

Selection & Specification Data

Generic Type	Single package, water-based, flexible mastic fire protective coating for cables and cable trays.
Description	A water-based mastic that can be applied to electrical cables to retard fire propagation. Once applied, it meets code and insurance requirements for interior and exterior use. It provides a hard and flexible surface that will not dust, flake or spall.
Features	<ul style="list-style-type: none"> - Extremely flexible - Hard, dust free surface - Impact and abrasion resistant - Water-based product, low odor - Asbestos-free – complies with EPA and OSHA regulations - Factory Mutual tested and approved - Does not de-rate cables - Approved for interior and exterior use - Provides protection at 1.6mm dry film thickness
Colour	Grey
Finish	Textured (textured finish varies depending on the method of application)
Primer	Primer is not required
Fireproofing Topcoats	Topcoats are generally not required. In severely corrosive atmospheres, contact StonCor Africa Technical Service for a topcoat recommendation most suitable for the operating environment.
Fireproofing Wet Film Thickness	3mm
Fireproofing Dry Film Thickness	1.6mm
Solids Content	By Volume 53%
Theoretical Coverage Rate	0.33m ² /litre at 1.6mm
VOC Values	As Supplied: 29 g/l
Limitations	Not recommended for long-term surface temperatures over 91°C in continuous use, 104°C in non-continuous use.

Substrates & Surface Preparation

General	Before applying Intumastic 285 to electrical cables, the cables must be dry and free of all oil, grease, condensation or any other contamination.
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Typical Chemical Resistance

Exposure	Fumes	Splash & Spillage
Acids	Very Good	Fair
Alkalies	Very Good	Fair
Salt	Excellent	Very Good
Solvents	Good	Good

Performance Data

Test Method	Results
Hardness ASTM D2240	Shore D 30-40
Surface Burning ASTM E84	Class A
Smoke Index DEFSTAN 02-711-2	Class A
Ampacity EPS 96202	No de-rating
Circuit Integrity IEC 60331-1	50 Minutes at 1.6mm
Flame Propagation IEC 60332-3-22	2 Hours at 1.6mm
Halogen Gas Content IEC 60754	Pass (<5.0mg/g HCl)

All values derived under controlled laboratory conditions. Test reports and additional information available upon written request.

Application Equipment Guidelines

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Air Spray Graco 5:1 Bulldog with Even-Flo regulator valve, 17lpm output
Graco 10:1 President with Even-Flo regulator valve, 6.4lpm output

Air line must be a minimum 100 psi (6.9 kPa). Use 9mm I.D. line from gun to Even-Flo regulator valve with an air adjusting valve attached at the gun end for atomization control.

Airless Spray Graco 30:1 Bulldog, 3.0 gpm (11.0 lpm) output (6.4 lpm) output.

Spray Gun For Airless Spray Use:
Graco Mastic Golden Gun with Graco HDRAC 0.059" to 0.063" tips.

For Air Spray Use:
Binks 7E2 Gun with 47-49 fluid tip / 12mm or 10mm air cap
Graco 204000 Gun with 164331 fluid tip / 160658 air cap

Material Hose 19mm I.D. minimum 15.3m is recommended for all pump recommendations listed. For hose lengths over 15m, a 12-25mm I.D. hose is recommended. A 3m (19mm) whip hose may be added to better facilitate handling.

Minimum bursting pressure on material lines should be 1000 psi (68.9 kPa) when using 5:1 or 10:1 pumps. When using a 30:1 pump, the minimum bursting pressure should be 3,000 psi (206.7 kPa).

Compressor Be certain that the air supply is a minimum of 75 cfm at 100 psi (6.9 kPa). Air volume and pressure required will depend on equipment used.

Mixing & Thinning

Mixer Use 10mm electric or air driven drill with a slotted paddle mixer (300 rpm under load).

Mixing Intumastic 285 must be mixed using a 10mm electric or air driven drill with a slotted paddle or Jiffy mixer blade. Mix material for a minimum of 5 minutes to achieve the necessary texture required before spraying.

Thinning Intumastic 285 may be thinned with clean potable water up to 5% by volume.

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Application Procedures

General Intumastic 285 may be applied by spray, trowel or hand application. When spray applying, Intumastic 285 must be thinned 5% by volume. A single coat built up with a number of quick passes allows greater control over quantities, thickness and finish. In most conditions, it is advantageous to apply two thin coats rather than one thick coat.

Material losses during mixing and application will vary and must be taken into consideration when estimating projects.

Application Rates At ambient temperatures of 21°C, apply 3mm per coat (wet)

Wet Film Thickness Frequent thickness measurements with a wet film gauge are recommended during the application process to ensure uniform thickness.

Palming Hand application of Intumastic 285 may be more economical when cables are "ganged" or for protecting individual strands. Rubber gloves are recommended.

Trowel A standard plasterer's hawk and trowel may be used for suitable applications. Selection of instruments is left to the discretion of the applicator.

Application Conditions

Condition	Material	Surface	Ambient	Humidity
Minimum	10°C	4°C	4°C	0%
Maximum	43°C	35°C	35°C	90%

Air and substrate temperature must be at least 4°C and rising. Surface temperature should be a minimum of 3°C above the dew point. The maximum humidity is 90%. Area must be protected from rain or running water during application until material is cured. Minimum ambient temperatures must be maintained for 24 hours after application.

Curing Schedule

Surface Temp & 50% Relative Humidity	Dry to Touch	Final Cure Time
21°C	24 Hours	15 Days

Curing times are dependent on thickness, humidity and temperature. Normal dry times are based on a wet thickness of 3.2mm.

Clean-up & Safety

Clean-up Pump, gun, tips and hoses should be cleaned with clean, potable water at least once every 4 hours at 21°C and more often at higher temperatures.

Safety Follow all safety precautions on the Intumastic 285 Material Safety Data Sheet. It is recommended that personal protective equipment be worn including spray suits, gloves, eye protection and respirators when applying Intumastic 285.

Overspray All adjacent and finished surfaces shall be protected from damage and overspray. Wet overspray may be cleaned with soapy or clean potable water. Cured overspray may require chipping or scraping to remove.

Ventilation In enclosed areas, ventilation shall not be less than 4 complete air exchanges per hour until the material is dry.

Caution Intumastic 285, like most water-based coatings, is electrically conductive until it is dry. Extreme caution should be exercised when the material is applied to energized cables and equipment. The material should never be applied without the supervision of plant safety personnel.

Testing, Certification, Listing

Intertek Intumastic 285 has been successfully tested at Intertek Laboratories to the following international test standards:
 IEC 60331-1 Circuit Integrity
 IEC 60332-3-22 Flame Propagation
 IEC 60754-1 Halogen Gas Content
 DEFSTAN 02-711-2 Smoke Index

FM Global Intumastic 285 has been tested and approved by Factory Mutual Research Corporation at 1.6mm dry thickness, and evaluated by Sandia Laboratories in tests sponsored by the US Nuclear Regulatory Commission using both propane and diesel fueled fires.

Ampacity tests run by Factory Mutual show "No electrical derating necessary when a cable is coated (and cured properly) with Intumastic 285". The temperature attained was well below the maximum temperature rating of the cable insulation. Heat transfer calculations should be used to calculate derating requirements of large groups of conductors.

Factory Mutual Research Corp.

Sandia Labs

- Diesel (Cable tray)

- Propane (Cable tray)

Electrical Power System

- Ampacity – no derating of cables required

- Report EPS 96202

Fire retardant coating for Electrical Power and Control Cables at 1.6mm dry film thickness.

Test reports are available upon request.

Packaging, Handling & Storage

Shelf Life 6 Months
 Shelf life (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.

Shipping Weight (Approximate)

5kg	20kg
5.5kg	21.5kg

Flash Point (Setflash) 148°C

Storage Store indoors in a dry environment between 4 to 43°C. Keep from freezing.



Co. Reg. No.: 1996/01848/07
 Tel No: +27 11 254 5500
 Website: www.carboline.co.za
 E-mail: carbolinea@carboline.com

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