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MODEL CLAUSES FOR CIVIL ENGINEERING WORKS

SECTION 110 GENERAL REQUIREMENTS FOR WATERPROOFING UNDERLINE BRIDGES

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SECTION 110

GENERAL REQUIREMENTS FOR WATERPROOFING UNDERLINE BRIDGES

Waterproofing system

110.001 The waterproofing system shall be compliant with the requirements specified in NR/L3/CIV/041 and shall be registered in PADS.

Before work commences, the manufacturer shall provide the Employer's Representative with a copy of the Registration Certificate, the Material Data Sheet and the Application Guidelines for the system.

The scope of the waterproofing works shall be as specified in Appendix 110/1.

The waterproofing system shall be of the type specified in Appendix 110/2.

Certification of operatives

110.002 All waterproofing shall be applied by operatives trained and certified by the manufacturer as being capable of applying the waterproofing system in accordance with the Application Guidelines.

Prior to the waterproofing works commencing on the site, the Employer's Representative shall be provided with a copy of each operative's signed certification which shall include a recent photograph of the operative.

Removal or repair of existing waterproofing system and movement joints

110.003 Where there is an existing waterproofing system or existing movement joints, they shall be removed or repaired as specified in Appendix 110/3.

Application of waterproofing (general)

110.004 The preparation of the substrate, the formation of joints and the application of the waterproofing system shall be in accordance with NR/L3/CIV/041 and the Application Guidelines for the system.

Factory applied waterproofing shall be applied as specified in Appendix 110/4 and shown on the Contract Drawings.

Weather protection

110.005 The waterproofing system shall be applied when the ambient temperature, relative humidity, wind speed, and the temperature and moisture content of the substrate are within the limits specified in the Application Guidelines and will not fall outside them during the curing process.

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Where necessary, protection from the weather shall be provided to keep the area to be waterproofed within the environmental conditions specified for each component of the system.

During the installation of the waterproofing system, the installer shall record the environmental conditions on site (including the temperature, relative humidity, and wind speed) on a daily worksheet; a copy of these records shall be supplied to the Employer's Representative.

Detailing

110.006 The waterproofing shall be continuous and shall cover the entire deck and the perimeter upstands (e.g. parapet, ballast plate, spandrel wall) as shown on the Contract Drawings.

The membrane shall be sealed at its edges and around drainage holes and other details to prevent the ingress of water under the waterproofing membrane in service. Where necessary, pre-formed details compatible with the waterproofing system, and as recommended by the manufacturer of the system, shall be used to seal the membrane.

Further Clauses concerning the sealing and securing of the membrane at its edges are given in Section 111 for tightly bonded systems and in Section 112 for loose-laid systems.

Sharp arrises and internal angles shall be avoided in the surface to be waterproofed. Where pre-formed sheet materials are to be used, arrises shall be chamfered or rounded, and fillets formed in internal angles.

Where necessary, fillets on existing bridges shall be formed using a cementitious or resin-based repair material that is compatible with the waterproofing system: such repair materials shall be allowed to cure sufficiently prior to the application of the waterproofing system.

Sealing of construction and movement joints (general)

110.007 All construction and movement joints shall be detailed to form a continuous impervious barrier and prevent the ingress of water beneath the waterproofing membrane in service.

The movement joints shall be of the type specified in Appendix 110/5 and be able to accommodate the movements that may occur after installation as specified in Appendix 110/5 or on the Contract Drawings.

Where possible, construction and movement joints shall be sealed in accordance with the Application Guidelines for the waterproofing system.