10 PROTECTIVE TREATMENT

10.1 GENERAL

10.1.1 Scope

1 This Part specifies the requirements for protective treatment for structural steelwork.

2 Related Sections and Parts are as follows:

This Section

Part 2..... Materials

10.1.2 References

1 The following standards are referred to in this Part:

BS 729.....Hot dip galvanized coatings on iron and steel articles.

BS 5493.....Code of practice for protective coating of iron and steel structures against corrosion.

BS 7079.....Preparation of steel substrates before application of paints and related products.

BS EN 22063 .....Metallic and other inorganic coatings –Thermal spraying-zinc aluminium and their alloys. (ISO 2063 Thermal spraying — Zinc, aluminium and their alloys —)

10.1.3 Method Statement

1 The Contractor shall prepare a written method statement giving sequential details of the surface preparation and protective treatment procedure (including touching-in procedures) to be used in achieving the Employer's specification.

10.1.4 Working Conditions

1 Work shall he carried out in accordance with the recommendations given in BS 5493.

10.1.5 Storage of Materials

1 Protective treatment materials shall he stored in a clean, dry area which is protected from extreme temperatures, and used in order of delivery, in accordance with the manufacturer's recommendations and within the advised shelf life.

10.1.6 Application Procedures

1 Materials shall be prepared, and coatings applied to surfaces, in accordance with the manufacturer's recommendations.

10.1.7 Handling and Storage

1 The procedures for handling and storage shall be so arranged that the protected surface is unlikely to be damaged.

10.2 SURFACE PREPARATION

10.2.1 General

1 Unless it has been specifically approved by the Engineer all steelwork surfaces which are to be painted shall be blast cleaned.

10.2.2 Wire Brushing

1 Surfaces which are not to be blast cleaned, but are to be coated, shall be wire brushed to remove loose mill scale, and cleaned to remove dust, oil and grease.

10.2.3 Blast Cleaning

1 The standard of blast cleaning specified shall be in accordance with BS 7079 Part Al.

2 The methods used shall be capable of cleaning all surfaces of the component. The surface roughness shall be compatible with that recommended for the coating to be applied but shall not be to a lesser quality than Sa 2 as defined in BS 7079

3 The cleanliness levels specified shall be those existing at the time of the application of coating.

4 When abrasives are recycled in the blast cleaning system, the equipment shall be fitted with a dust removal system to remove fines and contaminants.

10.2.4 Surface Defects

1 Surface defects revealed during surface preparation shall be dealt with in accordance with Clause 2.2.1-2 and 2.2.1-3 of this Section.

10.3 SPRAYED METAL COATINGS

10.3.1 Method

1 Sprayed metal coatings may consist of either zinc or aluminium applied to the surface as a molten dispersed spray in accordance with BS EN 22063 (ISO 2063 Thermal spraying — Zinc, aluminium and their alloys —) to a level given in the Protective Treatment Specification.

10.3.2 Storage and Handling

1 Storage and handling procedures shall be so arranged that the sprayed metal surface is unlikely to be damaged.

10.3.3 Repair of Extensively Damaged Areas

1 The area shall be cleaned using a needle gun or abrasive papers or cloths. After washing down and drying, the area shall be resprayed overlapping the undamaged area by 20mm.

10.3.4 Repair of Minimally Damaged Areas

1 An area less than 10 cm2 may be repaired after cleaning, as described in Clause 10.4.3 of this Part, by applying a paint which is compatible and has similar properties to the metal spray.

10.3.5 Sealing Before Painting

1 Sprayed metal coating shall be sealed before the application of paint coats in accordance with BS 5493 Table 4C Part 2.

10.4 GALVANIZING

10.4.1 Procedures

1 Galvanizing shall be performed in accordance with BS 729.

10.4.2 Touch-up of Galvanized Surfaces

1 Small areas which are within 10mm of intact galvanized coating may be touched up in accordance with Appendix D of BS 729.

2 Preparation for touching up is to be as required by the manufacturer of the touch-up product.

10.4.3 Vent Holes

1 If so required by the Engineer, vent holes in hollow members, necessary during the galvanizing process, shall be sealed after galvanizing with a plug of approved material.

10.5 SURFACE COATINGS (PAINT)

10.5.1 Surface Condition Prior to Painting

1 Steelwork shall be dry and cleaned to the surface cleanliness specified in Clause 10.2 of this Part.

10.5.2 Surfaces to be Embedded in Concrete

1 Steel surfaces to be embedded in concrete shall be left unpainted and need not be blast cleaned unless required by the Project Documentation.

10.5.3 Coatings

1 Where steelwork is to be finished with a paint coating system it shall be carried out in accordance with the requirements of BS 5493 and to the requirements of the Project Documentation.

10.5.4 Application Life

1 All paint products shall be used within the manufacturer's recommended pot life.

10.5.5 Multiple Coats

1 Where two or more coats of a product are to be applied, a different colour shade shall be used for each coat.

10.5.6 Stripe Coats

1 Additional stripe coats of primer or undercoat shall be applied in the following circumstances:

(a) welded surfaces where a weld-through primer has been used.

(b) steelwork which will be exposed externally in the finished works.

(c) all edges and corners

(d) seal gaps between adjacent components such as shop and site bolted connections.

10.5.7 Storage and Handling

1 Storage and handling procedures shall ensure that damage to the protective system is minimised.

10.5.8 Painting on Site

1 Work shall not proceed when the steel surfaces are wet or the ambient temperature, or dew point, is below that recommended by the paint manufacturers. (See Clause 10.1.4 of this Part).

10.5.9 Painting of Site Fixed Bolts and Welding

1 All protruding portions of bolt assemblies and site weld surfaces shall be cleaned to remove traces of oil, dust, welding flux etc. to the levels specified in 10.5.1.

2 The paint system specified in the Project Documentation shall be applied to ensure similar properties and compatibility with the surface treatment system being used on the surrounding surfaces.

3 Bolt assemblies which are supplied with a protective treatment need not be painted except when the Employer's specification requires it.

END OF PART