HAPAS

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HAPAS Certificate
25/H7470
Product Sheet 1 Issue 1

POLYMERIC KERB UNITS

DURAKERB HALF-BATTERED AND 45° SPLAY (SP2) KERB UNITS

This Product Sheet(1) is issued by the British Board of Agrément (BBA). The Highways Authorities Product Approval Scheme (HAPAS) is supported by National Highways (NH) (acting on behalf of the Overseeing Organisations of the Department for Transport; Transport Scotland; the Welsh Government; and the Department for Infrastructure, Northern Ireland), the Association of Directors of Environment, Economy, Planning and Transport (ADEPT), the Local Government Technical Advisers Group and industry bodies.

(1) Hereinafter referred to as 'Certificate'.

This Certificate relates to Durakerb Half-Battered and 45° Splay (SP2) Kerb Units, recycled plastic kerbing units for use on highways, in accordance with the *Manual of Contract Documents for Highway Works* (MCHW), Version 1.0.0, Clause CC 207.

The BBA has awarded this Certificate to the company named above for the product described herein. This product has been assessed by the BBA as complying with the requirements of the BBA HAPAS Certification Scheme according to the assessments set out in this Certificate.

On behalf of the British Board of Agrément

Date of issue: 23 September 2025

Hardy Giesler
Chief Executive Officer

Certificate amended on 31 October 2025 to alter MCHW clause to CC 207, and amend flexural strength information and outcome in Table 2.

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1 Product Description

1.1 The Certificate holder specifies the product under assessment, Durakerb Half-Battered and 45° Splay (SP2) Kerb Units, as recycled plastic kerbing units for use on highways in accordance with the MCHW, Version 1.0.0, Clause CC 207.

(1) The MCHW is operated by National Highways (NH) (acting on behalf of the Overseeing Organisations of the Department for Transport; Transport Scotland; the Welsh Government; and the Department for Infrastructure, Northern Ireland).

1.2 The product comprises a range of injection-moulded units, manufactured from reprocessed polymers made from polyolefins, low and high density polyethylene and other additives.

1.3 The product is grey in colour and has a cellular internal structure. The cross-sectional geometry and general dimensions of the units correspond with those of standard half-battered (type HB2) kerbs (see Figure 1), 45° splay (SP2) kerbs (see Figure 2), half-battered 6 metre external (6RX) kerbs (see Figure 3) and half battered 6 metre internal (6RI) kerbs (see Figure 4), as described in BS EN 1340 : 2003.

1.4 The product range is given in Table 1:

Table 1 Product range[1]

Description	Dimensions (H x L x D) (mm)
Standard Half-Battered Kerb	255 x 914 x 125
Standard 45° Splay Kerb	255 x 914 x 125
Bull Nose Straight	150 x 914 x 125
Half-Battered Drop Kerb Left	255 / 150 x 914 x 125
Half-Battered Drop Kerb Right	255 / 150 x 914 x 125
Half-Battered 6 metre External Kerb	255 x 780 x 149
Half-Battered 6 metre Internal Kerb	255 x 780 x 149

(1) Other internal and external radius unit cans be produced to bespoke drawing specifications, but these products are outside the scope of this Certificate.

1.5 The product is satisfactory for use as an alternative to concrete kerbs in highways applications for new and maintenance work.

2 Requirements

Requirements for the product are outlined in the BBA HAPAS Certification Scheme and Technical Specifications Documents, and have been established from the MCHW, Version 1.0.0, Clause CC 207.

3 Summary of Product Assessment

The product was assessed on the basis of the following characteristics in accordance with HAPAS requirements.

3.1 Flexural strength

Table 2 Flexural strength

Product assessed	Assessment method	Requirement	Outcome
Standard Half-Battered Kerb	BS 1340 : 2003 (square plate at 45°C)	Class 2	Pass
	BS 1340 : 2003 (square plate at-30°C)	Class 2	Pass
	Flexural Strength to BS EN 1340 : 2003	≥2.8 MPa	Pass

The assessment showed that the product complies with HAPAS requirements for this characteristic.

3.2 Compressive strength

Table 3 Compressive strength

Product assessed	Assessment method	Requirement	Outcome
Standard Half-Battered Kerb	BS 6073-1 : 1981 (square plate at 45°C)	Value achieved	Failure stress 5.94 $N \cdot mm^{-2}$
	BS 6073-1 : 1981 (square plate at -30°C)	Value achieved	Failure stress 8.9 $N \cdot mm^{-2}$
	BS 6073-2 : 1981	Value achieved	6.60 $N \cdot mm^{-2}$

The assessment showed that the product complies with HAPAS requirements for this characteristic.

3.3 Impact strength

Table 4 Resistance to impact

Product assessed	Assessment method	Requirement	Outcome
Standard Half-Battered Kerb	Izod impact strength to BS EN ISO 180 : 1997(1)	Value achieved	46.9 (no break)
	Izod impact strength to BS EN ISO 180 : 1997 (UV aged to BS EN ISO 4892-3 : 2000)(1)	Value achieved	48.7(no break)

(1) Minimum requirements for polymeric kerbs have been based on the testing methods which are contained in BS EN 1340 : 2003, with the respective performance requirements adjusted in line with the characteristics of polymeric materials.

The assessment showed that the product complies with HAPAS requirements for this characteristic.

3.4 Tensile strength

Table 5 Tensile strength

Product assessed	Assessment method	Requirement	Outcome
Standard Half-Battered Kerb	BS EN ISO 572-2 : 1996 (Control)	Value achieved	17.72 Mpa
	BS EN ISO 572-2 : 1996 (Control at 45°C)	Value achieved	11.77 Mpa
	BS EN ISO 572-2 : 1996 (Control at -30°C)	Value achieved	36.28 Mpa
	BS EN ISO 572-2 : 1996 (Water soaked for 28 days)	No significant deterioration compared to control	Pass
	BS EN ISO 572-2 : 1996 (Diesel soaked for 7 days)	No significant deterioration compared to control	Pass
	BS EN ISO 572-2 : 1996 (UV aged to BS EN ISO 4892-3 : 2000)	No significant deterioration compared to control	Pass

The assessment showed that the product complies with HAPAS requirements for this characteristic.

3.5 Skid resistance

Table 6 Skid resistance

Product assessed	Assessment method	Requirement	Outcome
Standard Half-Battered Kerb	BS EN 1340 : 2003	Moderate resistance (NA.2 of BS EN 1340 : 2003)	uSRV 0.42

Specifiers are advised to refer to detailed guidance on the requirements for, and measurement of, slip and skid resistance in BS EN 1340 : 2003 and the *UK Slip Resistance Group Guidelines, Issue 6 : 2024* in respect of slip resistance categories relevant to the intended use.

3.6 Abrasion resistance

Table 7 Abrasion resistance

Product assessed	Assessment method	Requirement	Outcome
Standard Half-Battered Kerb	BS EN 1340 : 2003 ASTM D3884 1000 cycles	Class 4	Pass

The assessment showed that the product complies with HAPAS requirements for this characteristic

3.7 Durability

Table 8 Durability of mechanical resistance

Product assessed	Assessment method	Requirement	Outcome
Standard Half-Battered Kerb	Flexural strength BS EN 1340 : 2003 before and after 2550 QUV weathering	Retained strength	<6% deviation
	Moisture absorption BS EN 1340 : 2003 before and after 2550 QUV weathering	Class 2	Pass
	Abrasion resistance BS EN 1340 : 2003 ASTM D3884 1000 cycles	Class 4	Pass

3.7.1 Visits were carried out to sites where the product was in service and the performance was considered to be satisfactory

37.2 The product will have comparable durability and in-service performance to other types of kerb units permissible under the MCHW 1000 Series.

4 Summary of Process Assessment

Manufacturing process and quality control	Complies with HAPAS requirements
Delivery and site handling	Complies with HAPAS requirements
Installation	Complies with HAPAS requirements

4.1 Manufacture

4.1.1 The BBA has undertaken the following tasks for the assessment of product manufacture and has established that the manufacture complies with BBA HAPAS Certification Scheme requirements:

- the BBA has recorded and evaluated the manufacturer's documentation of the methods adopted for quality control procedures and product testing against HAPAS requirements
- the BBA has assessed the quality control operated over batches of incoming materials and formulations against HAPAS Requirements
- the BBA has evaluated the process for management of non-conforming work
- the BBA has audited the production process and verified that it is in accordance with the documented process
- the BBA has checked that equipment has been properly tested and calibrated.

4.1.2 The BBA has undertaken to review the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

†4.1.3 The management system of the manufacturer has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by Intertek Certification Ltd (Certificate 0114112).

4.2 Delivery and site handling

†4.2.1 The Certificate holder states that the product is delivered to site on shrink wrapped pallets, in quantities as shown in Table 9.

Table 9 Product quantities per pallet

Description	Units per pallet
Standard Half-Battered Kerb	48
Standard 45° Splay Kerb	42
Bull Nose Straight	98
Half-Battered Drop Kerb Left	56
Half-Battered Drop Kerb Right	56
Half-Battered 6 metre External	48
Half-Battered 6 metre Internal	48

4.2.2 To achieve the performance described in this Certificate, delivery and site handing must be performed in accordance with the Certificate holder's instructions.

4.2.3 Mechanical lifting equipment is not required to lift and manoeuvre the items during installation; the weight of each unit is given in Table 10 – each unit weighs less than 6 kg.

Table 10 Product weights

Description	Weight per unit (kg)
Standard Half-Battered Kerb	5.9
Standard 45° Splay Kerb	5.3
Half-Battered External	4.7
Half-Battered Internal	4.7

4.3 Design

The product is grey in colour and has a cellular internal structure. The cross-sectional geometry and general dimensions of the units correspond with those of standard half-battered (type HB2) kerbs (see Figure 1), 45° splay (SP2) kerb (see Figure 2), half-battered 6 metre external (6RX) kerbs (see Figure 3) and half battered 6 metre internal (6RI) kerbs (see Figure 4) as described in BS EN 1340 : 2003.

Figure 1 – Durakerb Standard Half-Battered (HB2) Kerb (all measurements in mm)

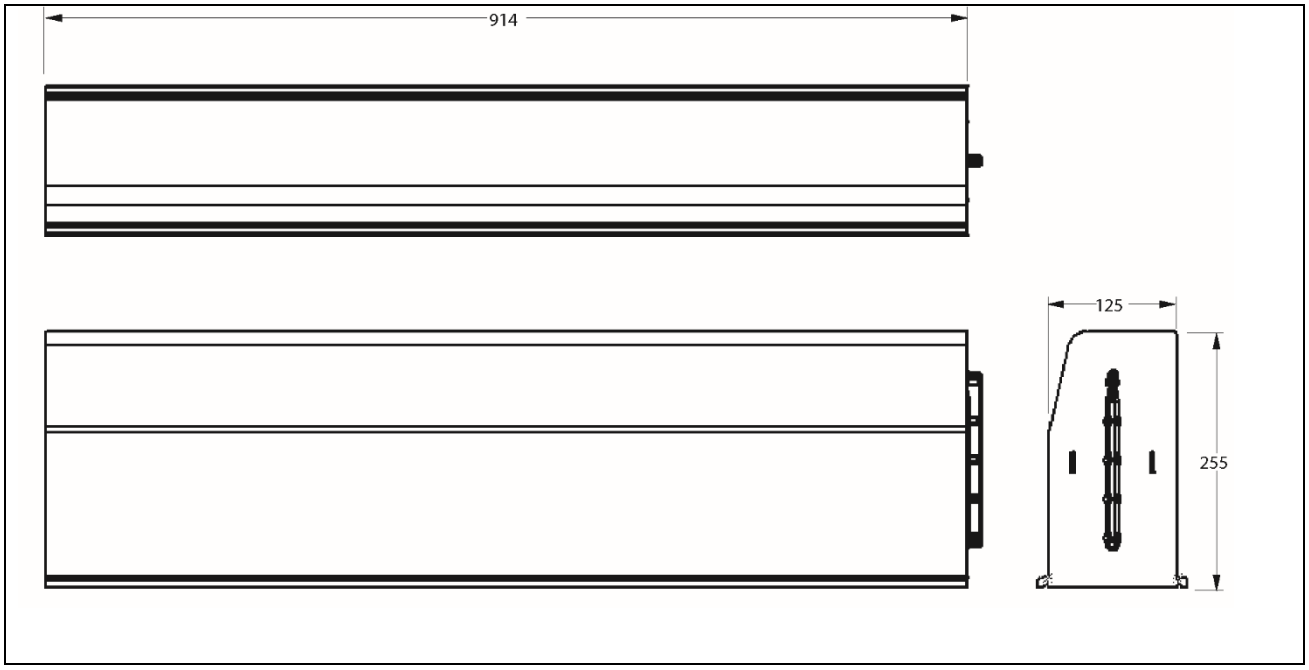


Figure 2 – Durakerb 45 Splay (SP2) Kerb (all measurements in mm)

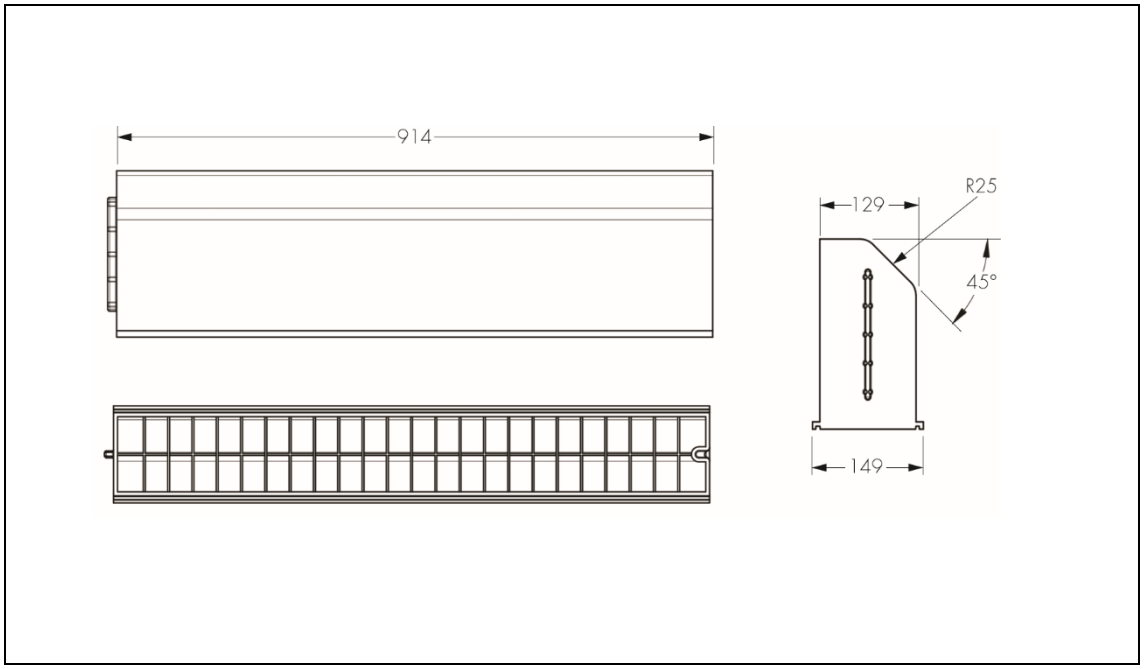


Figure 3 – Durakerb Half-Battered 6 metre External (6RX) Kerb (all measurements in mm)

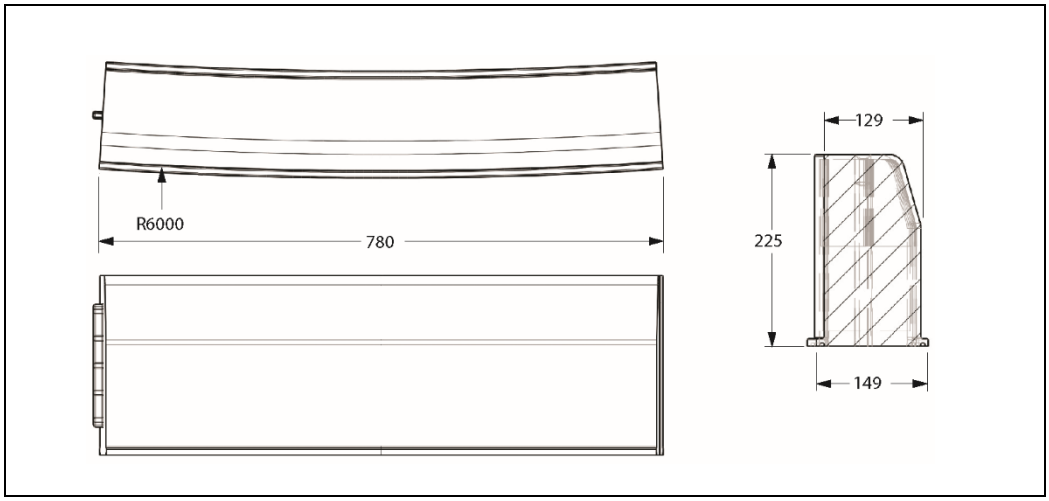
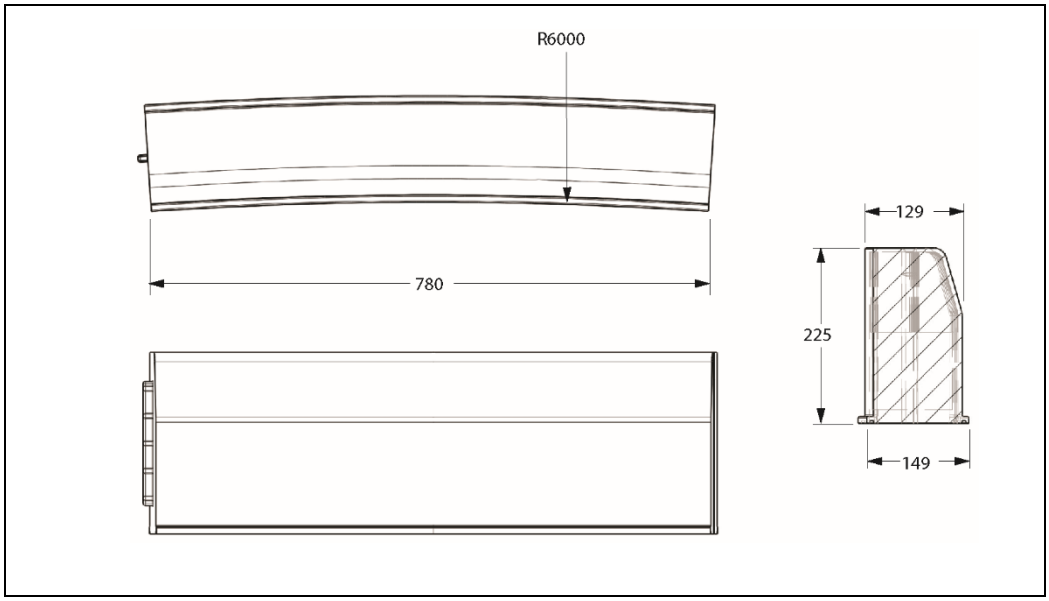


Figure 4 – Durakerb Half-Battered 6 metre Internal (6RI) Kerb (all measurements in mm)



4.4 Installation

4.4.1 The Certificate holder's instructions for installation of the product were confirmed as meeting the BBA HAPAS Certification Scheme requirements.

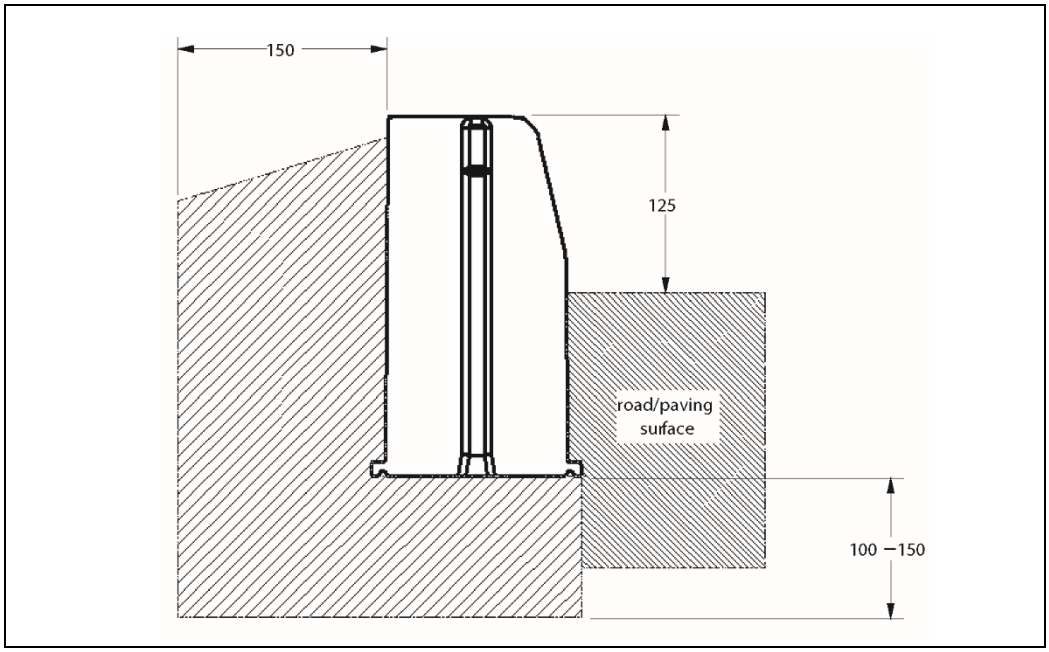
4.4.2 To achieve the performance described in this Certificate, the product must be installed in accordance with the Certificate holder's instructions.

†4.4.3 The Certificate holder's instructions advise the following:

4.4.3.1 A trench of minimum dimensions 325 mm deep by 275 mm wide is prepared to follow the proposed kerb line, and a string line set up to mark the required level of the kerb units.

4.4.3.2 A race of ST1 grade concrete is placed along the prepared trench. The race must be deep enough so that the kerb units, once tamped down, are at the required height as indicated by the string line, ensuring that it is at least 100 mm deep when measured from the base of the kerb units (see Figure 5).

Figure 5 – Laying details (all measurements in mm)



4.4.3.3 Working from the left, the first kerb unit is placed on the race and tamped into position using a rubber maul to follow the level of the string line, ensuring that the previously laid unit has not been disturbed.

4.4.3.4 Subsequent units are laid in a similar way, ensuring that the recessed slot of the kerb being laid locates over the lug of the previously laid kerb.

4.4.3.5 If lengths shorter than the standard kerbs are required, the units can be cut using a suitable saw. If a unit requires cutting at the end of a kerb line or adjacent to an existing concrete kerb, a suitable quantity of lean mix concrete must be applied to the race to compensate for the resulting loss of wall section.

4.4.3.6 On completion of the kerb line, concrete is laid behind the kerbs, covering the lateral flange, to form a haunch at least 150 mm wide. The haunch must be well compacted to support the units and trowelled into shape.

4.4.3.7 The kerb line must be checked on completion, and any adjustment made before the concrete sets.

4.4.3.8 Owing to the lightweight nature of the product, the units may 'bounce' whilst being tamped resulting in adjacent units moving out of position. This effect can be minimised by adjusting the wetness of the concrete mix and/or haunching previously laid units.

4.4.4 To achieve the performance described in this Certificate, installation of the product must be carried out by operatives familiar with this type of product.

4.5 Maintenance

4.5.1 To achieve the performance described in this Certificate, any products damaged in service must be removed using suitable mechanical means and replaced with a new unit. Care must be taken to avoid damage to adjacent units when removing a damaged one.

4.5.2 If necessary, the male lug nut can be removed by cutting with a suitable saw to facilitate placement of the replacement unit.

5 Fulfilment of Requirements

5.1 The conclusion of this BBA assessment is that Durakerb Half-Battered and 45° Splay (SP2) Kerb Units, when used in accordance with the provisions of this Certificate, comply with the BBA HAPAS Certification Scheme requirements.

5.2 In order for the product to continue to meet Scheme requirements, it must be installed, used and maintained as per the Certificate holder's instructions and as detailed in the Certificate.

6 Validity of Certificate

Continuing validity of this Certificate is dependent on the following factors:

- continuing compliance with product or process requirements, as described in the HAPAS Scheme document, and the specification documents referred to therein
- ongoing BBA surveillance of factory production control, to verify that the specifications and quality control being operated by the manufacturer are being maintained
- formal triennial Review of the Certificate, and Reissue for required technical or non-technical updates
- compliance with ongoing Certificate obligations by the Certificate holder and manufacturer(s).

†7 Additional Regulations

Construction (Design and Management) Regulations 2015
Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

8 Bibliography

BS EN 1340 : 2003 *Concrete kerb units – Requirements and test methods*

BS 6073-1 : 1981 *Precast concrete masonry units– Specification for precast concrete masonry units*
BS 6073-2 : 1981 *Precast concrete masonry units – Method for specifying precast concrete masonry*

BS EN ISO 180 : 1997 *Plastics – Determination of Izod impact strength*

BS EN ISO 572-2 : 1996 *Plastics – Determination of tensile properties*

BS EN ISO 4892-3 : 2000 *Plastics – Methods of exposure to laboratory light sources – Fluorescent UV lamps*

Manual of Contract Documents for Highway Works (MCHW), Version 1.0.0, Clause CC 207 – Footway, cycle track, paved area, kerb unit and access step construction

ISO 9001 : 2015 *Quality management systems*

The UK Slip Resistance Group Guidelines, *Issue 6 : 2024*

9 Conditions of Certification

9.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document – it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

9.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

9.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

9.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

9.5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to UKCA marking and CE marking.

9.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.

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