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Agrément Certificate
14/5117
Product Sheet 1 Issue 7

WECRYL LIQUID APPLIED WATERPROOFING SYSTEMS

WECRYL R 230

This Agrément Certificate Product Sheet(1) relates to Wecryl R 230, a polymethyl methacrylate liquid-applied roof waterproofing system, for use on inverted roofs, exposed flat and pitched roofs with limited access, green roofs on flat, zero fall and pitched roofs, roof garden specifications on flat and zero fall roofs including terraces and balconies and blue roof specifications in combination with a stormwater attenuation system.

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:
- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

Process factors:
- compliance with Scheme requirements
- installation, delivery, handling and storage
- production and quality controls
- maintenance and repair

Ongoing contractual Scheme elements†:
- regular assessment of production
- formal 3-yearly review

KEY FACTORS ASSESSED

Section 1. Mechanical resistance and stability
Section 2. Safety in case of fire
Section 3. Hygiene, health and the environment
Section 4. Safety and accessibility in use
Section 5. Protection against noise
Section 6. Energy economy and heat retention
Section 7. Sustainable use of natural resources
Section 8. Durability

The BBA has awarded this Certificate to the company named above for the system described herein. This system has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Seventh issue: 2 May 2025
Originally certified on 28 October 2014

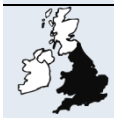
Hardy Giesler
Chief Executive Officer

SUMMARY OF ASSESSMENT AND COMPLIANCE

This section provides a summary of the assessment conclusions; readers should refer to the later sections of this Certificate for information about the assessments carried out.

Compliance with Regulations

Having assessed the key factors, the opinion of the BBA is that Wecryl R 230, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations:



The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	**B4(1)**	**External fire spread**
Comment:		The system is restricted by this Requirement in some circumstances. See section 2 of this Certificate.
Requirement:	**B4(2)**	**External fire spread**
Comment:		On suitable substructures, the use of the system may enable a roof to be unrestricted by this Requirement. See section 2 of this Certificate.
Requirement:	**C2(b)**	**Resistance to moisture**
Comment:		The system will enable a roof to satisfy this Requirement. See section 3 of this Certificate.
Regulation:	**7(1)**	**Materials and workmanship**
Comment:		The system is acceptable. See sections 8 and 9 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)(2)**	**Fitness and durability of materials and workmanship**
Comment:		The use of the system satisfies this Regulation. See sections 8 and 9 of this Certificate.
Regulation:	**8(3)**	**Fitness and durability of materials and workmanship**
Comment:		The use of the system on balconies is restricted by this Regulation. See section 2 of this Certificate.
Regulation:	**9**	**Building standards – construction**
Standard:	2.2	Separation
Standard:	2.7	Spread on external walls
Comment:		The use of the system on balconies is restricted by these Standards, with reference to clauses 2.2.7(1) and 2.7.2(1)(2). See section 2 of this Certificate.
Standard:	2.8	Spread from neighbouring buildings
Comment:		On suitable substructures, the use of the system may enable a roof to be unrestricted by this Standard. See section 2 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The system will enable a roof to satisfy this Standard, with reference to clauses 3.10.1(1)(2) and 3.10.7(1)(2). See section 3 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The system can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.

Regulation:	**12**	**Building standards – conversion**
Comment:		Comments given for the system under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.12.1[(1)(2)] and Schedule 6[(1)(2)]. (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).

The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation:	**23(1)(a)(i)(ii) (iii)(iv)(b)(i)**	**Fitness of materials and workmanship**
Comment:		The system is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**23(2)**	**Fitness of materials and workmanship**
Comment:		The use of the system on balconies is restricted under this Regulation. See section 2 of this Certificate.
Regulation:	**28(b)**	**Resistance to moisture and weather**
Comment:		The system will enable a roof to satisfy this Regulation. See section 3 of this Certificate.
Regulation:	**36(a)**	**External fire spread**
Comment:		The system is restricted by this Regulation in some circumstances. See section 2 of this Certificate.
Regulation:	**36(b)**	**External fire spread**
Comment:		On suitable substructures, the use of the system may enable a roof to be unrestricted by this Regulation. See section 2 of this Certificate.

Additional Information

NHBC Standards 2025

In the opinion of the BBA, Wecryl R 230, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 7.1 *Flat roofs, terraces and balconies.*

In addition, in the opinion of the BBA, the system, when installed and used in accordance with this Certificate can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards for Conversions and Renovations*, taking account of other relevant guidance within the chapter and the suitability of the substrate to receive the system.

The *NHBC Standards* do not cover the refurbishment of existing roofs.

Fulfilment of Requirements

The BBA has judged Wecryl R 230 to be satisfactory for use as described in this Certificate. The system has been assessed as a waterproofing system on new and existing flat roofs including those with protected zero falls, and pitched roofs.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the system under assessment. Wecryl R 230 consists of:

- Wecryl R 230 — a polymethyl methacrylate-based waterproofing resin available in Pebble Grey (RAL 7032) and Traffic Grey (RAL 7043). Other RAL colours are available on request
- Wecryl R 230 Thix — a thixotropic version of the standard resin. For use in detailing at upstands, corners, connections and other details, available in Pebble Grey (RAL 7032) and Traffic Grey (RAL 7043). Other RAL colours are available on request
- Wecryl R 230 TT — a low-temperature installation version of the standard resin, with a modified cure system. For use to allow application between +25 and -15°C. Available in Pebble Grey (RAL 7032). Other RAL colours are available on request
- Wekat Catalyst — a polymethyl methacrylate-based catalyst, used with all three resin versions as a two-component system
- Weplus Fleece — a 110 $g \cdot m^{-2}$ polyester fleece for use as a reinforcement
- Wecryl 112 Primer — a pigmented or non-pigmented primer based on a two-component polymethyl methacrylate resin, for the preparation of asphaltic and bituminous substrates
- Wecryl 176 Primer — a pigmented or non-pigmented primer based on a two-component polymethyl methacrylate resin, for the preparation of absorbent substrates such as concrete, screeds and timber.

Ancillary Items

The Certificate holder recommends the following ancillary items for use with the system, but these materials have not been assessed by the BBA and are outside the scope of this Certificate:

- WMP 113 and WMP 174s Metal Primers — one component, acrylate-based primers for metal substrates
- Wecryl 333 Self-Levelling Mortar — for use in levelling rough substrates of less than 10 mm depth, levelling of gradients, and as additional protection in trafficked areas such as roof terraces, communal walkways and balconies
- Wecryl 842 Mortar — for use in levelling rough substrates of greater than 10 mm depth and levelling of gradients
- Wecryl 488 Finish — a pigmented surface sealant, based on polymethyl methacrylate,
- Weplus Chips — an acrylate-based topping, for use on a surface sealant coat as decorative medium
- Wecryl 410 Textured Coating — a surface finish based on polymethyl methacrylate,
- Wecryl 810 Surfacer — for use in filling small cracks and joints in the substrate
- WestWood Cleaning Agent — for use in cleaning the substrate prior to the installation of the system
- Wecryl 198 Primer — a combination primer for interface details and upstands with changing substrate materials
- Wecryl 821 — a pre primer for mineral substrates
- Wecryl 171 Low-Viscosity Primer — a primer for mineral substrates
- Wethan 109 FPO Primer — a one-component primer used as a bonding agent between Flexible Polyolefins (FPO) and Thermoplastic Polyolefins (TPO)
- Wecryl R 230 Spray — a polymethyl methacrylate-based waterproofing resin for waterproofing main areas, for spray application
- Weproof 264/264 Thix — a polymethyl methacrylate-based waterproofing resin
- Weproof 269/269 Thix — a polymethyl methacrylate-based waterproofing resin
- Wecryl 260 GM — a polymethyl methacrylate-based waterproofing resin
- Wecryl 420 Roller-Applied Coating — for use as a wearing layer for Wecryl systems
- Wecryl 402 Finish — a colourless, clear sealer for surfaces with topping
- Weseal 815 — a fibre-filled waterproofing system for sealing minor penetrations, eg screws
- styrene-butadiene-styrene (SBS) adhesive primer
- polyurethane (PU) adhesive
- self-adhesive bituminous membrane foil faced
- polyisocyanurate (PIR) tissue faced insulation
- inverted roof insulation — such as extruded polystyrene insulation (XPS), expanded polystyrene insulation (EPS), cellular glass (CG) and vacuum insulation panels (VIP)
- upstand insulation boards — such as extruded polystyrene insulation (XPS), expanded polystyrene insulation (EPS), cellular glass (CG) and vacuum insulation panels (VIP)
- roof ancillaries and accessories — such as rainwater outlets, pipe collars and termination trims

- hard and soft landscaping finishes — such as concrete slabs, cobble stones and ballast
- storm water attenuation system and accessories
- water flow reducing layer (WFRL).

Applications

The system is intended for use on new and existing roofs, in:

- exposed roof specifications on flat and pitched roofs
- inverted roof specifications on flat and zero fall roofs
- protected roof specifications, covered by paving or other suitable protection
- green roof (extensive) on flat, zero fall and pitched
- roof garden (intensive) specifications
- blue roofs (in combination with a stormwater attenuation system(1) on flat zero fall roofs
- balconies with limited or pedestrian access
- terraces with limited or pedestrian access
- podiums with limited or pedestrian access

(1) The attenuation system is outside the scope of the Certificate.

The system is intended for use on the following substrates:

- concrete
- reinforced bitumen membrane
- timber
- metal
- plastic.

Definitions for products and applications inspected

The following terms are defined for the purpose of this Certificate as:

- limited access roof — a roof subjected only to pedestrian traffic for maintenance of the roof covering, cleaning of gutters, etc
- zero fall roof — a roof having a finished fall which can vary between 0 and 1:80(1)
- flat roof — a roof having a minimum finished fall of 1:80(1)
- pitched roof — a roof having a fall in excess of 1:6
- roof garden (intensive) — a roof with a substantial layer of growing medium with planting that can include shrubs and trees generally accessible to pedestrians
- green roof (extensive) — a roof with a shallow layer of growing medium planted with low-maintenance plants such as mosses, sedums, grasses and some wild flower species
- invasive plant species — vegetation species having vigorous and/or invasive root systems likely to cause damage to components of the inverted roof insulation system and roof waterproofing
- blue roof — a flat roof designed to allow controlled attenuation of rain fall during heavy and storm events, as part of sustainable urban drainage systems(2) (SUDS).

(1) *NHBC Standards* 2025 require a minimum fall of 1:60 for green roofs and roof gardens.
(2) The attenuation system is outside the scope of the Certificate.

Product assessment – key factors

The system was assessed for the following key factors, and the outcome of the assessment is shown below. Conclusions relating to the Building Regulations apply to the whole of the UK unless otherwise stated.

1 Mechanical resistance and stability

Not applicable.

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 External fire spread

2.1.1 When tested to CEN/TS 1187 : 2012 Test 4 and classified to BS EN 13501-5 : 2016, the constructions given in Table 1 of this Certificate achieved B_{ROOF}(t4) for slopes below 10°.

Table 1 External fire spread

	System 1[1]	System 2[2]	System 3[3]
Substrate[4]	12.5 mm cement board	12.5 mm cement board	≥ 18 mm OSB3
Primer	Wecryl 176 (White) at 0.5kg·m^{-2}, 1 mm Thickness	—	Styrene butadiene styrene (SBS) adhesive primer[4] at 0.125 l·m^{-2}
Vapour control layer (VCL)[4]	—	0.6 mm self-adhesive bituminous membrane foil faced (Silver) at 0.1 kg·m^{-2}	0.6 mm self-adhesive bituminous membrane foil faced
Adhesive[4]	—	—	Polyurethane (PU) insulation adhesive
Insulation[4]	—	130 mm polyisocyanurate (PIR) tissue faced insulation at 11 kg·m^{-2}	25 mm up to any thickness PIR tissue faced insulation (single or double layered)
Primer[4]	—	—	SBS adhesive primer at 0.125 l·m^{-2}
Carrier membrane[4]	—	0.6 mm self-adhesive bituminous membrane foil faced at 0.1 kg·m^{-2}	0.6 mm self-adhesive bituminous membrane foil faced
Waterproofing	Wecryl R 230 (Grey) at 3 kg·m^{-2}, 3 mm Thickness	Wecryl R 230 (Grey) at 3 kg·m^{-2}	Wecryl R 230 (Traffic grey) at 3 kg·m^{-2} with embedded synthetic fibre fleece reinforcement

(1) Fire Test Report P119029-1000 and Fire Classification Report P119029-1001, conducted by BRE Global, available from the Certificate holder, on request.
(2) Fire Test Report P119029-1002 and Fire Classification Report P119029-1003, conducted by BRE Global, available from the Certificate holder, on request.
(3) Fire Test Reports 21958A and 21958B, Fire Extended Application Report 21958C and Fire Classification Report 21958D, conducted by Warringtonfire, available from the Certificate holder, on request.
(4) These components are outside the scope of this Certificate.

2.1.2 On the basis of data assessed, the constructions listed in Table 1 will be unrestricted by the documents supporting the national Building Regulations with respect to proximity to a relevant boundary.

2.1.3 A roof incorporating the system will also be unrestricted under the national Building Regulations with respect to a relevant boundary in the following circumstances:

- when protected by an inorganic covering (eg gravel or paving slabs) listed in the Annex of Commission Decision 2000/553/EC
- a roof garden covered with a drainage layer of gravel 100 mm thick and a soil layer 300 mm thick
- irrigated roof gardens and green roofs.

2.1.4 The classification and permissible areas of use of other colours and other specifications must be confirmed by reference to the requirements of the documents supporting the national Building Regulations.

2.1.5 If allowed to dry, plants used in a roof garden may allow flame spread across the roof. This must be taken into consideration when selecting suitable plants for the roof. Appropriate planting irrigation and/or protection must be applied to ensure the overall fire-rating of the roof is not compromised.

2.2 Reaction to fire

2.2.1 The result of a reaction to fire test is given in Table 2.

Table 2 Reaction to fire

System assessed	Assessment method	Requirement	Result(1)
Wecryl R 230 (2)	Reaction to fire tested to EN ISO 11925-2 : 2010 and classified to BS EN 13501-1 : 2007	Classification achieved	E

(1) Fire Classification Report KB-Hoch-100393, conducted by Prüfinstitut Hoch, available from the Certificate holder, on request.
(2) Application - on any holohedral wooden underlay, any holohedral non-combustible base with gaps at most 5 mm and applied quantity must be 2.4 and 4.2 kgm^{-2} including reinforcement.

2.2.2 On the basis of data assessed, the system will be restricted in use under the documents supporting the national Building Regulations in some cases.

2.2.3 In England, the system, when used in pitches greater than 70°, excluding upstands, must not be used less than 1 m from a relevant boundary, or on residential buildings more than 11 m in height or on other buildings more than 18 m in height. Restrictions apply on assembly and recreation buildings. These constructions must also be included in calculations of unprotected area.

2.2.4 In Wales and Northern Ireland , the system, when used in pitches greater than 70°, excluding upstands, must not be used less than 1 m from a relevant boundary, or on other buildings more than 18 m in height. Restrictions apply on assembly and recreation buildings. These constructions must also be included in calculations of unprotected area.

2.2.5 In Scotland, with the exception of use on balconies (see section 2.2.9) the system may be used without restriction in terms of height and proximity to a relevant boundary. However, restrictions on the overall construction may apply, depending on the reaction to fire classification achieved by the complete system, which must be established on a case-by-case basis.

2.2.6 In England, unless covered with a protection with a reaction to fire of class A1 or A2-s1, d0, for example 40 mm thick cast stone slabs, the system must not be used on balconies of residential buildings with a storey 11 m or more in height or balconies of buildings that have a storey at least 18 m above ground level and which contain: one or more dwellings, an institution, a room for residential purposes, student accommodation, care homes, sheltered housing, hospitals, dormitories in boarding schools, hotels, hostels or boarding houses.

2.2.7 In Wales, unless covered with a protection with a reaction to fire of class A1 or A2-s1, d0, for example 40 mm thick cast stone slabs, the system must not be used on balconies of buildings that have a storey at least 18 m above ground level and which contain: one or more dwellings, an institution, a room for residential purposes, student accommodation, care homes, sheltered housing, hospitals, dormitories or boarding schools.

2.2.8 In Northern Ireland, unless covered with a protection with a reaction to fire of class A1 or A2-s1, d0, for example 40 mm thick cast stone slabs, the system must not be used on balconies of buildings that have a storey at least 18 m above ground level and which contain: one or more dwellings, an institution, a room for residential purposes (excluding any room in a hostel, hotel or boarding house), student accommodation, care homes, sheltered housing, hospitals, dormitories in boarding schools, nursing homes and places of lawful detention.

2.2.9 In Scotland, the system must not be used on balconies of buildings with a storey at a height of 11 m or more above the ground.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Weathertightness

3.1.1 Results of weathertightness tests are given in Table 3.

Table 3 Weathertightness

System assessed	Assessment method	Requirement	Result
Wecryl R 230, reinforced with Weplus Fleece	Watertightness under 60 kPa pressure to BS EN 1928 : 2000	No leakage	Pass
Wecryl R 230, reinforced with Weplus Fleece, primed with Wecryl 176	Resistance to delamination to EOTA TR-004 : 2004	≥ 50 kPa	
- on concrete			Pass
- on steel			Pass
- on timber			Pass
- on plastic			Pass
- on day joint on concrete			Pass
Wecryl R 230, reinforced with Weplus Fleece, primed with Wecryl 112			
- on reinforced bitumen membrane			Pass
Wecryl R 230, reinforced with Weplus Fleece	Water vapour diffusion equivalent air layer thickness (S_d) to BS EN 1931 : 2000 (23°C / 75% RH)	Value achieved	8.55 m

3.1.2 On the basis of data assessed, the system will adequately resist the passage of moisture to the inside of a building and so satisfy the requirements of the national Building Regulations.

3.1.3 The adhesion of the system is sufficient to resist the effects of wind suction, elevated temperature and thermal shock conditions likely to occur in practice and remain weathertight.

3.1.4 The resistance to wind uplift for warm roofs will be dependent on the cohesive strength of the insulation and the method by which it is secured to the roof deck. This must be taken into account when selecting a suitable insulation material.

3.2 Resistance to mechanical damage

3.2.1 Results of resistance to mechanical damage tests are given in Table 4.

Table 4 Resistance to mechanical damage

System assessed	Assessment method	Requirement	Result
Wecryl R 230, reinforced with Weplus Fleece	Static indentation to EOTA TR-007 : 2004	Value achieved	
- on concrete	Tested at 23°C		L_3
- on mineral wool			L_3
Wecryl R 230, reinforced with Weplus Fleece, primed with Wecryl 176 - on steel			L_4
Wecryl R 230, reinforced with Weplus Fleece, primed with WMP 174s - on steel			L_4
Wecryl R 230, reinforced with Weplus Fleece	Dynamic indentation to EOTA TR-006 : 2004	Value achieved	
- on concrete	Tested at 23°C		I_3
- on mineral wool	Tested at –20°C		I_4
Wecryl R 230, reinforced with Weplus Fleece, primed with WMP 174s - on steel	Tested at 23°C Tested at –20°C		I_4 I_4
Wecryl R 230, reinforced with Weplus Fleece	Tensile strength to BS EN ISO 527-1 : 2019	Value achieved	
	Longitudinal direction		6.0 MPa
	Transverse direction		6.7 MPa
Wecryl R 230, reinforced with Weplus Fleece	Elongation at break to BS EN ISO 527-1 : 2019	Value achieved	
	Longitudinal direction		40.1%
	Transverse direction		32.6%
Wecryl R 230, reinforced with Weplus Fleece, primed with Wecryl 176 - on concrete	Resistance to fatigue movement to EOTA TR-008 : 2004 Tested at –10°C (1000 cycles)	Watertight and less than 75 mm delamination from the substrate	Pass

3.2.2 On the basis of data assessed, the system can accept, without damage, the limited foot traffic and light concentrated loads associated with installation, maintenance and pedestrian traffic on defined walkways and the effects of minor structural movement while remaining weathertight.

3.2.3 Where traffic in excess of the examples given in section 3.2.2 is envisaged, such as for maintenance of lift equipment, a walkway must be provided (for example, using concrete slabs supported on bearing pads). Reasonable care must be taken to avoid puncture of the membranes by sharp objects or concentrated loads.

3.3 Resistance to root penetration

3.3.1 The result of a resistance to root penetration test is given in Table 5.

Table 5 Resistance to root penetration

System assessed	Assessment method	Requirement	Result
Wecryl R 230, reinforced with Weplus Fleece	Resistance to root penetration to BS EN 13948 : 2007	No root penetration	Pass

3.3.2 On the basis of data assessed, the system, when used in green roof and roof garden applications, will resist penetration by plant roots and remain weathertight.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

Not applicable.

7 Sustainable use of natural resources

Not applicable.

8 Durability

8.1 The potential mechanisms for degradation and the known performance characteristics of the materials in the system were assessed.

8.2 Specific test data were assessed as given in Table 6.

Table 6 Durability

System assessed	Assessment method	Requirement	Result
Wecryl R 230, reinforced with Weplus Fleece, primed with Wecryl 176 - on concrete	Resistance to delamination to EOTA TR-004 : 2004 Exposure to water at 60°C for 60 days Exposure to water at 60°C for 180 days	≥ 50 kPa	 Pass Pass
Wecryl R 230, reinforced with Weplus Fleece - on concrete	Static indentation to EOTA TR-007 : 2004 Exposure to water at 60°C for 60 days Tested at 80°C	Value achieved	L_3
Wecryl R 230, reinforced with Weplus Fleece, primed with Wecryl 176 - on steel	Exposure to water at 60°C for 180 days Tested at 23°C		L_4
Wecryl R 230 reinforced with Weplus Fleece primed with WMP 174s - on steel	Exposure to water at 60°C for 216 days Tested at 80°C		L_4
Wecryl R 230, reinforced with Weplus Fleece - on concrete	Dynamic indentation to EOTA TR-006 : 2004 Heat ageing at 80°C for 200 days Tested at –20°C UV ageing 1000 MJ·m^{-2} xenon arc at 50°C Tested at –10°C UV ageing 1000 MJ·m^{-2} xenon arc at 60°C Tested at–10°C	Value achieved	 I_4 I_4 I_4
Wecryl R 230, reinforced with Weplus Fleece, primed with WMP 174s - on steel	UV ageing 1200 MJ·m^{-2} xenon arc at 50°C Tested at–10°C		I_4
Wecryl R 230, reinforced with Weplus Fleece	Tensile strength to BS EN ISO 527-1 : 2019 Heat ageing at 80°C for 200 days UV ageing 1000 MJ·m^{-2} xenon arc at 50°C Longitudinal direction Transverse direction UV ageing 1000 MJ·m^{-2} xenon arc at 60°C Longitudinal direction Transverse direction Tensile strength to BS EN ISO 527-4 : 2021 UV ageing 1200 MJ·m^{-2} xenon arc at 50°C	Value achieved	5.9 MPa 5.2 MPa 6.4 MPa 5.6 MPa 6.7 MPa 5.6 MPa
Wecryl R 230, reinforced with Weplus Fleece	Elongation to BS EN ISO 527-1 : 2019 Heat ageing at 80°C for 200 days UV ageing 1000 MJ·m^{-2} xenon arc at 50°C Longitudinal direction Transverse direction UV ageing 1000 MJ·m^{-2} xenon arc at 60°C Longitudinal direction Transverse direction Elongation to BS EN ISO 527-4 : 2021 UV ageing 1200 MJ·m^{-2} xenon arc at 50°C	Value achieved	28.7% 40.1% 32.8% 43.6% 34.4% 55.8%
Wecryl R 230, reinforced with Weplus Fleece, primed with Wecryl 176 - on concrete	Resistance to fatigue movement to EOTA TR-008 : 2004 Heat ageing at 80°C for 200 days Tested at–10°C (50 cycles)	Watertight and less than 75 mm delamination from the substrate	Pass

8.3 Service life

8.3.1 When exposed and under normal service conditions, the system will have a life in excess of 30 years provided it is designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

8.3.2 When fully protected and subjected to normal service conditions in an inverted roof specification with an open covering (eg aggregate pavers), the system will provide an effective barrier to the transmission of liquid water and water vapour for the life of the roof in which it is incorporated.

8.3.3 In situations where maintenance or repair of any of the components in the roof structure are necessary (eg protection layer or insulation), the durability of the system may be reduced. In these circumstances, the Certificate holder must be consulted, but such advice is outside the scope of this Certificate.

8.3.4 An estimation cannot be given for the life of green roof specifications owing to the nature of use; however, under normal circumstances, it will be significantly greater for exposed waterproof coverings.

PROCESS ASSESSMENT

Information provided by the Certificate holder was assessed for the following factors:

9 Design, installation, workmanship and maintenance

9.1 Design

9.1.1 The design process was assessed by the BBA and the following requirements apply in order to meet the performance assessed in this Certificate:

9.1.2 Decks to which the system is to be applied must comply with the relevant requirements of BS 6229 : 2018, and, where appropriate, *NHBC Standards* 2025, Chapter 7.1.

9.1.3 For design purposes of flat roofs, twice the minimum finished fall must be assumed, unless a detailed structural analysis of the roof is available, including overall and local deflection, and direction of falls.

9.1.4 Terraces and balconies to which the system is to be applied, must be designed in accordance with BS 8579 : 2020.

9.1.5 Structural decks to which the system is to be applied must be suitable to transmit the dead and imposed loads experienced in service. Allowance must be made for loading deflections to ensure that the free drainage of water is maintained.

9.1.6 Imposed loads, dead loading and wind loads must be calculated by a suitably experienced and competent individual in accordance with the principles of BS EN 1991-1-1 : 2002, BS EN 1991-1-3 : 2003 and BS EN 1991-1-4 : 2005, and their UK National Annexes.

9.1.7 The ballast on protected roofs and the growing medium used in green roofs and roof gardens must not be of a type that will be removed or become delocalised owing to wind scour experienced on the roof.

9.1.8 It must be recognised that the type of plants used in roof gardens could significantly affect the expected wind loads experienced in service. Appropriate mitigation measures must be taken; the advice of the Certificate holder and/or the Green Roof Organisation (GRO) may be sought, but such advice is outside the scope of this Certificate.

9.1.9 For green roofs and roof gardens, invasive non-native alien plant species as defined by UK Government guidance must not be used.

9.1.10 For green roofs and roof garden finishes, to protect the roof waterproofing and any system components above the waterproofing, such as insulation or WFRL, invasive plant species must not be used. In particular, the following species must be excluded:

- invasive weeds including buddleia
- plants and grasses with aggressive rhizomes such as bamboo
- self-setting woody weeds such as sycamore and ash seedlings must be removed at early germination stage
- other woody plants which spread aggressively including rhododendron.

9.1.11 The Green Roof Organisation (GRO) can provide guidance on species not included in section 9.1.10 but such advice is outside the scope of this Certificate.

9.1.12 The drainage systems for inverted roofs, zero fall roofs, green roofs, roof gardens or blue roofs must be correctly designed, and the following points must be addressed:

- provision made for access for maintenance purposes
- for zero fall roofs, it is particularly important to identify the correct drainage points, to ensure that drainage is sufficient and effective in accordance with the relevant clauses of BS 6229 : 2018
- dead loads for green roofs and roof gardens can increase if the drains become partially or completely blocked causing waterlogging of the drainage layer. Additional guidance for inverted roof specifications is given in *BBA Information Bulletin No 4 Inverted roofs – Drainage and U value corrections*.

9.1.13 Insulation materials to be used in conjunction with the system must be in accordance with the Certificate holder's instructions and be either:

- as described in the relevant clauses of BS 6229 : 2018, or
- the subject of a current BBA Certificate and be used in accordance with, and within the limitations of, that Certificate.

9.2 Installation

9.2.1 Installation instructions provided by the Certificate holder were assessed and judged to be appropriate and adequate and visits were carried out to sites in progress to assess the practicability of installation.

9.2.2 Installation of the system must be carried out in accordance with the relevant clauses of BS 8000-0 : 2014, BS 8000-4 : 1989, the installation instructions of the Certificate holder and this Certificate.

9.2.3 Substrates to which the system is to be applied must be properly prepared in accordance with the Certificate holder's instructions.

9.2.4 The substrate must also be free from sharp projections such as nail heads and concrete nibs. Power-floated concrete, cement slurry, dirt and grease must be shot blasted or mechanically abraded to help ensure the primer can penetrate into the surface. The Certificate holder's advice must be sought as to the suitability of the substrate to receive the system and for suitable cleaning procedures, including the use of a proprietary surface cleaner and/or fungicidal wash where required.

9.2.5 Rough substrates must be made good using the appropriate levelling compound in accordance with the Certificate holder's instructions.

9.2.6 Defects such as large cracks must be repaired prior to application of the system in accordance with the Certificate holder's instructions.

9.2.7 Installation must not be carried out during inclement weather (eg rain, fog or snow) or when the substrate or air or material temperature is outside of the range specified in Table 7. The substrate temperature must be at least 3°C above the dew-point during application and curing. The relativity humidity must be ≤ 90%.

Table 7 Usage temperature ranges

System	Temperature range (°C)		
	Air ambient	Substrate	Material
Wecryl 112 Primer	+3 to +35	+3 to +50	+3 to +30
Wecryl 176 Primer	+3 to +35	+3 to +50	+3 to +30
WMP 174s Metal Primer	+3 to +35	+3 to +50	+3 to +30
Wecryl R 230	-5 to +35	+3 to +50	+3 to +30
Wecryl R 230 Thix	-5 to +35	+3 to +50	+3 to +30
Wecryl R 230 TT	-15 to +25	-10 to +30	+3 to +20
Wecryl 333 Self-Levelling Mortar	-5 to +25	-5 to +30	+3 to +20
Wecryl 488 Finish	-5 to +35	+3 to +40	+3 to +30

9.2.8 Previously coated areas must be checked for integrity and adequate adhesion to the substrate. Adhesion checks must be carried out to ensure that the system is compatible with the existing surface. The Certificate holder must be consulted for details of suitable test methods and requirements before use, but such advice is outside the scope of this Certificate. If the substrate requires preparing after bond testing, the appropriate methods (such as high pressure washing, captive shot blasting or other mechanical abrasive methods) can be used. Advice must be sought from the Certificate holder, but such advice is outside the scope of this Certificate.

9.2.9 Where required, Wekat Catalyst must be mixed with the resin for 2 minutes in accordance with the Certificate holder's instructions using a mixing tool with twin-paddle stirrer at slow-speed setting, in the weight ratio specified in Table 8.

Table 8 Substrate temperature to percentage catalyst

Resin	Substrate temperature to percentage catalyst				
	–10 to +2°C	+3 to +14°C	+15 to +34°C	+35 to +39°C	+40 to +50°C
Wecryl R 230/Wecryl R 230 Thix	—	4%	2%	2%	1%
Wecryl R 230 TT	6%	4%	2%	—	—

9.2.10 The primer is applied to the prepared substrate using a sheepskin roller, smoothing trowel or finish roller.

9.2.11 Once the coating has cured, a second coat of primer must be applied to cover any defects, ensuring that a continuous pore free primer film is achieved.

9.2.12 The primer coat must be allowed to dry prior to overcoating with Wecryl R 230/-Thix/-TT waterproofing membrane, ensuring that any minimum/maximum drying times are observed in accordance with the Certificate holder's instructions.

9.2.13 Wecryl R 230/-Thix/-TT resin must be applied at a minimum application rate of 1.5 $kg \cdot m^{-2}$ for the waterproofing of details, such as penetrations and expansion joints, using a sheepskin roller or brush.

9.2.14 Weplus Fleece must be immediately applied into the wet resin, ensuring that any trapped air pockets are removed, and embedded using a sheepskin roller.

9.2.15 A second layer of Wecryl R 230/-Thix/-TT resin must be applied (wet in wet) at a minimum application rate of 1 $kg \cdot m^{-2}$, ensuring that the fleece is saturated. Typical application rates for various situations are:

- smooth substrates 2.5 $kg \cdot m^{-2}$
- fine-grained substrates 3 $kg \cdot m^{-2}$
- rough substrates 3.5 $kg \cdot m^{-2}$
- below Wecryl 488 Finish/Wecryl 333 Self-Levelling Mortar 2.5 $kg \cdot m^{-2}$.

9.2.16 Fleece overlaps must be at least 50 mm wide.

9.2.17 Expansion or construction joints must be additionally reinforced prior to the application of the main waterproofing layer, in accordance with the Certificate holder's instructions.

9.2.18 If existing expansion joints have to be waterproofed, a joint tape and two layers of waterproofing with fleece reinforcement must be applied along the centre of the joint.

9.2.19 Following installation, the treated surface must be tested using a non-destructive test, eg holiday test, where required. Damaged areas must be repaired in accordance with section 9.4.

9.2.20 Detailing (eg upstands) must be carried out in accordance with the Certificate holder's instructions.

9.2.21 The NHBC requires that the system, once installed, is inspected in accordance with *NHBC Standards* 2025, Chapter 7.1, Clause 7.1.11, and undergoes an appropriate integrity test, where required. Any damage to the system assessed in this Certificate must be repaired in accordance with section 9.4 of this Certificate and reinspected, in order to maintain system performance.

9.3 Workmanship

Practicability of installation was assessed on the basis of the Certificate holder's information. To achieve the performance described in this Certificate, the system must only be installed by contractors who have been trained and approved by the Certificate holder.

9.4 Maintenance and repair

9.4.1 Ongoing satisfactory performance of the system in use requires that it is suitably maintained. The guidance provided by the Certificate holder was assessed by the BBA and found to be appropriate and adequate.

9.4.2 The following requirements apply in order to satisfy the performance assessed in this Certificate:

9.4.2.1 The system must be the subject of visual six-monthly inspections and maintenance in accordance with the recommendations in BS 6229 : 2018, Chapter 7, and the Certificate holder's own maintenance requirements. For green roof, roof garden and drainage systems, these inspections must be carried out by a suitably experienced and competent individual (with horticultural knowledge) to ensure continued satisfactory performance. This must include an examination of the condition of the roof finishes and ensure that drain outlets and gutters are kept clear and unblocked and, for green roofs and roof gardens, the removal of any self-propagated plants and invasive plant species found. See section 9.1.10

9.4.3 Green roofs and roof gardens must be the subject of regular inspections, particularly in autumn after leaf fall and in spring, to ensure unwanted vegetation and other debris is cleared from the roof and drainage outlets. Guidance is available within the latest edition of *The GRO Green Roof Code of Best Practice*.

9.4.4 For green roofs, to protect the waterproofing, invasive plant species (see sections 9.1.10 and 9.1.11) must be eliminated through maintenance.

9.4.5 The control and removal of invasive plant species is carried out by hand. Where this is not possible, any chemicals used must be checked for compatibility with the roof waterproofing layer. The Certificate holder can advise on the suitability of a particular system, but such advice and materials are outside the scope of this Certificate. If using chemicals on a green roof or roof garden, rainwater outlets may need to be disconnected from the main drainage system to prevent contamination of the local water system and/or harm to flora and fauna.

9.4.6 The chemical fertiliser used on green roofs and roof gardens must be checked for compatibility with the roof waterproofing layer. The Certificate holder can advise on the suitability of a particular system, but such advice and materials are outside the scope of this Certificate.

9.4.7 In the event of damage, repair must be carried out in accordance with the Certificate holder's instructions. Repairs are made by cutting out the damaged section and grinding or sanding the surrounding area to a smooth surface extending 100 mm in each direction from the damaged area. The area to be covered must be thoroughly cleaned before application of the systems. Application must be restricted to the repair area, with care taken not to overcoat existing areas.

9.4.8 If a leak occurs in the waterproofing layer in green roof, inverted roof or roof garden specifications, access to it is achieved by removing the layers above the waterproofing and replacing them once the repair has been carried out.

9.4.9 If minor damage occurs, it can be repaired by cleaning back to the unweathered material and recoating the damaged area with the membrane at the appropriate application rate as described in the Certificate holder's instructions.

10 Manufacture

10.1 The production processes for the system have been assessed, and provide assurance that the quality controls are satisfactory according to the following factors:

10.1.1 The manufacturer has provided documented information on the materials, processes, testing and control factors.

10.1.2 The quality control operated over batches of incoming materials has been assessed and deemed appropriate and adequate.

10.1.3 The quality control procedures and system testing to be undertaken have been assessed and deemed appropriate and adequate.

10.1.4 The process for management of non-conformities has been assessed and deemed appropriate and adequate.

10.1.5 An audit of each production location was undertaken, and it was confirmed that the production process was in accordance with the documented process, and that equipment has been properly tested and calibrated.

† 10.2 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.

11 Delivery and site handling

11.1 The Certificate holder stated that the primer and waterproofing resin components are delivered to site in 10 or 25 kg metal buckets bearing the system name, batch number and health and safety information. The buckets will be packed per order on pallets and shrink-packed. The Wekat Catalyst for the resin components is supplied in a plastic bag or cardboard container attached to the resin container.

11.2 Delivery and site handing must be performed in accordance with the Certificate holder's instructions and this Certificate, including:

11.2.1 Resins must be stored in a ventilated, dry location, away from heat and oxidising agents and out of direct sunlight, and at a temperature between 0 and 25°C.

† ANNEX A – SUPPLEMENTARY INFORMATION

Supporting information in this Annex is relevant to the system but has not formed part of the material assessed for the Certificate.

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.

CLP Regulations

The Certificate holder has taken the responsibility of classifying and labelling the system components under the *GB CLP Regulation* and *CLP Regulation (EC) No 1272/2008 - classification, labelling and packaging of substances and mixtures*. Users must refer to the relevant Safety Data Sheet(s).

CE marking

The Certificate holder has taken the responsibility of CE marking the system, in accordance with EAD 030350-00-0402.

Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of ISO 9001 : 2015 by Dekra Certification GmbH (Certificates 80520375).

Additional information

Design

A.1 Additional guidance for inverted roof specifications is given in *BBA Information Bulletin No 4 Inverted roofs – Drainage and U value corrections.*

A.2 Recommendations for the design of green roofs and roof garden specifications are available within the latest edition of *The GRO Green Roof Code – Green Roof Code of Best Practice for the UK*.

A.3 Guidance for the design and construction of blue roofs is available in the NFRC *Technical Guidance Note for the construction and design of S Roofs*.

Installation

A.4 Installation must also be in accordance with the relevant clauses of Liquid Roofing and Waterproofing Association (LRWA) Note 7 - *Specifier Guidance for Flat Roof Falls.*

Bibliography

BS 6229 : 2018 *Flat roofs with continuously supported flexible waterproof coverings — Code of practice*

BS 8000-0 : 2014 *Workmanship on construction sites — Introduction and general principles*
BS 8000-4 : 1989 *Workmanship on building sites — Code of practice for waterproofing*

BS 8579 : 2020 *Guide to the design of balconies and terraces*

BS EN 1928 : 2000 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of watertightness*

BS EN 1931 : 2000 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of water vapour transmission properties*

BS EN 1991-1-1 : 2002 *Eurocode 1 — Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*
NA to BS EN 1991-1-1 : 2002 UK National Annex to *Eurocode 1 — Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*
BS EN 1991-1-3 : 2003 + A1 : 2015 *Eurocode 1 — Actions on structures — General actions — Snow loads*
NA + A2 : 18 to BS EN 1991-1-3 : 2003 + A1 : 2015 UK National Annex to *Eurocode 1 — Actions on structures — General actions — Snow loads*
BS EN 1991-1-4 : 2005 + A1 : 2010 *Eurocode 1 — Actions on structures — General actions — Wind actions*
NA to BS EN 1991-1-4 : 2005 + A1 : 2010 UK National Annex to *Eurocode 1 — Actions on structures — General actions — Wind actions*

BS EN 13501-1 : 2007 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*
BS EN 13501-5 : 2016 *Fire classification of construction products and building elements — Classification using data from external fire exposure to roof tests*

EN ISO 11925-2 : 2010 *Reaction to fire tests — Ignitability of products subjected to direct impingement of flame — Single-flame source test*

BS EN 13948 : 2007 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of resistance to root penetration*

BS EN ISO 527-1 : 2019 *Plastics — Determination of tensile properties — General principles*
BS EN ISO 527-4 : 2021 *Plastics — Determination of tensile properties — Test conditions for isotropic and orthotropic fibre-reinforced plastic composites*

CEN/TS 1187 : 2012 *Test methods for external fire exposure to roofs*

EOTA TR-003 : 2004 *Determination of the watertightness*
EOTA TR-004 : 2004 *Determination of the resistance to delamination*
EOTA TR-006 : 2004 *Determination of the resistance to dynamic indentation*
EOTA TR-007 : 2004 *Determination of the resistance to static indentation*
EOTA TR-008 : 2004 *Determination of the resistance to fatigue movement for Kits based on Flexible Unsaturated Polyester*

ISO 9001 : 2015 *Quality management systems — Requirements*

Conditions

1 This Certificate:

- relates only to the product 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
- 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
- and any matter arising out of or in connection with it or its subject matter (including non-contractual disputes or claims) is governed by and construed in accordance with the law of England and Wales.
- the courts of England and Wales shall have exclusive jurisdiction to settle any matter arising out of or in connection with this Certificate or its subject matter (including non-contractual disputes or claims).

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.

3 This Certificate will be displayed on the BBA website, and the Certificate Holder is entitled to use the Certificate and Certificate logo, provided that the product 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.

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

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

6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product which is contained or referred to in this Certificate is the minimum required to be met when the product 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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