

FIRE PROTECTION COATING SYSTEM



# HITACHI FLAMEMASTIC



HITACHI FLAMEMASTIC is compounded of waterbase thermoplastic resins, flame retardant chemicals and inorganic incombustible fibers. It is fire resistant compound to be coated on cables to prevent the propagation of cable fire.



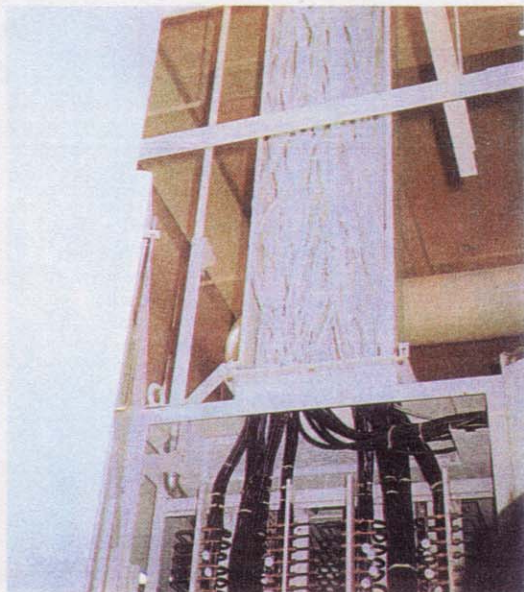
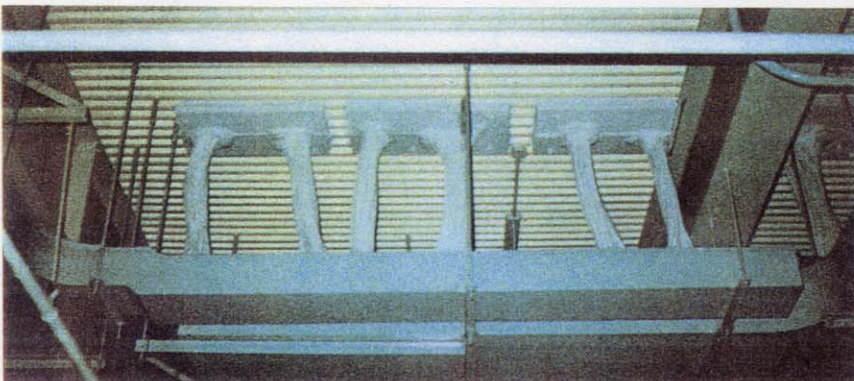
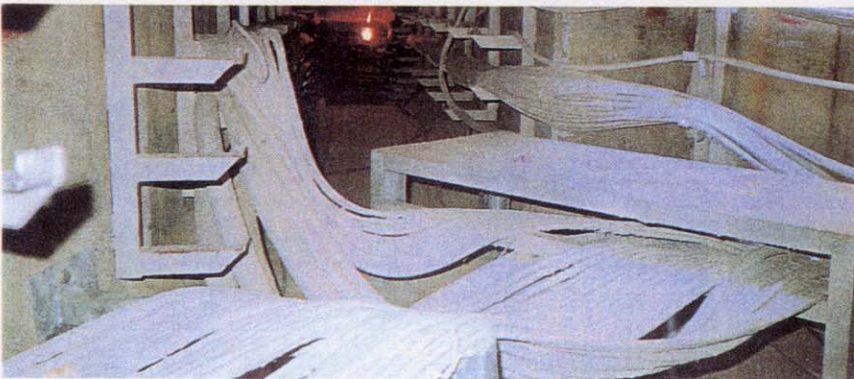
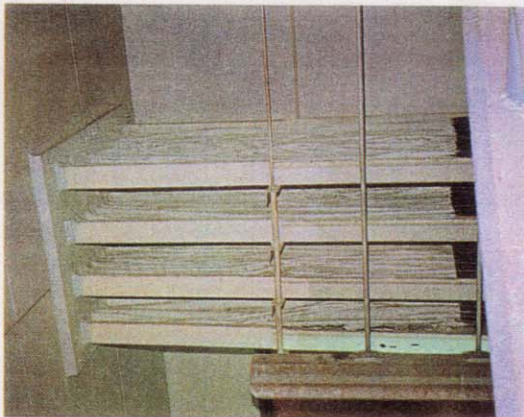
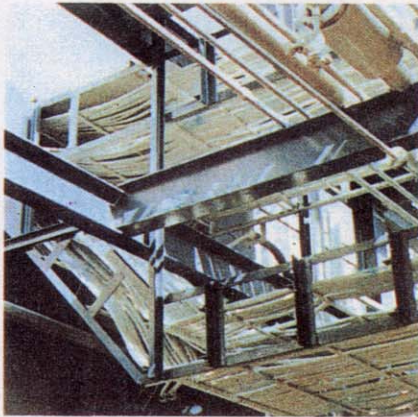
# HITACHI FLAMEMASTIC SYSTEM CONSISTS OF THE FOLLOWING RELATED PRODUCTS

## FLAMEMASTIC SPRAYABLE

A waterbase compound to be coated on cables by spray or brush for fire protection.

## FLAMEMASTIC MASTIC

A heavy consistency material for sealing wall or ceiling penetrations of cables or cable trays.

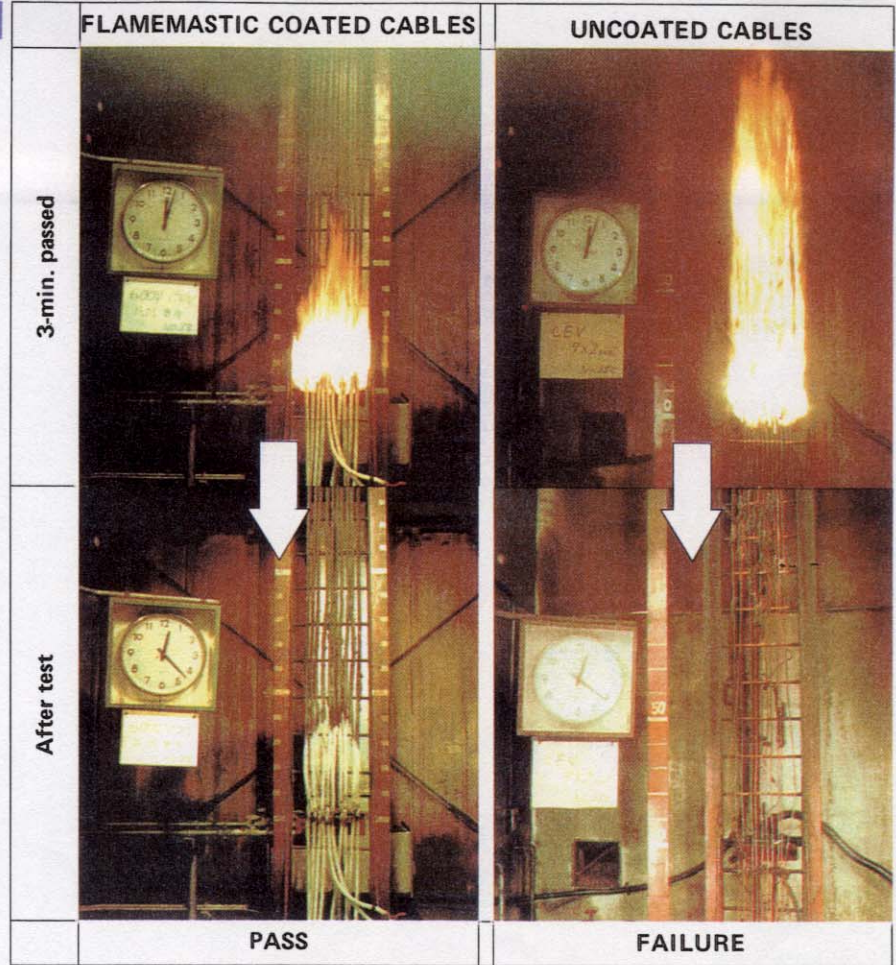


# FLAME RESISTANCE OF HITACHI FLAMEMASTIC

## VERTICAL TRAY FLAME TEST

- Flame source  
Ribbon gas burner 70,000 BTU/hr
- Duration of test: 20 min.
- Test method

According to IEEE Std. 383-1974  
IEEE...The Institute of Electrical and  
Electronics Engineers, Inc. USA



## U-TYPE TRAY FLAME TEST

- Flame source  
Gasoline (1 liter) soaked cloth (1 kg).

(2-min. passed)



UNCOATED CABLES

FLAMEMASTIC COATED CABLES

(15-min. passed)



# TYPICAL PROPERTIES OF FLAMEMASTIC

- Excellent in fire protection.
- Maintain permanent fire protection.
- No-harm to cable jackets and metals.
- Easy to apply on cable by spray or brush.

ITEM	PROPERTY
Apparent specific gravity	approx. 1.4
Solids (%)	approx 67
Viscosity (CPS)	approx. 17,000
PH	7
Corrosion on metal surface (Steel, aluminium, Copper)	None
Oxygen Index	>40
Flexibility (Bending radius 5 x D)	No crack
Water resistance (40°C, 10 days)	No change were observed
Acid resistance (5% Hcl, 3 days)	ditto
Alkali resistance (5% NaOH, 3 days)	ditto
Oil resistance (ASTM No. 2 Oil, 3 days)	ditto
Salt water resistance (3% density, 4 days)	ditto
Flash point	None
Toxity	Water base, almost odorless, non-toxity
Weather resistance (Weather-O meter for 3,000 hrs.)	No. change observed
Effect on cable jacket	None
Effect on ampacity of cables	Max. 3%
Hardness of dry film	Shore A 80
Fire retardancy (Vertical tray flame test in accordance with IEEE 383)	Pass

## RECOMMENDATIONS FOR THE FLAMEMASTIC FIREPROOFING OF CABLES

### IN POWER GENERATING STATIONS

- (1) Cables underneath and in the vicinity of control room.
- (2) Cables in the furnace area.
- (3) Stacked cable trays.
- (4) Vertical trays.
- (5) Miscellaneous areas.
  - Cables in the battery room.
  - Cables in the fuel pump room.
  - Cables in proximity to oil valves in the turbine area.
  - Cables in the vicinity of fuel tanks for emergency generator.
  - Other cables requiring fire proofing.

### IN INDUSTRIAL MANUFACTURING PLANTS

- (1) Cables in vicinity of control rooms, panels, and computer centers.
- (2) Cable trays.
- (3) Miscellaneous areas.
  - Cables in the fuel pump room.
  - Cables in the central lubricating oil pump room.
  - Cables in the vicinity of fuel oil storage tanks or lubricating oil storage tanks.
  - Cables in locations where dust inherent with the manufacturing operation can collect on the trays and result in spontaneous combustion.
  - Cables near furnaces.
  - Other cables requiring fireproofing.

## APPLICATION TO CABLES

- (1) Cable surface to be applied should be clean and free from foreign matter such as dust, oil, etc. prior to application.
- (2) Spray application on cables and cable trays  
At first, a thin coat shall be applied and allowed to dry to touch (approximately 10 minutes). Then the material shall be applied to the specified thickness (Generally 3.0mm wet film) in one or two operations. If required by job conditions, a brush application may be substituted for spray application.
- (3) Cleaning  
Upon completion of the work, staging, scaffolding and containers shall be removed from the site or destroyed in an approved manner. Coating material spots, or stains upon adjacent surface shall be cleaned recommended by the manufacturer of the coating material.

## SPECIAL NOTES

- (1) Storage temperature should be in the range of 5°C to 40°C.
- (2) Do not apply this product to energized cables or equipment except under the supervision of safety personnel.
- (3) Refer to the manufacturer's application bulletin for further information.



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