

Project No. 150457

Client: Council of the Isles of Scilly

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STRIDE TREGLOWN
ARCHITECTURE

Carn Gwavel School

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This document includes:

Code	Section	Revision	Dated
M61	Intumescent coatings for fire protection of steelwork		

M61 Intumescent coatings for fire protection of steelwork

To be read with Preliminaries/General conditions

PROTECTIVE COATING SYSTEMS

- 111 ON SITE INTUMESCENT COATING TO PRIMED STEEL TO PRIMED STEEL CONCEALED
- Use/ location: First Floor floor beams above non-fire rated ceiling supporting pre-cast planks, n/a to first floor or roof level beams / columns in accordance with AD Part B..
 - Fire resistance to BS 476-21: 60 minutes.
 - Primer: Ensure primer is compatible with product before applying. Primer surface must be free of contaminant prior to application of intumescent paint system.
 - Preparation and priming: By steelwork contractor, as section G10.
 - Intumescent coating system:
 - Manufacturer: Nullifire or equal approved..
 - Product reference: S707-60 HF (Water based).
 - Intumescent coat:
 - Type: S816 (water based acrylic)..
 - Finish: Non-visible areas: Basic.
 - Top sealer coat:
 - Type: Basic as clause 440..
 - Colour: White
 - Bolt head/ Nut protection: As main steelwork.
 - Application: Brush / roller in accordance with manufacturers recommendations.
 - Provide on site measurement / testing for coverage and issue test certificate for handover / building control submission.

GENERAL REQUIREMENTS

- 205 VALIDATION OF MATERIALS
- Project specific evaluation of intumescent coating materials:
 - Standard: In accordance with BS 8202-2, clause 4.
 - Test results: Submit on request.
- 210 WORKING PROCEDURES
- Standard: In accordance with BS 8202-2.
 - Give notice: Before commencing surface preparation and coating application.
 - Quality control: Record project specific procedures for surface preparation and coating application.
- 215 WORKING CONDITIONS
- General: Maintain manufacturer's recommended temperature, humidity and air quality conditions during application and drying.
 - Surface condition: Clean and dry at time of application.

220 APPLICATOR'S PERSONNEL

- Operatives: Trained/ experienced in anticorrosive and intumescent coatings.
- Evidence of training/ experience: Submit on request.

250 SPRAYED COATING APPLICATION ON SITE

- Standard: In accordance with BS 8202-2.
- Spray drift: Minimize.
- Uncoated areas of steel: Ensure adequate paint cover to ensure fire performance.
- Masking: Protect designated adjacent surfaces.
 - Designated surfaces: Concrete soffit and plasterboard linings..

270 INSPECTION

- Permit intumescent manufacturer to:
 - Inspect work in progress.
 - Inspect quality control records.
 - Take dry film thickness and other measurements.
 - Take samples of products.
- Intumescent manufacturer's inspection reports: Submit without delay.

PREPARATION OF SURFACES

315 NEW STEEL - BLAST CLEANING

- Preparation: Remove oil, grease and contaminants.
- Blast cleaning:
 - Atmospheric condition: Dry.
 - Abrasive: Suitable type and size, free from fines, moisture and oil.
 - Finish: To BS EN ISO 8501-1, preparation grade SA2½, with an average profile of approximately 75 micrometres.
 - Abrasive residues and moisture: Remove.
- Primer: Apply as soon as possible after cleaning and before gingering or blackening appears.

APPLICATION OF COATINGS

410 INTUMESCENT COATING DRY FILM THICKNESS (DFT)

- Applicable coatings: All.
- Required dft: Determine for every steel member to give specified period of fire resistance. Use intumescent coating manufacturer's current published loading tables.
 - Special sections and partial fire exposure conditions: Obtain required dft in writing from manufacturer.
- Schedule and drawings: Submit at least two weeks before starting work.
 - Schedule content: Member sizes, weights/ thicknesses, loading conditions, etc. showing, for each variant, the exposed perimeter/ sectional area (Hp/A) ratio and required dft.
 - Drawing content: Steelwork drawings marked in colour to show required dft for each member.

420 MEASUREMENT OF INTUMESCENT DFT

- Primer dft: Determine average dft (for deduction from total dft after application of intumescent).
- Intumescent dft: Determine at:
 - 500 mm centres along each coated plane of universal sections (8 planes), and rectangular hollow sections (4 planes).
 - 125 mm centres along coated circular hollow sections, spread evenly around circumference.
- Acceptance standard:
 - Average intumescent dft: Not less than required dft (exclusive of primer and top sealer).
 - Local intumescent dft: Not less than 80% of required dft. Areas greater than 100 mm equivalent diameter with a dft of less than 80% of required dft must be brought up to thickness.

440 BASIC FINISH

- Definition: Reasonably smooth and even. Orange peel, other texture, minor runs and similar minor defects are acceptable.

490 TOP SEALER COAT

- Application: To achieve dft recommended by manufacturer and to give an even, solid, opaque appearance, free from runs, sags and other visual defects.

COMPLETION

530 RECORDS OF INTUMESCENT APPLICATION

- On completion of intumescent work, submit:
 - Accurate surface preparation, coating and intumescent application records.
 - Fire resistance certificates.
 - Intumescent manufacturer's recommendations for maintenance and overcoating.