts removal & corrosion prevention.



Floating tank top - application over existing corrosion post high pressure water washing & hand preparation





VALUE

28.20 N/m

>800 Psi

(Cohesive Failure)

>700 Psi (Cohesive Failure)

>1200 Psi (Cohesive Failure)

Application on rusty/damp pipes



Application on power station ducts operating at 150°C

3. PREVENTION OF CORROSION UNDER INSULATION (CUI) & STOPPING FURTHER PIPE DETERIORATION

(A) ENCAPSULATION OF THERMAL INSULATION CLADDING JOINTS - 710 ALUCLAD : One component, ready to use, high build, flexible joint overlay coating for aluminum cladding.

- ★ Hybrid co-polymer. Self priming. Ready to use.
- ★ Fast drying. Bright shiny silver finish.
- Prevents water penetration from aluminum cladding joints into thermal insulation... and finally corrosion under insulation.
- ★ Excellent adhesion to aluminum & other ferrous metals.
- ★ Superior abrasion, scratch, U.V & weathering resistance.
- (B) COATING OF PIPE SURFACES BELOW CLADDING 706 STANGARD (ST) heat resistant – surface tolerant, MIO- metallic zinc fortified cathodic cum barrier protection.
- ★ A unique solution to protect metal pipelines operating at high temperature (Upto 180°C continuous & 220°C intermittent) from corrosion under insulation.
- ★ Based on "True" Surface Tolerant Technology. Excellent adhesion >1000Psi on ST2/ST3.
- ★ Unique combination of atomized zinc(2-5 microns) + effective particle size MIO, provides long term cathodic as well as barrier protection.
- ★ Unique elongation in class(>7%).

AREA'S OF USE:

- ★ Sealing aluminum cladding.
- ★ Refineries, Water, Steam & Hot fluid pipelines.
- ★ Chemical processing plants.
- ★ Marine & Off-shore cooling towers/platforms.

PROPERTY	VALUE
Surface Tension (Liquid)	28.12 N/m
Temperature resistance	Continuous upto 180°C and intermittent 220°C
Corrosion resistance – salt spray (ASTM B117) (with system)	>2000 Hrs



PROPERTY	VALUE
Elongation	50%
Adhesion on aluminum	5B (Excellent)
Weathering resistance	>2000 Hrs



Corrosion under Insulation



706 Stangard (ST) Solution for corrosion under isulation

4. PREVENTING RUST DAMAGE TO LARGE STRUCTURES, EQUIPMENTS & RE-BAR DURING CONSTRUCTION /PROJECT ERECTION

#Z111 AC-500 (RUST CONVERSION GRADE) : Non fuming, rust converter cum rust inhibitor.

An unique blend of chemicals and special additives, for the rapid and long term conversion of rust into an inert protective coating.

- ★ One step rust neutraliser & metal primer. Stops future rust growth .
- ★ Can be overpainted after curing, whenever required after 48 hrs of treatment. No need of washing and cleaning. Simply smoothen rust converted surface & over paint..
- ★ Eliminates need for scraping, sandblasting, rust cleaning...
- ★ Excellent for re-bar & large pipes, spares, equipment..., provides rust inhibition for 3-6 months post rust conversion.







5. PREVENTING LEAKAGES IN METAL ROOFING & FLANGE JOINTS

1311 STANGARD CORROKOTE (FLX) : High build – solvent free, versatile, anti – corrosion, flexible, epoxy coating.



Metal roof protection & sealing

100% solids, high build, flexible grade epoxy coating, offering excellent, sealing & water proofing of metal roofing together with chemical, corrosion & abrasion resistance, in severe industrial environments.

Excellent flexibility & elongation. Will not crack, peel-off... Thus providing long term sealing and corrosion protection.

- Rubber like high gloss finish easy to clean & decontaminate..
- High build 360-400 microns in two coats.
- ★ Excellent resistance to impact , corrosion & abrasion.

APPLICATIONS

- Water proofing & protection of metal roofs
 - Galvanised
 - Welded
 - Pre-Fabricated
 - Asbestos
- ★ Metal pipe flange flexible anti- corrosion coating.

IMPORTANT:

- (A) For large gap /crack bridging, please inter layer 1311 (FLX) with STANGARD 7170 MEMBRANE.
- (B) In outdoor applications, please top coat with 727 STANGARD PLPU, for long term U.V. protection.

6. HIGH TEMPERATURE CHEMICAL CORROSION & ABRASION RESISTANT COATING - HOT AIR /EXHAUST DUCTS, BAG HOUSES, LRS TANKS ...

(A) Z712 QUICK STEEL CRS : High temperature corrosion protection, ceramic filled, hybrid epoxy coating.

With reinforcing inorganic components in the matrix, coating is uniquely resistant to combination of acid /alkali attacks, fine particle abrasion and high temperatures upto 280°C continuous exposure.

- Unique solution for exhaust ducts, cement mill Bag-house & LRS tanks....
- ★ Excellent chemical resistance even at high temperatures.
- Excellent bond strength.
- ★ Tough, highly wear & abrasion resistant.
- Easy to apply /install, clean, repair....

- Bag houses
- ★ Stacks
- ★ LRS Tank inside coating
- ★ Hot air ducts★ Gensets
- Hot fluid pipe lines
- ★ Outside furnaces





Metal Pipe & Flange Connections



PROPERTY	VALUE
Abrasion resistance (ASTM D 4060 CS17 wheel /1Kg Load)	<50 mg loss /1000 cycles
Pull-off adhesion (AST< D 4541) (Pre-Blasting required)	>1500 Psi
Temperature resistance	Upto 280°C (300°C intermittent)
Salt Spray (ASTM B117)	>1500 Hours
Di-Electric properties (BDV)	Up to 16 KV



(B) #Z979 HHC HIGH HEAT COATING

- ★ Single component silicone resin based, aluminum heat resistant coating.
- Excellent high temperature & thermal cycling resistance.
- ★ Durable, Superior weathering resistance.
- ★ Meets IS specification 13183/1991.
- Available two grades HHC (300) & HHC (600).
- Best in class performance.

B. CONCRETE SURFACE PROTECTION

1. CONCRETE WATER PROOFING, CARBONATION & ALGAE PREVENTION

1311 STANGARD CORROKOTE (MVT) : Moisture tolerant, wet tolerant, "breathable" barrier protection for concrete surfaces - a complete negative pressure water proofing system and protective coating for "deteriorated" damp concrete.

- ★ High strength "breathable" negative pressure water proofing solution.
- Releases osmotic pressure and provides long term barrier protection & edge coverage.
- ★ One coating for all types of concrete surface protection water proofing, preventing algae, fungus & bio-film formation in cooling towers...long term corrosion prevention against mild acids, alkalis... immersion as well as external use.
- Can be applied and will perfectly perform on moist, wet, damp & even on green concrete. Ideal for the protection of "deteriorated" damp concrete.
- ★ High tolerance to salt & chloride.
- ★ Fast drying, easy application, saves time.
- Useable both externally (with suitable top coat) & in immersion service.

AREA'S OF USE:

- ★ Concrete roof water proofing
- ★ Cooling towers
- ★ Concrete Bridges & Tanks
- ★ Basements
- ★ Floors & Walls
- ★ Dams & irrigation, Tunnels & Subways
- ★ Chemical processing plants
- ★ Marine & offshore cooling towers / platforms.

PROPERTY	VALUE
Pull off adhesion on concrete ASTM D454)	>650 psi (concrete failure)
Tensile strength (ASTM D638)	>5500 Psi
Tensile elongation %	>4.0%
Salt spray resistance(ASTM B117) *(re-bar)	Passes 5000 hours



Protective coating for "deteriorated", damp concrete



Basements often cannot be accessed from the outside. Thus they can only be waterproofed from the inside (negative side).



Negative side waterproofing

- Inside of basements
- Outside of water tanks or potable water tanks
 Inside of lift pits
- Inside of lift pits
- Inside of tunnels
- Leaking side of retaining walls • Underside of leaking ceilings



Ideal for cooling towers



Filled water tanks cannot be accessed from the inside to apply a waterproofing layer. For an uninterrupted usage, waterproofing from the outside (negative side) is necessary.

2 (A) PROTECTING CONCRETE FLOORS AGAINST DAMAGE DUE TO WATER SATURATION /RISING DAMPNESS

1311 STANGARD CORROKOTE (MVT) : Osmotic pressure resistant epoxy flooring, for protecting damp / water seepage / rising dampness exposed concrete.

Two component, "Zero" voc, epoxy based coating, designed to provide effective "breathable" osmotic pressure resistant flooring, including on wet and damp concrete & in high ground water seepage / rising dampness conditions.

- ★ Withstands osmotic / negative pressure / rising dampness. Will not peel off.
- Product has excellent adhesion, chemical resistance, abrasion resistance... tolerates salts & chlorides. Compatible with most variety of concrete surfaces... Suitable for external weathering with suitable top coat, as well as for immersion service.



	SYSTEM	DFT/ NO OF COATS
a)	Primer – dilute version of Stangard 1311 Corrokote (MVT)	50 Microns (1 coat)
b)	1311 MVT Standard Concrete putty (If floor repairs are needed)	As per requirement
c)	1311 MVT Screed (For floor leveling if the floor is not levelled)	On floor: 2 mm (1 coat)
d)	1311 Stangard Corrokote (MVT)	On floor : 1mm (pour & self level)
e)	724 Stangard (WB) PUTC Top Coat (if U.V. exposed or if algae deposition is to be prevented)	On floor :80 to 100 micron

1311 MVT will not peel off due to osmotic pressure

2 (B). PROTECTING CONCRETE FLOORS AGAINST ACID SPILLAGE

STANGARD #4029 NOVOLAC : High build, solvent free, chemical, solvent, acid, alkali... resistant, severe service, epoxy coating.

- ★ 100% solids system High functionality novolac resin with a uv & moisture tolerant advanced cycloaliphatic curative.
- Outstanding resistance to both concentrated mineral acids (98% Sulfuric, 33% Hydrochloric, Aqua Regia...) as well as organic acids (Acetic acid, Fatty acids...) and also concentrated oxidizing acids (50% Nitric acid, 10% Hydrofluoric Acid...).
- ★ Hard wearing surface, seamless protection of concrete.... Traffic grade useable, low maintenance coating.... Can withstand low motor traffic as well as plastic/rubber wheel traffic.

- Concrete floors subjected to chemical spills, fumes or immersion in both organic as well as inorganic acids.... Chemical storage & warehouse facilities.... DM Plants....
- Secondry containment of acids, chemicals... acid bunds, trench lining... floors, gutter, acid /chemical drain through.... As a seamless, monolithic alterative to acid resistant tiles...



Acid storage area bund linng

PROPERTY	VALUE
Pull off adhesion (ASTM D 4541)	>8 mpa
Temperature resistance	125°C
Salt spray (ASTM B117)*	>2500 hours

2 (C) PROTECTING CONCRETE FLOORS AGAINST DAMAGE DUE TO OIL SOAKING, SUGAR CANE JUICE SPILLAGE ...

754 STANGARD SEALER: Based on unique moisture curing urethane technology.

- State of art "MCU" technology based 754 concrete sealer penetrates deeply into contaminated concrete, bonds strongly, seals & protects concrete floors /walls, against spillages & seepages.
- In worn out floors, provides very good surface to adhere 1311 MVT SCREED & 727 PLPU (Incase floor build-up & U.V. resistance top coating are additionally desired).
 1311 MVT SCREED provides "Breathable" build-up & high cross linked flexible 727 PLPU, provides U.V. tolerable top coat, providing an impermeable film for oil & water.



Penetrates and Seals off Surface

Ready-to-use, non-toxic, penetrating, permanent water & oil tolerant concrete sealer. Specifically formulated, and composed of organic, chemically reactive, complex catalyzed compounds, which **allow full penetration** with superior surface tolerance & application on damp /oily substrates. Enhances all of the natural characteristics of concrete and **seals the capillary voids to practically zero**. Suitable for all above/below grade, vertical and horizontal concrete surfaces.

- Water & oil tolerant. Protects concrete floors & machine foundations, against damage by oil soaking, water saturation, acidic sugarcane juice spillage...
- Prevents moisture and vapor migration. Protects re-bar.
- ★ Negative and positive side application.
- Prevents formation of rust and water-borne contaminant stains, decreasing maintenance costs.
- ★ Prevents lichen, moss and fungus growth on the surface.

Oil Soaked Concrete Coating Product System:

A) For foot traffic areas:

Primer- 754 Stangard Concrete Sealer

Screed: 1311 Stangard Corrokote MVT+1100 Stangard aggregate

Top coat: 727 Stangard PLPU.

B) Non traffic areas:

Primer- 754Stangard Concrete Sealer

Top coat: 727 Stangard PLPU. (Optional)

Ideal solution for Sugar juice, oil handling & storage, Compressor / DG room floor area's /machinery foundations... as a concrete sealer that will make the floors & walls impermeable for corrosive sugar juice, oil & water penetration....



3. FAST SETTING CONCRETE REPAIRS

751 STANFLOOR - REPAIR (QUICK SET) : A fast drying 100% solids, three component epoxy resin based system, loaded with inert fillers. Enables quick repairs of holes and cracks in concrete floors, ramps, walls and also in grouting applications.

- ★ 100% solids epoxy system.
- No- shrinkage during and after curing.
- ★ Quick set- suitable for fast repairing works.
- ★ Chemical resistant.
- ★ Can be made self leveling by adjustment of filler loading at site.
- ★ Can be applied on vertical surfaces with adjustment of filler loading at site.



PROPERTY	VALUE
Set Time	15-20 min
Dry to hard time	2-3 hrs
Full cure	24 hrs
Cured Hardness (Shore D) ASTM D 2240	90



4. CONCRETE EXPANSION JOINT /CRACK SEALING



Expansion Joints

PROPERTY	VALUE
Pull off adhesion on concrete (ASTM D454)	>500 psi (concrete failure)
Pull off adhesion on MS Surface*	>800 Psi (cohesive failure)
Tensile elongation %	>60%
Salt spray resistance (ASTM B117)	Passes 1000 hours

1311 CORROKOTE (FLX): 100% solids, high build, flexible grade epoxy, offering excellent chemical, corrosion & abrasion resistance - designed for effective & long lasting sealing of concrete expansion joints, as well as flexible concrete crack repairs.

- ★ Rubber like high gloss finish easy to clean & decontaminate..
- ★ High build 360-400 microns in two coats.
- ★ Excellent resistance to impact, corrosion & abrasion.

APPLICATIONS

- ★ Expansion joints RCC, Masonry, FRP...
- ★ Joint filling compound for metal to concrete joints.
- ★ Impact resistant flooring.
- ★ Flexible Concrete crack repair.
- ★ Vibration resistant filling /coating compound machine bases...

5. TANKAGE BOOT SEALING

#Z717 STANGARD BOOT SEAL SYSTEM : Flexible water proofing system providing high impact strength and abrasion resistance.

- System consists of special primer, flexible coating, membrane, sealing tape, foam & U.V. flexible top coating.
- ★ Two-component special flexible coating, cures at room temperature to a tough rubber – like material, remaining flexible at temperatures down to even -30° C.
- It adheres to a variety of materials such as metals, concrete, rubber, wood, fibreglass and many others. It is also suitable as a flexible coating in connection with other metal filled epoxy systems.
- Prevents tank base corrosion.

- ★ Tank base sealing.
- Flexible joint sealing.
- ★ As a flexible water proofing membrane.





PROPERTY	VALUE
Temperature resistance	-30°C to +80°C
Tensile strength (to Din 53455)	6-8 Mpa
Elongation at break (to Din 53455)	60%
UV Resistance (System)	2000 hrs

1. PREVENTING BUS BAR INSULATION FAILURES & INSULATOR TRACKING /FLASHOVERS - 400V TO 33000V

1 (A) # Z906 PROVAR ANTI TRACK : High di-electric strength anti-tracking & insulation coating.

Single component air drying "class H" epoxy insulation aerosol spray coating. Tough, glossy epoxy coating, has excellent adhesion and high dielectric strength. Especially useful for preventing insulator tracking & upgrading "IR" values.

- Air dries in 15 minutes, hardens in 1 hour.
- Adheres strongly and forms a tough glossy coating.
- ★ High electric strength 121 KV / mm at 28°C & 81KV /mm at 180°C.
- ★ Thermal Class H.
- ★ Excellent adhesion and high arc resistance.

Use on insulators (ceramic, epoxy....), bakelite sheets, field coils, exposed metal, windings, taped coils, frayed insulation, pitted motor windings, bus bars, collector rings, transformers, armatures, and commutator ends, "In-situ" IR value upgradation of insulating components ...

1 (B) #Z1465 FLEXIGUARD : High voltage 11 kv insulation & protection coating.

Heavy duty, high BDV, synthetic liquid epoxy-rubber based, 11 KV insulation & protection coating, available in R, Y, B, colors. With simple paint like application, air dries into a tough, flexible, non-flammable, non-ageing insulation coating, enabling quick & easy protection in a variety of diverse applications viz - power & telecom cables, bus-bars, junction boxes, battery systems...

- Excellent dielectric strength, BDV in two brush applied coats/450 microns DFT =>16KV.
- Available in multiple colors Red, Yellow, Blue, for effective protection cum colour coding.
- Provides quick & easy protection brush on like conventional paint yet within hours, uniquely air dries into a tough flexible rubber like coating.
- Excellent resistance to moisture, acids & alkalies. Effectively prevents rust & corrosion.
- Weather proof & non ageing once applied will provide lasting protection.
 Will not loose adhesion, peel, and crack or harden with time (top coat for U.V. protection, in outdoor applications).
- Non-flammable. Within 24 hours of application the coating uniquely becomes non-flammable & self extinguishing.

1 (C) STANVAC HVI 33/36 SYSTEM : High voltage electrical insulation for preventing flashovers / outages on 33/66 kv systems.

Prevents flashovers on high voltage lines – 11KV, 25 KV & 33/66 KV. caused by fog, dirt, pollution, animals (monkeys, squirrels, birds....), kite thread.... prevents downtime & equipment damage.. Ideal for power distribution, railway traction lines.....

Applications: naked conductors, bus bars, bus support insulators, electrical insulator ends, metal support structures, business & potheads, frp barrier boards...

- ★ BDV > 76KV on 242 sq mm copper catenary wire (CPRI Bangalore Tested).
- ★ Wealthering resistant, durable & long lasting.
- High elongation & high flexural strength resists conductor expansion & contraction.





PROPERTY	VALUE
Tensile (ASTM D- 638)	1500 psi
Elongation (ASTM D- 638)	80%
Dielectric Strength (ASTM D- 149)	1700 V/Mil
Salt spray (ASTM B- 117)	Passes 1000 hours
Weatherability (ASTM G- 53)	10 years plus
Break down voltage	>16 KV
DFT	DFT in 2 Coats 400 to 450 microns



2. LONG TERM PREVENTION OF INSULATOR ANTI-TRACKING UPTO 400KV

#8800 HYDROGUARD HVIC High Voltage Insulator Coating : Superior suppression of leakage current & flashover protection for reliable service

HVIC silicone coating provides a near maintenance-free system that can prevent excessive leakage current, tracking and flashover of porcelain, glass & polymer insulation in conditions of high humidity, fog, salinity, all types of pollution conditions....

- ★ ERDA Technology Cost effective & suited to Indian conditions.
- ★ Single component high build polysiloxane RTV coating, coupled with optimally sized & combined ATH particles (4.50-13.0µm) useable under all voltage conditions, AC & DC, from distribution to transmission voltage (400Kv).
- ★ Superior arc resistance & hydrophobicity.
- ★ Superior tracking resistance with a smooth finish.
- ★ Recovers hydrophobicity even after surface contamination deposition.
- ★ Will keep the insulator dry & clean. Ensure's year's of protection.
- Near maintenance free system passes over 5000 hour salt fog testing. Suitable for long term protection.



PROPERTY	VALUE
Colour	White or Light Grey
Dielectric strength (Kv /mm)	>20 Kv /mm
Volume resistivity (Ohm cm)	>2.46 x 10 ¹⁵
Dissipation factor @ 50Hz	0.03
Arc resistance (Sec)	>115 Seconds

3. PREVENTION OF ACCIDENTS CAUSED BY ELECTRICAL LEAKAGES FROM HIGH VOLTAGE PANELS

STANGARD 1311 INSULKOTE (CLASS A) : High build - high breakdown voltage solvent free, dielectric flooring, meeting requirements of Class A as per IS 15652:2006.

A self–leveling solvent free, high build-high breakdown voltage, protection & insulation coating, developed from an unique cycloaliphatic amine curative, designed to provide insulation safety flooring.

- Ultra high dielectric strength & insulation resistance.
- Unique breakdown voltage (Tested ERDA, Vadodara): In Air 34.1 Kv. (4 Coat application – 1000 /1200 Microns DFT).
- High build high adhesion.
- Smooth, glossy finish.
- Tough, wear & weather resistant.
- Easy to apply /install, clean, repair....
- ★ Meets requirement of Class A, IS : 15652 : 2006 (>30KV BDV)

STANGARD 1311 INSULKOTE (CLASS B) : High build - high breakdown voltage, solventfree, dielectric flooring, meeting requirements of Class B as per IS 15652:2006.

- ★ Ultra high dielectric strength & insulation resistance.
- Unique breakdown voltage (Tested ERDA, Vadodara): In Air 53 Kv. (4 Coats of STANGARD 1311 INSULKOTE CLASS B 1800–2000 Microns & 1 Coat of 1311 INSULKOTE TOP COAT – GREEN 100-120 microns).
- ★ Enables improvement in both aesthetics & safety...
- ★ Meets requirements of Class B, IS 15652 : 2006 (>45KV BDV)

- Dielectric Flooring : Self Leveling, high gloss, seamless, dielectric flooring. Easy installation cleaning & repair. Provides clean dust

 free atmosphere in panel rooms... Long lasting & durable...
- Provides Protection against electrical leakages & the resultant human risk in high voltage sub- stations switchgear panels, VCB's, battery rooms, marshalling box flooring....
- ★ Enables improvement in both aesthetics & safety... Superior to conventional rubber mats.



Dielectric Floor Coating



Top coating for superior aesthetics

4. PREVENTING INDUSTRIAL FIRES : SAFETY OF MEN & MATERIAL - CABLE FIRE SUPPRESSION COATINGS

FLAMMADUR A77 : High solids thin film intumescent firestop cable coating :

Fire Suppression Coating especially designed for protecting electric power cables, communication cables, junction boxes – against ignition, propagation of fire, smoke emission... High solids intumescent firestop coating with ultra high density, heat insulation. Expands upto 65 times when exposed to heat/ fire & protects.

- ★ Factory Mutual Class 3971 (1999).
- ★ International Electro-technical Commission IEC 60332-3-22 (2007).
- The Institute of Electrical and Electronics Engineers IEEE 383, 2.5.4 (1991)
- ★ German Lloyd, according to SOLAS.
- ★ Highest % solids (>67%) : Best in class intumescence & protection.



FIREX EC 43 : Water immersion /weather resistant intumescent firestop cable coating for combustible electrical & communication cables.

Cable fire suppression coatings, ideally should provide the following two key protections:

- 1. Prevention of fire propagation on cables : (Governing international test standard IEC 60332-3-21, IEEE 383 & FM 3971)
- 2. Protection of cables against direct fire exposure : (Governing international test standard IEC 60331-11)

In addition, the above two protections, should be for a minimum period of 30 minutes, ideally at a fire temperature of >1100°C (Hydrocarbon).

The longer this protection time span, naturally the more superior the coating /protection capability.

Firex EC 43, today, uniquely provides the **longest time span fire protection-circuit integrity, in the world**, at fire temp. of >1100°C. (Most cable coatings provide either only one of these protections, or only for a minimum time interval of 2-5 minutes, against 750°C fire).



 Cable fire protection /fire survivability-circuit integrity: Worlds first cable fire suppression coating to pass IEC 60331- :60 MINUTES 11, Fire survivability-Circuit integrity under hydrocarbon fire direct exposure (1130°C).

Tested in Hydrocarbon Fire (>1100°C for 60 Minutes)



Hydrocarbon Fire Temperature = 1100°C

 The Light brown curve shows the temperature of an ISO fire which is a normal fire in a building.
 The red curve shows the temperature of an oil /hydrocarbon fire. Fire Survivability /Circuit Integrity Testing



Uncoated cables will short circuit within 2 minutes of exposure to an oil fire. Firex EC 43 will function for >1hour without a short circuit.





Nil

IEC 60332-3-21, IEC 60331-11, IEEE 383, FM 3971

- Also passes IEEE 383 & FM 3971.
- ★ Best in class intumescence Superior fire & thermal protection.

"Firex EC 43 - The product that can guarantee Fire Safety"

- ★ High solids (68-70%)
- ★ Unique water immersion /weather resistance.
- Suitable for both indoor & outdoor use. Weathering resistant.
 Post curing will not wash off with rain water.

ONLY CABLE FIRE SUPPRESSION COATING CAPABLE OF, BOTH LONG DURATION FIRE PROPAGATION PREVENTION + LONG DURATION FIRE SURVIVABILITY-CIRCUIT INTEGRITY, TOGETHER WITH WATER /WEATHER IMMERSION RESISTANCE.

Flash Point

Applicable Test Data

1. PREVENTING CONCRETE /RCC TANKS FROM DAMAGE & SEEPAGES - LONG TERM IMMERSION SERVICE EPOXY LINING

STANGARD #1311 CORROKOTE : High build – solvent free, versatile, adduct–cycloaliphatic, anti–corrosion, immersion grade epoxy lining coating.

Offers excellent chemical, corrosion & abrasion resistance in severe industrial environments. For the maximum corrosion protection of metal and concrete substrates, in many aggressive environments, including immersion in neutral, alkaline or salt solutions, immersion in concentrated caustic solutions, immersion in waste water, acidic fumes, hydrocarbons, oils, fuels...

- ★ High build 360 400 microns in two coats.
- Preventing algae, fungus & bio film formation in cooling towers... RCC, Masonry, FRP...
- ★ Protecting & preserving RCC & masonry structures long term immersion & external use in Cooling towers, Containment areas, DM plants, Water treatment plants, Dams & irrigation, Marine, coastal, chemical, petrochemicals, paper... wet/corrosive environments

NB: Also available economical solutions : 710 SF & 715 EGF

PROPERTY	VALUE
Pull off adhesion on concrete	>750 Psi (concrete failure)
Pull off adhesion on MS surface	>1600 Psi
Salt spray resistance (ASTM B117)*	Passes 5000 hours

2. PROTECTION OF STRUCTURES & EQUIPMENTS AGAINST AGGRESSIVE ACIDS – H₂SO₄ HCL...

718 STANGARD EGF (NV) : Solvent free novolac epoxy for protecting metal & concrete structures against aggressive acid's, alkalies & industrial chemicals - both direct spillage & fumes.

For protecting structures, both metallic & concrete, against aggressive industrial acids, alkalies & chemicals, as well as their primary & secondary containment.

- ★ Unique resistance to 98% sulfuric & 33% hydrochloric acids: 180 days immersion – No film damage.
- Withstands thermal shocks & high temperatures (100°C continuous & 140°C intermittent).
- High build -180 to 200 microns per coat, applicable on both horizontal & vertical surfaces.

PROPERTY	VALUE
Adhesive pull off strength (on concrete) (ASTM D4541)	>600 psi (concrete failure)
Adhesive pull off strength (on hand prepared mild steel) (ASTM D4541)	>600 Psi
Temperature Resistance (dry & wet)	100°C Under Standard Test Conditions (Peak 140°C)
Salt spray test (ASTM B117)	>5000 hours





3. PROTECTING HEAT EXCHANGERS & PUMPS AGAINST WEAR & CORROSION - CERAMIC COATINGS & PUTTIES FOR PREVENTION OF ABRASION, EROSION & CORROSION

1170 STANGARD CERAMIC-METAL REBUILD PUTTY: High performance ceramic-silicon steel alloy filled epoxy system, for rebuilding metals damaged by abrasion-erosion-corrosion.

To be over coated with **1180 Stangard Ceramic Metal Surfacing Coating** or **1190 Stangard Ceramic-Metal Ultra Flow self leveling coating**, according to the applications.

- Highly abrasion resistant.
- ★ Excellent chemical resistance to a wide range of chemicals.
- ★ Very high cavitation, erosion & corrosion resistance..
- ★ Silicon-Steel alloy provides high strength to the coating matrix.

APPLICATIONS

★ Condenser tube sheets. ★ Water boxes. ★ Heat exchangers & endcovers. ★ Condensate Systems. ★ Pumps-Cooling water, Centrifugal, Turbine, Vacuum... ★ Valves, Flanges, Pipe Elbows, T-Pieces, Impellers, Propellers... ★ Tank Surfaces, Process Vassels, Gas Scrubbers...

731 STANGARD – ER "XTREAM": Modified ceramic -zirconium epoxy putty, filled with special fibers and fine ceramic -zirconium beads for protecting processing equipments from fine particle abrasion & erosion.

Is recommended for rebuilding, repairing, and protecting pump housings, chutes, elbows, cyclones, and other material handling equipments against erosive & pneumatic abrasive environment.

APPLICATIONS:

- ★ Ash handling pipes and valves.
- Sand pumping equipment.
- ★ Pipe elbows, chutes for clinker, cement, sand.
- Pump housings, impellers, lining.
- Coal pulverizers and exhausters Slurry pumps
- ★ Screw conveyors.



Protection against abrasion, erosion & corrosion

PROPERTY	VALUE
THOT ENTI	WILCE
Abrasion resistance (loss/1000cycles /1Kg)	<250 mg
Adhesive pull off strength ^{$\#$} (on MS)	>1500 Psi



PROPERTY	VALUE
Solids	100%
Temperature resistance	150°C (180°C intermittent)
Abrasion Resistant per 1000 cycles	<10mg

1180 STANGARD CERAMIC- METAL SURFACING COATING : High performance micro ceramic & nano particles filled brushable epoxy system - ideal for coating & protecting heat exchanger & condensor internals.

Abrasion /erosion /corrosion attacked surfaces are re-built using 1170 Stangard Ceramic-Metal Repair Putty and are thereafter overcoated with 1180 for best protection against erosion & corrosion, coupled with protection against impingement, entrainment, caviation & bi-metalic corrosion.





 Very high, abrasion, erosion & corrosion resistance.

PROPERTY	VALUE
Abrasion resistance (loss/1000cycles /1Kg)	<50 mg
Adhesive pull off strength [#] (on MS)	>2500 Psi
Salt Spray resistance	>5000 hrs

- Excellent chemical resistance to a wide range of chemicals.
- Ceramic-Nano fillers provides high abrasion erosion resistance to the coating matrix.
- Silicon-steel alloy provides excellent strength to the coating matrix.

Severe Cavitation Damage

Ceramic Protective Lining

1190 STANGARD CERAMIC-METAL SURFACING "SELF LEVELING" COATING: High performance micro ceramic & nano particles filled self- leveling, brushable epoxy system, ideal for pumps & valves.

Abrasion /erosion /corrosion attacked pump & valve surfaces are re-built using 1170 Stangard Ceramic-Metal Repair Putty and are thereafter overcoated with 1190 for best protection against erosion & corrosion, coupled with protection against impingement, entrainment, cavitation & bimetallic corrosion.

- ★ Ceramic-Nano fillers provide very high abrasion -errosion resistance to the coating matrix.
- Excellent chemical resistance to a wide range of chemicals.
- ★ Good leveling properties. Improves flow. Enhances pump efficiency. Conserves energy.

	PROPERTY	VALUE
t	Dielectric strength ASTM D149	>22 kv/mm
	Adhesive pull off strength [#] (on MS)	>2500 Psi
)	Salt Spray resistance ASTM B117	>5000 hrs



Pump Coating

NB: Also available econo grades : 740 BC & 806 BR.

4. COLD REPAIR SYSTEMS : METAL REPAIR EPOXY PUTTIES – REBUILDING, CRACK REPAIRS, PIPE SUPPORTS, OIL & WATER LEAKAGE SEALING...

#815 STANGARD STEEL PUTTY (SPL): Multi-purpose steel alloy filled epoxy system for metal repair with unique balance of high tensile strength & impact resistance.

For rebuilding metals damaged by abrasion-erosion-corrosion, fatigue cracks

- Unique impact resistance.
- ★ Highly abrasion resistant.
- ★ Superior adhesion.
- ★ Excellent chemical resistance to a wide range of chemicals.
- ★ Very high cavitation, erosion & corrosion resistance.
- ★ Steel alloy provides high strength to the coating matrix
- ★ Adheres to almost any kind of surfaces. Cured material may be machined

APPLICATIONS

★ Elimination of corrosion damages and pitting on tanks ★ Repairs on pipes and casting ★ Repairs of cracks on housings and machine parts ★ Pipe supports ★ Valves, Flanges, Pipe Elbows, T-Pieces, Impellers, Propellers... ★ Tank Surfaces, Process Vessels, Gas Scrubbers...

NB : Also available "QUICKSTEEL" series of composite epoxy sticks.



PROPERTY	VALUE
Cure Time	2-3 hrs
Tensile Strength ASTM D 638	3000 psi
%Elongation	1.50
Flexural strength ASTM D 790	>900 kgs /cm ²
Adhesive pull off strength (on MS)	50 -60 min

#Z821 TITANIUM STEEL PUTTY: Solvent free, ultra high strength, titanium steel filled epoxy putty. Especially suitable for repairs which require high compressive strength and extreme chemical resistance.



- ★ Aspiration port ★ Driving shafts ★ Loading hoppers ★ Blower vane
- ★ Slideways ★ Friction bearings ★ Centrifugal pumps ★ Ball bearing seats
- ★ Machine bearings ★ Propeller ★ Pump cases ★ Tubes ★ Wearing coats
- ★ Shafts ★ Work pieces

- ★ Titanium steel filled.
- ★ Ultra high compression strength.
- ★ Extreme temperature resistance.
- Repairs of pumps, valves, wearing plates, ball bearing seats, shafts, centrifugal pumps and propellers.
- ★ Linings of pump cases, slide bearings, etc.

PROPERTY	VALUE
Solids	100%
Temperature resistance from/ to °C	-35°C up to+150°C
Handling strength MPa Final hardness MPa	16 36
Mean strength at +20°C acc to DIN 53281-83 Compressive MPa Tensile MPa	110 24

Z730 STEELWELD : Ultra strong metal filled repair epoxy tube set. Vibration, pressure and corrosion-resistant and withstands extreme temperature fluctuations without damage or deterioration

- The toughest bond in the world. Adhesive tensile strength 4000 lbs psi (278 kg/ cm2)
- Withstands temperatures up to 300°C.
- 1:1 Mixing & unique tube packaged.
- 25 year shelf life even after opening.
- Not affected by oil, water, petrol, battery acid & most chemicals.
- Withstands vibration.

#Z 711 (P) QUIKSTEEL- FSL EPOXY PUTTY : Fast setting, 1:1 mixing, steel filled epoxy putty in unique "paste" like consistency.



PROPERTY Adhesion strength D297 1800 psi/ 26.6 Kg/ cm2 Flexural strength D790 7320 psi/ 514.7 Kg/ cm2 Tensile strength D638 3960 psi/ 278.4 Kg/ cm2 % Elongation 1.7 Cured hardness (Shore D) Temperature resistance D224 85 300° C



Sets up in 5 minutes. Fully cures in 1 hour.

VALUE

- Bonds to all materials except rubber.
- Impervious to acids, alkaline, solvents, oils, fuels, fluids, cleaners.
- Provides longer working time than other fast drying putty products to permit molding and to flow completely into cracks and holes for a complete repair.
- 1:1 mixing

PROPERTY	VALUE
Tensile strength (ASTM D 638)	5950 psi
Shear strength (ASTM D 905)	710 psi
Temperature resistance	Continuous : -90°F to 500°F Intermittent : Up to 550°F

NB: ALSO AVAILABLE : Aluminium putty, Under Water curing putty, Fast Setting putty....

5. PU RUBBER REPAIR COATINGS & PUTTIES – CONVEYOR BELTING, PUMPS & VALVES...

Z717 POLYURETHANE KOTE : 2K Polyurethane that cures at room temperature into a tough-rubber like material, as remains flexible even at temperature down to -60°C.

- Excellent elongation>600%
- Good adhesion on rubber, metals, wood, fiberglass....
- Available in brushable & putty grades.

PROPERTY	VALUE
Temperature resistance	-60°C to +90°C
Tensile strength (to Din 53455)	6-8 Mpa
Elongation at break (to Din 53455)	>600%
Tear propagation resistance (to Din 53356)	15 – 20 Mpa



FOR REPAIRS ON

- Conveyor belts
- Solid rubber tyres
- Conveyor rollers
- Foundry patterns and forms

FOR COATINGS ON

- Machine parts
- Rollers
 - Containers
- Centrifuges
- Polishing drums
- Chutes and funnels
- Tanks
- Pumps



6. PHOTOLUMINISCENT "GLOW IN THE DARK" SAFETY MARKING

#915 STANGARD PHOTOGLOW PAINT : High performence photoluminiscent 2k PU coating system, that exhibits excellent light emitting properties

The coating has low VOC, and cures to a flat matt finish. Is flexible and has excellent resistance to weathering. Excellent adhesion to properly primed Concrete, Metal, Most Plastics and Wood.

- ★ 2-3 Years life (In recommended system).
- ★ Glow time 6-8 hours (depending of DFT applied /Day light charging exposure).

APPLICATIONS

It's a highly efficient tool in the field of disaster management & safety engineering. Strips of night Glow paint on the pathway give a "glowing" direction in case of darkness or power failure.

7. TOUCH-UP OF GALVANISED PARTS & STRUCTURES

7007 COLD GALVANIZING COMPOUND : A quick drying, matte- grey, sacrificial coating which offers excellent long term cathodic corrosion protection for metals. If contains 95% zinc in the dry film and provides cathodic protection to ferrous metals. It can be used as a unique system as an alternative to hot-dip galvanization or metallization.

- ★ Provides excellent cathodic protection.
- ★ Performance similar to hot-dip galvanizing.

APPLICATIONS

- Field applied galvanizing
- Repairing inorganic zinc
- ★ Fasteners & weld joints.

#7008 GALVA BRIGHT PREMIUM : A restorative bright coating fortified with zinc .

STANVAC ULTRA BRIGHT ZINC SPRAY : A glistening ultra bright zinc coating with 65% zinc -Al in dry film.

8. DIELECTRIC CORROSION PRVENTION OF POWER TRANSFORMERS, ELECTRICAL PANELS, JUCTION BOXES

#2080 ELECTROHYB : Hybrid co-polymer electrical insulation coating.

- ★ Single component, air drying, thermo plastic hybrid co polymer.
- ★ High dielectric strength.
- ★ Self priming ready to use.
- ★ Fast drying
- ★ Excellent corrosion & weathering protection >500 hours salt spray resistance.
- ★ Fire Resistant. Self extinguishing .

PROPERTY	VALUE
Salt spray resistance ASTM B117	Passes 500 Hours
Temperature resistance ASTM D-2243	Upto 90°c
Dielectric Strength	26.5 Kv /mm













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Corporate Office: 552, Sector-37, Phase-II, Gurgaon, Haryana - 122001 Tel. : +91-11-24647199 / 24647252, Fax : +91-11-24633847 / 24623826, Web Site: www.stanvac.com, E-mail : sales@stanvac.com