

**Project No.** 150457

**Client:** Council of the Isles of Scilly

**Tender Issue** 10/11/2017

**STRIDE TREGLOWN**  
ARCHITECTURE

## **Carn Gwavel School**

**10 November 2017**

**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 fto 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.