

Giromax Technology Limited

Eagle House
Bilton Way
Lutterworth
Leicestershire LE17 4JA

Tel: 01455 558969

e-mail: sales@giromax.co.uk

website: www.giromax.co.uk



Agrément Certificate

20/5772

Product Sheet 1

GIROMAX ROOF COATING SYSTEMS

GIROSIL¹

This Agrément Certificate Product Sheet⁽²⁾ relates to Girosil, for use as a liquid-applied protective coating for existing galvanized steel roofing (including plastisol coated), cut edge protection against corrosion for metal roofing sheets and as an encapsulation coating for existing asbestos roofs.

(1) Girosil is a trademark of Giromax Technology Limited.

(2) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Weathertightness — the system is water repellent and will support water run-off from the roof (see section 6).

Properties in relation to fire — the system will not affect the fire classification of the roof (see section 7).

Protection from corrosion — the system will provide satisfactory resistance to corrosion of steel substrates (see section 8).

Encapsulation — the system provides an effective means of encapsulating asbestos roofs (see sections 9 and 13).

Adhesion — the adhesion of the system is sufficient to resist the effects of any likely wind suction and the effects of any thermal expansion or other minor movement likely to occur in practice (see section 10).

Resistance to mechanical damage — the system will resist without damage the limited foot traffic and loads associated with installation and maintenance (see section 11).

Durability — the system will provide a durable protection coating with a service life in excess of 20 years (see section 13).

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 First issue: 25 June 2020



Hardy Giesler
Chief Executive Officer

The BBA is a UKAS accredited certification body – Number 113.

The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers MUST check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

British Board of Agrément

Bucknalls Lane
Watford
Herts WD25 9BA

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tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

Regulations

In the opinion of the BBA, Girosil, 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 presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



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

Requirement:	B4(1)	External fire spread
Comment:		The system, in some circumstances, is restricted by this Requirement. See section 7.3 of this Certificate.
Requirement:	B4(2)	External fire spread
Comment:		The system may be unrestricted under this Requirement. See sections 7.1 and 7.2 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		The system can contribute to a roof satisfying this Requirement. See section 6.1 of this Certificate.
Regulation:	7(1)	Materials and workmanship
Comment:		The system is acceptable. See section 13 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Durability, workmanship and fitness of materials
Comment:		The use of the system satisfies the requirements of this Regulation. See sections 12.1, 12.2 and 13 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	2.8	Spread from neighbouring buildings
Comment:		The system, when applied to a non-combustible substrate, may be unrestricted under clause 2.8.1 ⁽¹⁾⁽²⁾ of this Standard. See sections 7.1 and 7.2 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The system can contribute to a roof to satisfy the requirements of this Standard, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ and 3.10.7 ⁽¹⁾⁽²⁾ . See section 6.1 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The system can contribute to meeting 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 applicable to conversions
Comment:		Comments in relation to 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(a)	Fitness of materials and workmanship
Comment:	(b)(i)	The system is acceptable. See section 13 and the <i>Installation</i> part of this Certificate.

Regulation:	28(b)	Resistance to moisture and weather
Comment:		The system can contribute to the roof satisfying this Regulation. See section 6.1 of this Certificate.
Regulation:	36(b)	External fire spread
Comment:		The system may be unrestricted under this Regulation. See sections 7.1 and 7.2 of this 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.

See sections: *3 Delivery and site handling, 4 Use (4.6), 5 Practicability of installation (5.2), 11 Resistance to mechanical damage (11.2), 14 General (14.2, 14.4) and 16 Repair (16.2) of this Certificate.*

Technical Specification

1 Description

Girosil consists of:

- Girosil RC — a single-part, liquid-applied, polyether/polyurethane, for use as the weathering coat of the system. Available in two colours: Goosewing Grey (RAL 7038) and Squirrel Grey (RAL 7000)⁽¹⁾
- Girosil RC-E — a single-part, liquid-applied, polyether/polyurethane, for use as the weathering coat for cut edge corrosion treatment. Available in a single colour: Goosewing Grey (RAL 7038)⁽¹⁾
- Girosil Base Coat MCU — a single-part, moisture curing primer for corrosion protection
- Girosil SE — a single-part gap filler for overlaps on metal roofs and general crack and bridge filler.

(1) Additional colours are available on request from the Certificate holder, these are outside the scope of this Certificate.

2 Manufacture

2.1 The system components are manufactured by a batch-blending process.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out 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.

3 Delivery and site handling

3.1 Girosil RC-E Girosil RC and Girosil Base Coat MCU are delivered to site in airtight containers and Girosil SE in polyethylene cartridges. The system components packaging bears the Certificate holder's details, product name, hazard labels, transportation information and batch number.

3.2 The system components must be stored in well-ventilated, dry, frost-free conditions, not exposed to high temperatures and away from direct sunlight, oxidising agents and acids. Partially used containers are tightly sealed when not in use.

3.3 The packaging sizes are given in Table 1.

Table 1 Packaging

Component name	Packaging	Unit type	Unit size	Number of units per pack
Girosil RC	Pallet	Can	15 ℓ	34 per pallet
Girosil RC-E	Pallet	Can	2.5 ℓ	100 per pallet
Girosil Base Coat MCU	Pallet	Can	2.5 ℓ	50 per pallet
Girosil SE	Box/pallet	Cartridge	477.4 g	25 cartridges per box/ 48 boxes per pallet

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

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Girosil.

Design Considerations

4 General

4.1 Girosil is satisfactory for the following uses on pitched roofs:

- a protective coating against corrosion for existing galvanized steel and plastisol coated galvanized steel roofs with limited access
- cut edge protection against corrosion for galvanized steel roofing sheets
- encapsulation of weathered asbestos roof sheets on pitched roofs with limited access.

4.2 The system is not a waterproofing coating but will enhance water repellent properties of the roof when applied to a suitably weathertight substrate.

4.3 Decks to which the system is to be applied must comply with the relevant requirements of BS 6229 : 2018.

4.4 Limited access roofs are defined for the purpose of this Certificate as those subjected only to pedestrian traffic for maintenance of the roof covering, cleaning of gutters, etc. Should traffic in excess of this be envisaged, special precautions, such as additional protection to the roof coating, must be taken.

4.5 Pitched roofs are defined for the purpose of this Certificate as those having a fall in excess of 1:6.

4.6 Precautions must be taken before work is undertaken on fibre-reinforced asbestos roof sheets to avoid airborne asbestos fibres. Reference should be made to HSE *Health and safety guidance* HSG 33 and HSE *Asbestos essentials A10 Cleaning debris from guttering on an asbestos cement roof, A12 Cleaning weathered asbestos cement roofing and cladding* and EM9 *Disposal of asbestos waste*.

5 Practicability of installation

5.1 Installation of the product must be carried out only by specialist roofing contractors trained and approved by the Certificate holder.

5.2 All work on asbestos roofs must be carried out by specialist contractors working in accordance with all relevant HSE instructions.

6 Weathertightness



6.1 The system, when used in accordance with this Certificate, will provide a roof with enhanced water-repellent properties.

6.2 The system, when encapsulating an appropriate substrate, is capable of accepting minor structural movements, enabling a roof to comply with the requirements of the national Building Regulations.

7 Properties in relation to fire



7.1 When tested to DD CEN/TS 1187 : 2012, Test 4, a system comprising a 0.7 mm PVC (polyvinyl chloride) plastisol coated steel substrate and a 0.2 mm coating of Giresil RC, achieved a Classification to BS EN 13501-5 : 2016 of B_{ROOF}(t4)⁽¹⁾.

(1) Fire test report and Fire Classification report, references Q100916-1001 and Q100916-1002 respectively, conducted by BRE Global. Report available from the Certificate holder.

7.2 The designation of other specifications should be confirmed by reference to the requirements of the documents supporting the national Building Regulations.



7.3 The system, when used in pitches of greater than 70°, should not be used on buildings in England and Wales that have a storey at least 18 m above ground level and 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 or dormitories in boarding schools.

8 Protection from corrosion

8.1 The system will protect the galvanized steel substrates including cut edges it is applied to from all normal atmospheric corrosive conditions, including coastal and industrial conditions (see sections 8.2 and 12.2).

8.2 Where the system is to be installed in heavily polluted areas, such as near chemical works or foundries, the advice of the Certificate holder must be sought.

9 Encapsulation

The system will provide an effective means to encapsulate weathered asbestos roof sheets to prevent fibres from being released into the environment.

10 Adhesion

The adhesion of the system to the substrates named in section 4.1 is satisfactory.

11 Resistance to mechanical damage

11.1 The system is resistant to abrasion and damage by concentrated loads but can be damaged by sharp objects and impacts. Where pedestrian access is required for maintenance, suitable precautions to prevent damage to the coating, such as walkways, should be used.

11.2 Asbestos roof sheets are fragile and should not be trafficked. Suitable walk boards or dedicated man-safe systems should be employed if the roof is to be trafficked, see section 4.6.

12 Maintenance



12.1 The system must be the subject of annual inspections and maintenance.

12.2 On asbestos pitched roofs encapsulated with the system, inspections and maintenance works should be carried out in accordance with HSE Asbestos Essentials A10, A12 and EM9.

12.3 Where damage has occurred, it should be repaired in accordance with section 16 and the Certificate holder's instructions.

13 Durability



The system will provide a durable protective coating for galvanized steel substrates and serve as an encapsulating coating for asbestos roof sheets with a service life in excess of 20 years.

Installation

14 General

14.1 Application of Girosil is in accordance with the Certificate holder's instructions and this Certificate.

14.2 For asbestos roof sheets, the measures given in HSE *Asbestos Essentials*, A16 *Painting asbestos cement sheets* must be followed to reduce exposure and minimise the associated risks.

14.3 Galvanized steel and plastisol substrates, including areas of cut edge treatment, to which the system is to be applied, must be clean, free from loose and flaking material (including rust), degreased and dry. In cases of doubt on the requirements for surface treatment, the advice of the Certificate holder should be sought.

14.4 Asbestos roof sheets to which the system is to be applied, must be thoroughly clean and completely dry and free from sharp projections. The Certificate holder's advice must be sought in regard to the suitability of the substrate to receive the system, suitable cleaning procedures and the use of a proprietary surface cleaner/HSE approved fungicidal wash where required. Asbestos containing waste produce, must be disposed of in accordance with HSE *Asbestos Essentials* EM9 and A10.

14.5 Holes in the substrate caused by corrosion, cracks and overlaps in the substrate where bridging of the system is required are filled prior to coating using Girosil SE, in accordance with the Certificate holder's instructions.

14.6 Installation should not be carried out during inclement weather (eg rain, fog or snow) and when rain is expected within two to four hours depending on temperature. The system must be applied when the air and substrate temperatures are greater than 5°C and air temperature must not exceed 35°C.

15 Procedure

15.1 Steel substrates are treated with Girosil Base Coat MCU, prior to the application of the Girosil RC/RC-E, in accordance with the Certificate holder's instructions.

15.2 Installation of Girosil RC is carried out using a brush, roller or airless spray, and Girosil RC-E by brush.

15.3 When using an airless spray to install Girosil RC, the wind speed must be such that it does not interfere with the application or cause overspray. No attempt to spray should be made if the wind speed exceeds 6.7 m·s⁻¹ (15 mph), unless precautions, such as the use of wind barriers, are taken.

15.4 Girosil RC is applied in one coat at a coverage rate of approximately 0.28 kg·m⁻² to give a minimum finished film thickness of 200 µm.

15.5 The system is rainproof in two to four hours and thoroughly dry in 16 hours.

16 Repair

16.1 The repair of minor damage to the system can be achieved effectively by cleaning back to the unweathered material and recoating the damaged area with the system at the application rates stated in section 15.3.

16.2 When repairing the system on asbestos roof sheets, the guidance given in HSE 33, A13 *Repairing damaged asbestos cement* should be followed as good practice to ensure adequate levels of work.

Technical Investigations

17 Tests

Tests were carried out and the results assessed to determine:

- infrared analysis
- solids content
- water vapour permeability
- abrasion resistance
- dynamic indentation
- static loading
- fatigue cycling
- delamination strength
- cross hatch bond
- sulfur dioxide exposure
- salt fog exposure
- heat ageing
- UV ageing.

18 Investigations

18.1 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

18.2 A visit was made to a site in progress to assess the practicability of installation.

18.3 Data on fire performance were assessed.

Bibliography

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

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

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

19 Conditions

19.1 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.

19.2 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.

19.3 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.

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

19.5 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 CE marking.

19.6 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.