



FIRE SUPPRESSING GEL*

CFEES has indigenously developed environment friendly Fire Suppressing Gel (FSG) which is a polymer - based mixture containing fire retardant inorganic material with swelling property in water. It sticks on burning objects, prevents the water from running off or evaporating too quickly. By using FSG the extinguishment time and requirement of water quantity is reduced and effectiveness of the applied water is increased by many times. Also laying of FSG lanes may prevent further spreading of fire. High water absorbing FSG is synthesized by neutralizing acrylic acid. After neutralization cross linker is added followed by addition of initiator. At suitable temperature polymerization reaction initiates via free radical polymerization leading to the formation of cross-linked sodium polyacrylate gel. Dried gel is then processed by grinding and mixing inorganic fillers.

TECHNICAL SPECIFICATIONS:

- | | |
|-----------------------------|---|
| i. Particle size range | : less than 1 mm |
| ii. Application quantity | : 0.6 % (w/v) of total water |
| iii. Water holding capacity | : 200-400 g distilled water / g of FSG
100-200 g tap water/ g of FSG |

Performance Parameters:

- | | |
|---|-----------|
| i. Reduction in fire extinguishing time | : 50 % |
| ii. Reduction in water requirement | : 50 % |
| iii. Shelf life | : 5 years |

DRY FSG MATERIAL & FSG (0.6 %) IN WATER



Fire-Proof Paint

-:Product Description:-

The two components (Varnish 80% + Thinner 20%), air drying, Aluminum paint, specially designed to protect the materials from fire.

Features:

- The paint prevents Metal, Wood, Plastic, Cloth and other similar materials from fire
- Coated surfaces do not catch fire or burn
- Coated surfaces prevent flame spreading
- Excellent Weathering properties
- Excellent Water, Acid & Alkali resistance
- Air drying coating
- Does not require Stoving or any high temperature curing for the film formation



Recommended for:

- Petroleum storage tanks, Plants, Depots, Vehicles, Petrol Pumps etc.
- Defence explosive storage, Godowns, Ware houses etc.
- Oil refineries, Pipelines etc.
- Oil drilling platforms and machineries
- Electric Cable wires
- Fire fighting equipments, Clothes
- PVC pipes for electric wires
- Aeroplanes, Helicopters
- Ships
- Railways, Other public transport vehicles likes buses
- Kitchens, Hotels, Homes, Cinema halls, Multiplexes, Shopping Malls, High rise buildings
- Plastic parts of Cars, Scooters, Bikes, Air Conditioners etc.
- Building materials like Plywood, Partical Boards, Wood, Pre-fabricated doors, Panels etc.
- Sport Cars, Bikes etc.
- Server Rooms, Record Rooms, Electric and Electronic distribution rooms.

-: Technical Data :-

Colour	: Metallic Aluminum
Coverage	: 10 to 12m per Kg.
Coating Thickness	: 50 ± 5 microns DFT per Coat
Method of Application	: Brush, Air Spray, Airless Spray, Dipping, Flow Coating, Curtain Coating Tumbling Etc.

Fire Proof Paint

Passes following standards:

- (1) BS -476-Part 5 -1979 Test for ignitability (Fire Test on Building Materials)
- (2) ANSI/IEEE Standard 383-1974 Test for Class IE Electric Cables, Field Splices and connections
for Nuclear Power Generating Stations
- (3) BS -476-Part 7 Test for Surface spread of flame
- (4) IS 12777 : 1989 Test for flame spread of product
- (5) NFPA 255 Test for fire retardant coating
- (6) ASTM -E84 :98 Test for fire retardant coating
- (7) UL 723 Test for fire retardant coating



Properties	Fire-1	Silicone high temp. paint	Intumescent Coating	Fire Retardant Paint
Dry Heat Resistance	950°C	600°C	-----	----
Ignitability	Does not burn	Burns	Burns with heavy char	Burns after 10 seconds
Flame Spread	No flame spread	High flame spread rate	High flame spread rate	High flame spread rate
Curing time & Temperature	Air drying surface dry 1 hour	Stoving type requires curing ttemp of 220°C for 2 Hrs.	Air drying	Air drying
Film thickness required for protection	25 microns	175 to 300 microns	2 mm to 20 mm (1 mm = 1000 microns)	200 to 300 microns
Weather resistance	More than 12 months	About 12 months	No data	No data
Flexibility	Passes OT bend Test	1* mandrel	No flexibility	No data
Application	Can be applied on any surface	Only for metal surface	Only for structures	Only for flat wood surface
Impact Resistance	More than 60 Kg cm.	No data	No data	No data
Scratch Hardness	1000gms.	No data	No data	No data
Acid Resistance (3% HCL)	Excellent	No data	No data	No data
Alkali Resistance (3% NaOH)	Excellent	No data	No data	No data
Adhesion (by cross hatch Method)	100%	No data	No data	No data
Finish	Glossy and smooth	Glossy and smooth	Matt and rough	Matt

CHEMI-PROOF

Acid, Alkali & Chemical Resistant Paint

Film Property	Value
Drying Time (air-dry)	Touch Dry – 60 minutes Hard Dry - 24hours
Over coating interval	24Hours
Finish	Glossy and smooth
Water Resistance (7Days)	Excellent
Salty-Water Resistance (7Days)	Excellent
Acid Resistance Dilute HCl (7 Days) Dilute HNO ₃ (7 Days) Dilute H ₂ SO ₄ (7Days) Conc. HCl (24 Hours)	Excellent
Alkali Resistance Dilute NaOH (7 Days) Dilute KOH (7 Days) Dilute Na ₂ CO ₃ (7Days) Conc. NaOH (24 Hours)	Excellent
Adhesion (bycrosshatchmethod)	100%
Flexibility	Passes OT bend test
Scratch Hardness	1000gms
Impact Resistance	More than 60 Kg/cm.
Weather Resistance at normal Temperature	More than 3 years
Salt Spray Test (1000hours)	Passes the test
U/Vresistance	Excellent
Temperature Resistance	Up-to 300°C (570°F)
Humidity Resistance (7Days)	Excellent



CHEMI-PROOF

Acid, Alkali & Chemical Resistant Paint

Description	<ul style="list-style-type: none">• A single component, Chemical resistant air drying coating
Features	<ul style="list-style-type: none">• Protects the surfaces from all type chemicals including Acids & Alkalis.• Resists corrosion from all types of Acids & Alkalis.• Air drying coating• Temperature Resistance up to 300^oCelsius (570^oF)



Technical Data

Property	Value
Colour	Pigmented (Available in variety of colors)
Coverage	10 to 15 m ² per Litre (Single Coat) 5 to 8 m ² per Litre (Double Coat)
Coating Thickness	30 ±5 microns DFT per coat
Method of Application	Brush, Air Spray, Airless Spray, Dipping, Flow Coating, Curtain coating, Tumbling, Roller Coating etc.

CHEMI-PROOF

Acid, Alkali & Chemical Resistant Paint

Applications

- High heat stacks, Chimneys, Pipe-lines
- Boiler Jackets, Heat exchangers, Drying kilns, Ovens, Furnaces
- Battery Rooms
- Factory enclosures, ceiling, roofs
- Laboratories
- Chemical Storage rooms



Application Procedure

Method of Application



- Shake the container well before opening the lid.
- After opening the container, stir the paint with a metal rod till the uniform consistency of the paint is obtained

Method of Application



The paint can be applied by any method e.g. brush, Air spray, Airless Spray, Dipping, Flow coating, Curtain coating, Tumbling, Roller coating etc.

Film Thickness

The wet film thickness (WFT) should not be less than 50 microns.

Thinner

Use **G-Tech** Thinner for thinning the paint. Do not thin more than required.

Surface Preparation

- All surfaces to be coated must be perfectly cleaned. The presence of oil, grease, dust, rust, etc. on the surface will not give satisfactory result.
- Oil, grease should be removed by either wipe out method or solvent/emulsion De-greasing method
- Rust, scales and other deposits on the metal surface should be cleaned by a brasive blast cleaning method or by using wire brushes or abrasion tools.
- Plastics & Rubber surfaces should be cleaned by solvent wipe out method to remove oils & greases and other lubricating materials deposited on them.
- Wood should be properly seasoned with minimum moisture content. There should not be any type of coating on the surface.
- DO NOT APPLY ANY TYPE OF PRIMER OR SEALER ON THE SURFACE
- The paint should be applied directly on the surface. It can be recoated any number of times to increase the film thickness.
- For application on Cement walls:
 - Apply the paint on smooth cement putty surface directly.
 - No Primer is required.
 - Do not apply any other coating or Paint over or under the Chemi-Proof Paint.



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