

Promat



PROMASTOP® CIS Coating For Electrical Cables



PROMASTOP® CIS is an ablative coating suitable for application on power cables for the purpose of reducing flame spread when exposed to a moderate fire source. PROMASTOP® CIS has a mild Intumescent action reaction which provides an insulating effect to the cables when exposed to fire. This in turn ensures that the speed of the spread of flame across the surface of cables is dramatically reduced, and for some types of cable, the intumescent reaction can ensure that the cables remain functioning for a specified period of time. This is especially important for those cases where continuity of electrical power supply is of vital importance.

PROMASTOP® CIS has been approved in accordance with FM 3971 Approval Standard and may be used on single or bunched cables, installed both in vertical and horizontal orientation.



PROMASTOP® CIS is toxic-free and is an environmentally friendly fire resistant coating. It does not emit toxic fumes or substances during application, nor during exposure to fire. PROMASTOP® CIS does not emit any toxic or corrosive gases when exposed to fire; this is an important consideration on two grounds, firstly with regard to preservation of life, secondly by keeping corrosive gases to a minimum, it removes the detrimental effect the corrosive gases emitted during fire can have on electrical components and on elements of the building structure.

When correctly applied PROMASTOP® CIS has a smooth surface and is white in colour. Upon request, it is possible to add universal colouring additives in order to obtain a range of pastel shades. PROMASTOP® CIS may also be used in those instances where the application is within abnormal or aggressive environment, where the humidity is likely to be high or areas where the coated cables are likely to be in contact with other elements that are subject to movement etc but Promat should be consulted prior to application in such areas.

General Technical Properties

Neutral designation	Water based ablative coating
Density	1500 (± 200) kg/m ³
Active components (solid content)	Approximately 80%
Dilution	Water (maximum 10%)
Colour	White
Consistency	Liquid

PROMASTOP® CIS is manufactured under a quality management system certified in accordance with ISO 9001: 2000 Certification. The production unit has passed the site audit of ISO 14001 and all manufacturing processes are in accordance with the environmental standards of ISO 14001.

Advantages

- Approved product in accordance with FM 3971 Approval Standard.
- Ensure continuity of power through cables (subject to type and size of cables).
- Can retard flame propagation along the surface of cables.
- Provides an economical thin film application.
- Flexible, allowing for movement of cables.
- Durable, can be satisfactorily used in some aggressive environments.
- Resistant to water.
- Resistant to most common chemical solutions.
- Non toxic both during application, and when exposed to fire.
- No increase in the electrical resistance of the cable as a result of excessive insulation.
- Easy to work with.
- Smooth surface finish.

Packaging & Storage

PROMASTOP® CIS is supplied in 25kg buckets. It is to be stored in dry conditions. The expected shelf life for PROMASTOP® CIS is 12 months in an unopened and properly sealed bucket.

Characteristics

① Flame Retarding Performance

PROMASTOP® CIS has been successfully tested in accordance with the requirements of FM 2971 Approval Standard. The cable was coated to provide a minimum dry film thickness (DFT) of 1.6mm.

A nominal DFT of 1.0mm which can be achieved in a single pass layer if application is via airless spray. With this thickness PROMASTOP® CIS provides resistance against the spread of flame along cables in accordance with the relevant criteria of the FM 3971 Approval Standard.

② Electrical Resistance

Power cables generate heat when conducting electrical current. This heat has to be discharged to the atmosphere in order to ensure that no short circuits occur. In worst cases, excessive heat build-up can result in ignition of the cable sheathing and consequently fire will occur. The thin film layer application of PROMASTOP® CIS ensures that under normal operating conditions, the cables are not excessively insulated and thus will operate within design temperature limits. The heat from within the cable is able to dissipate through the PROMASTOP® CIS coating.

③ Water Resistance

PROMASTOP® CIS is not water-soluble. The durability of the PROMASTOP® CIS and its performance under fire conditions as defined within FM 3971 Approval Standard, is unaffected by contact with water. However, the PROMASTOP® CIS coating is not suitable for use in constantly wet areas or where immersion may occur.

④ Weather Resistance

PROMASTOP® CIS has been subject to cyclic testing to show that the performance of the material is not degraded after exposure to constant changes in environmental conditions. The accelerated weathering tests show that PROMASTOP® CIS remains flexible and effective in its performance.

Applications & Preparation

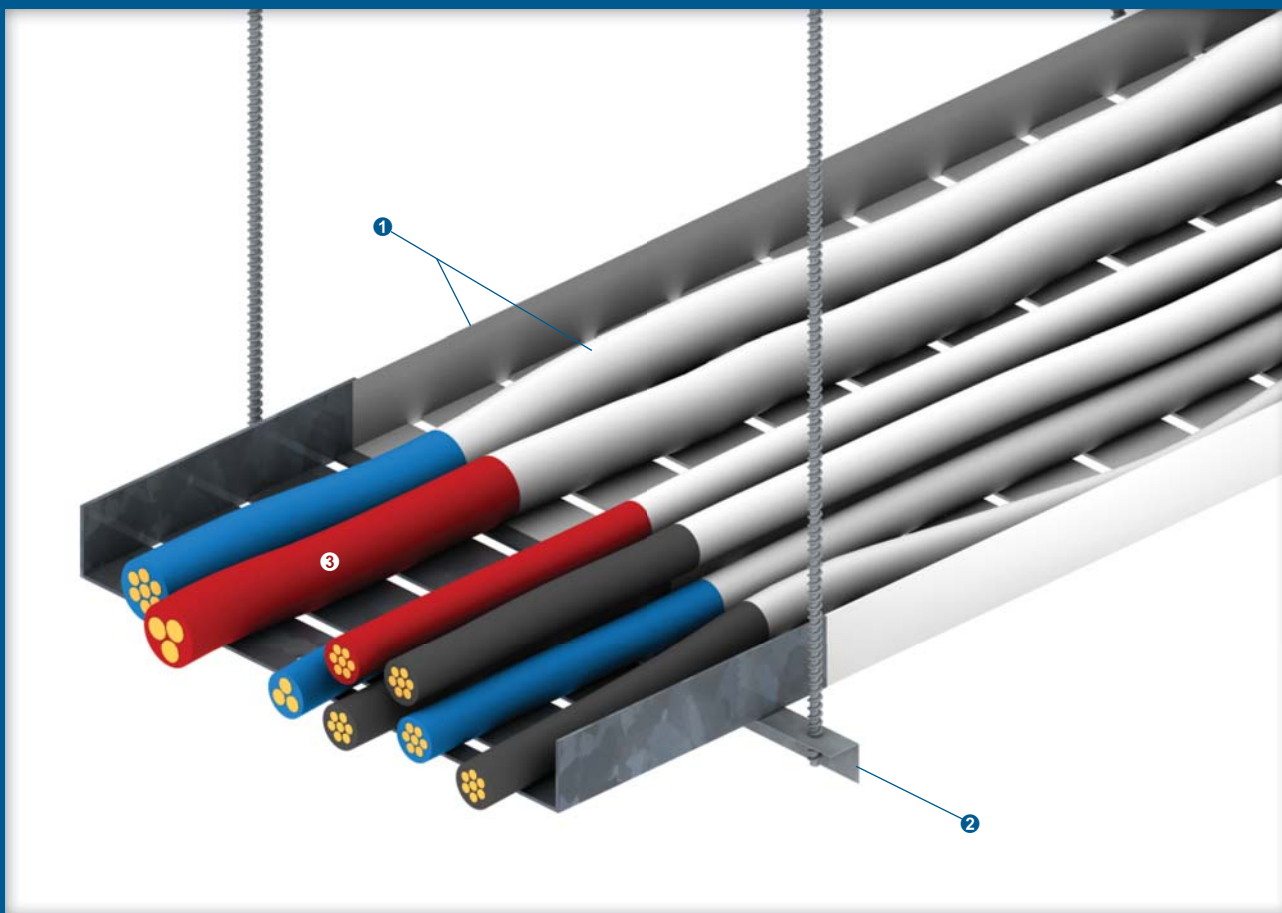
PROMASTOP® CIS readily adheres to all types of cable sheathing without requiring special surface preparation, other than that the surface of the cable shall free from dust, oil and grease.

PROMASTOP® CIS should be applied undiluted. Application of PROMASTOP® CIS can be carried out using a simple airless spray, a brush or a roller. For application by airless spray, the nozzle size should be 17 to 23 thou/inch. When a pneumatic airless spray is used the input pressure of the compressor has to be between 8 and 10 bars. The working pressure at the spray gun should be adjusted to between 170 and 200 bars. Application conditions for both substrate and ambient temperature should be minimum +5°C and maximum +40°C.

The recommended coating thickness on cables is minimum 1.6mm and should be well covered. For cable bundles and cable trays it is suggested that the coverage is increase by at least 25%.

PROMASTOP® CIS coating remains very pliable after drying. If necessary individual cables may be removed from grouped cables and any damaged portions of the protective coating may be repaired by spraying or brushing.

Continued on next page



Circuit integrity in accordance with the requirements of FM 3971 Approval Standard

- ❶ PROMASTOP® CIS coated electrical cable and cable tray to provide DFT (dry film thickness) of minimum 1.6mm
- ❷ Service steel hanger and support, size according to weight and dimensions of the services
- ❸ General M&E services, e.g. electrical cable and cable tray

NOTE: In general coatings to cables are designed to restrict the spread of flame along the cables and thus reduce propagation of fire. Thin film coatings will maintain circuit integrity to small diametrical cables in restricted applications. The specifier must use with caution when recommending cable coatings to ensure the performance criteria clearly matches their expectations and requirements. If there is any doubt regarding performance and the maintenance of the circuit integrity is imperative, the specifier should consider the use of a board cladding system. For further clarification and assistance, please consult Promat

Continued from previous page

The duration of the drying process depends upon the thickness of the wet film, the air temperature and humidity. However, it should not normally extend beyond 8 hours at 20°C and with a humidity of 65%. Good ventilation is highly recommended to facilitate swifter drying times.

Please note:

- Do not pile any treated parts until the coating is fully cured.
- Ancillary electrical equipment should be covered to prevent contamination with overspray.
- For better adhesion on vertical cables, it is recommended to first apply a thin layer of PROMASTOP® CIS coating, let dry and then the final coat to require thickness.
- Stains or spilled coating can be removed using a clean cloth and some lukewarm water whilst the product is still in its uncured state.

Following is the standard Architectural Specification for cable coating system using PROMASTOP® CIS. The designer must determine the suitability of the design to the application and requirements before undertaking or constructing any works relating to the specifications and where in doubt should obtain the advice of a suitably qualified engineer.

External & Internal Fire

Maintain circuit integrity of cables in accordance with the criteria of FM 3971 Approval Standard.

Supporting Structure

Care should be taken that any structural element by which the enclosure system is supported, e.g. a beam, floor or wall, has at least equivalent fire resistance.

Coating

DFT of minimum 1.6mm of PROMASTOP® CIS cable coating as supplied by Promat International (Asia Pacific) Ltd.

Application

The services will be suspended with hanger rods of diameter sized to limit stress = 15N/mm^2 to withstand at least 60 minutes fire. PROMASTOP® CIS is applied to the cables for a DFT of minimum 1.6mm. Cable trays, if supporting cables, should be coated in a similar manner.

Tests & Standards

The complete system along with the material and framing is approved to meet the requirements of FM 3971 Approval Standard.

For latest information of the Promat Asia Pacific organisation, please refer to www.promat-ap.com.

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