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MODEL CLAUSES FOR CIVIL ENGINEERING WORKS

SECTION 113 WATERPROOFING FOR ROAD CARRYING BRIDGES

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SECTION 113

WATERPROOFING FOR ROAD CARRYING BRIDGES

Scope of the works	113.001	The scope of the waterproofing works shall be as specified in Appendix 113/1.
Type of waterproofing system for concrete decks and concrete slabs on masonry arch bridges	113.002	The waterproofing system shall satisfy the requirements specified in either: (i) Departmental Standard BD 47 (Highways Agency Design Manual for Roads and Bridges, Volume 2, Section 3, Part 4), and have a current British Board of Agrément Roads and Bridges Certificate and be registered for use on Highways Agency bridges, or (ii) A European Standard equivalent to BD 47. The waterproofing system shall be of the type specified in Appendix 113/2.
Type of waterproofing system for metal decks	113.003	The waterproofing system shall be a type specified in Appendix 113/3. The manufacturer or supplier shall provide the Employer's Representative with evidence that the system is suitable for metal decks of road bridges.
Type of waterproofing system for other types of bridge	113.004	Only where it is not possible to apply a waterproofing system to a firm, concrete or metal surface, the waterproofing system shall be of the type specified in Appendix 113/4.
Details of waterproofing system	113.005	Before work commences, the manufacturer shall provide the Employer's Representative with a copy of the Roads and Bridges Certificate or evidence of compliance with a European Standard equivalent to BD 47, a copy of the Material Data Sheet and the Work Package Plan or Application Guidelines for the system.
Special requirements	113.006	When special requirements are specified in Appendix 113/5, the manufacturer or supplier of the waterproofing system shall demonstrate that they are satisfied before waterproofing works commence on site.
Certification of operatives	113.007	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 Work Package Plan or 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.

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Application of waterproofing (general)	113.008	The preparation of the substrate, the formation of joints and the application of the waterproofing system shall be in accordance with the Work Package Plan or Application Guidelines for the system.
Removal or repair of existing waterproofing system and movement joints	113.009	Where there is an existing waterproofing system or existing movement joints, they shall be removed or repaired as specified in Appendix 113/6.
Detailing	113.010	The waterproofing shall be continuous and shall cover the entire deck and the perimeter upstands 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. 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 system.
Sealing of construction and movement joints (general)	113.011	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.
Movement joints	113.012	All movement joints shall satisfy the requirements specified in either: (i) Departmental Standard BD 33 (Highways Agency Design Manual for Roads and Bridges, Volume 2, Section 3, Part 6), and shall be registered for use on bridges owned by the Highways Agency, or (ii) A European Standard equivalent to BD 33. Each movement joint shall be of the type specified in Appendix 113/7 and be able to accommodate the movements that may occur after installation as specified in Appendix 113/7 or on the Contract Drawings.