



## K61 EPOXY CASTINGS FOR FIRE PROTECTION OF STEELWORK

Epoxy intumescent castings for use as a high performance, durable and highly decorative solution for fire protection to columns and beams offering up to 3 hours fire protection externally and internally.

A robust, maintenance free all-weather system for mixed use developments, supermarkets, schools, offices, iconic buildings and where high people traffic and/or environmental requirements demand a robust system which is easy to maintain.

To be read with Preliminaries / General Conditions.

For performance clauses see attached.

### INTERACTIVE FIRE PROTECTION SYSTEMS

#### 001 PRIMER TO SUIT THE INSTALLATION TO STEEL COLUMNS AND BEAMS

- Use/location: Steel sections where castings are required
- Preparation: G10 (SA 21/2)
- Primer:
  - Type: 2 pack epoxy zinc phosphate primer
  - Manufacturer: **International Paint**
  - Product reference: **Intergard 251**
  - Dry film thickness: **75 microns**

#### 002 DIRECT FIXING OF CASTINGS TO HOT ROLLED HOLLOW SECTIONS

- Use: **Circular and rectangular hollow sections**
- Intumescent castings: **Direct application with adhesive to hollow sections**
- Orientation: **Beams/Column**
- Location: **Internal/External**
- Manufacturer: **Interact Fire Solutions Limited 01694 751394**
  - Product reference: **Interactive Columns**
  - Fire resistance to BS476-21: **(Enter fire protection period (90 minutes))**
- Finish: **Very high decorative**

#### 003 FIXING TO FABRICATED HOLLOW SECTION

- Use: **For use where the fabrication does not allow for continuous adhesion to the entire column/beam surface**
- Intumescent castings: **Partial fixing with adhesive to hollow sections with the casting spanning the recessed faces**
- Orientation: **Beams/Column**
- Location: **Internal/External**
- Manufacturer: **Interact Fire Solutions Limited 01694 751394**
  - Product reference: **Interactive Hybrid**
  - Fire resistance to BS476-21: **(Enter fire protection period (90 minutes))**
- Finish: **Very high decorative**



004 FIXING TO UNIVERSAL BEAMS AND UNIVERSAL COLUMNS

- Use: **Universal beams and columns**
- Intumescent castings: **Partial fixing with adhesive to sections with the casting spanning the web faces**
- Orientation: **Beams/Column**
- Location: **Internal/External**
- Manufacturer: **Interact Fire Solutions Limited 01694 751394**
  - Product reference: **Interactive Hybrid**
  - Fire resistance to BS476-21: **(Enter fire protection period)**
- Finish: **Very high decorative**

005 SECONDARY CLADDING TO COLUMNS

- Use: **Decorative circular cladding to universal columns and universal beams as columns - other shapes available subject to design.**
- Intumescent castings: **Free standing casings providing 100% fire integrity over universal columns and universal beams as columns**
- Orientation: **Column**
- Location: **Internal/External**
- Manufacturer: **Interact Fire Solutions Limited 01694 751394**
  - Product reference: **Interactive Casing**
  - Fire resistance to BS476-21: **(Enter fire protection period)**
- Finish: **Very high decorative**

006 HIGH PERFORMANCE TOP COAT FOR INTERNAL AND EXTERNAL CONDITIONS

- Manufacturer: **International Paint**
- Product reference: **Interfine 979 polysiloxane or Interthane 878 polyurethane**
- Minimum period to first maintenance
  - Polyurethane / semi gloss = 8 years
  - Polysiloxane / high gloss = 20 years
- Undercoat if required with compatible primer
- Dry film thickness: **Refer to top coat manufacturer's details**
- Colour: **(Enter colour reference) Minimum of two coats roller/spray applied**

007 DOMESTIC TOP COAT FOR INTERNAL CONDITIONS ONLY

- Manufacturer: **Dulux or similar approved**
- Product reference:
  - Oil based wood primer - **Specify**
  - Suitable undercoat - **Specify**
  - Selected finish coat - **Specify**
- Dry Film thickness: **Refer to top coat manufacturer's details**
- Colour: **(Enter colour reference) Minimum of two coats roller/spray applied**



## GENERAL REQUIREMENTS

### 008 ENVIRONMENTAL CAPABILITIES

- Withstands class C5-1 (industrial) environmental conditions as laid down under EN ISO 12944-2 1988
- Withstands pooling water
- Withstands cascading water
- Is suitable for near shore environments fully exposed
- Refer to Interact Fire Solutions for environmental table EN ISO 12944-2 1988

### 009 ADHESIVE

- Where applicable **Interactive Columns (direct fixing) or Hybrid**
- Manufacturer: **International Paint**
- Reference: **Interchar 212**
- Thickness: **2 mm**
- Application: **8 mm tile trowel**
  - Spread to provide sufficient thickness to achieve 2 mm overall coverage
  - Coverage contact to be no less than 92.5% of the surface area of the steel

### 010 JOINT FILLER

#### Primary Filler:

- Where applicable **Interactive Columns (direct fixing), Hybrid, Interactive Casings (secondary cladding)**
- Manufacturer: **International Paint**
- Reference: **Interchar 212**
- Thickness: **Nominally 6 mm x thickness of the casting (8 mm)**
- Application: **Trowel**
- Ensure material is compressed into joint to ensure 100% margin contact

#### Secondary (decorative) Filler:

- Where applicable **Interactive Columns (direct fixing), Hybrid, Interactive Casings (secondary cladding)**
- Manufacturer: **Isopon or similar approved**
- Reference: **Two pack epoxy filler**
- Application: **Fill all deformation and pin holes to produce a smooth and uniform finish**

### 011 VALIDATION OF MATERIALS

- Project specific evaluation of intumescent casting materials
- Standard: To BS 8202-2 clause 4
- Submit on request
  - Conformance documents showing batch numbers
  - Material control document detailing ratios
  - Visual inspection report

### 012 WORKING PROCEDURES

- Standard: To BS 8202-2
- Give notice: Before commencing surface preparation and casting installation
- Quality control: record project specific procedures for surface preparation and coating application



013 WORKING CONDITIONS

- General: Maintain minimum environmental conditions
  - Temperature 5° C
  - Humidity 85%
  - Dew point 2° above
- Preparation of Surfaces
  - Clean and dry at time of installation
  - Lightly abrade
  - Galvanised Steelwork
  - Degrease
  - Lightly abrade
  - T wash (mordant)
  - Ensure all galvanised surfaces have been etched and changed colour to a dark grey

014 APPLICATOR'S PERSONNEL

- Operatives: Manufacturer's approved installers only
- Evidence of training/experience and approval : submit on request

015 CONTROL SAMPLES

- General: as required - **carry out sample areas of finished work as follows: present benchmark, uinstalled sample.**
- Approval of appearance: as required - **obtain before commencement of general casting installation**

016 INSPECTION

- The subcontractor must complete the quality record sheet
  - Permit intumescent casting manufacturer to:
    - inspect environmental documentation
    - inspect work in progress
    - inspect quality control records
    - take measurements to establish contact area
- Intumescent casting manufacturer's inspection reports:
  - Submit to main contractor
  - Secure receipt from main contractor
  - Provide a signed copy for manufacturer

**APPLICATION OF COATINGS**

017 INTUMESCENT COATING THICKNESS

- Required thickness of casting:
  - Determine for every steel member to give specified period of fire resistance
  - Secure casting manufacturer's written assurance and validate if required against raw material manufacturer's standard details
- Schedule and drawings
  - Submit at least two weeks before starting work
- Schedule content:
  - Member sizes, weights/thicknesses



- Loading conditions
- Show variant of the exposed perimeter
- Sectional area (Hp/A) ratio
- Drawing content
  - Steelwork drawings marked in colour to show required thickness for each member
- Special Details
  - Check that the casting manufacturer has specific test data
  - Secure a record of the specific test data or assessment from an independent authority
  - A raw material manufacturer's assurance is not acceptable

018 MEASUREMENT CASTING THICKNESS

- Casting thickness
  - Check the certificate of conformity supplied by the casting manufacturer complies with the required fire protection period.

019 HIGH DECORATIVE FINISH

- Definition: high standard of evenness, smoothness and gloss when viewed from a distance of 2 metres or more.
- No pin holing
- No runs
- No undulation or tram-marking which may show when down lighters are installed
- A sample of the finish is to be presented to the client prior to progressing with the finished coats
- Vertical lighting must be used for inspection when down lighters are to be used as part of the building design
- Horizontal lighting must be used for inspection when general lighting is used as part of the building design.
- All joints are to be filled to a high standard leaving no evidence of jointing

020 TOP SEALER COAT

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

021 RECORDS OF COATED STEEL

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



022 MAINTENANCE

- The system is maintenance free for up to 20 years with the exception of physical damage
- The system does not require periodic inspection to meet the warranty requirements
- Over-coating can be with any compatible material and is not subject to the manufacturer's prior approval
- Repairs to physical damage must not be visible
- A two pack filler, or a single pack filler where a non-performance coating is used, must be suitable for the system

023 OTHER BENEFITS

- Cast epoxy intumescent has sound insulation properties which may comply with the acoustic requirements of the building.
- The casings have a high standard of impact resistance.