

Our Ref: GH/M1401053  
Test Report: MAT/LAB 688G

14<sup>th</sup> May 2014



Bison International  
Dr. A. F. Philipsstreet 9  
NL-4462 EW Goes  
Netherlands

**WATER REGULATIONS ADVISORY SCHEME (WRAS)**  
**MATERIAL APPROVAL**

The material referred to in this letter is suitable for contact with wholesome water for domestic purposes having met the requirements of BS 6920-1:2000 'Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water'.

The reference relates solely to its effect on the quality of the water with which it may come into contact and does not signify the approval of its mechanical or physical properties for any use.

**SOLVENT CEMENTS**

**5560**

Griffon UNI-100. Amber coloured solvent cement intended to join PVC-U pipes and fittings. For use with water up to 23°C.

**APPROVAL NUMBER: 1405519**  
**APPROVAL HOLDER: BISON INTERNATIONAL**

The Scheme reserves the right to review approval. This approval is valid between May 2014 and May 2019.

An entry, as above, will accordingly be included in the Water Fittings Directory on-line under the section headed, "Materials which have passed full tests of effect on water quality".

The Directory may be found at: [www.wras.co.uk/directory](http://www.wras.co.uk/directory)

Yours faithfully

A handwritten signature in blue ink, appearing to read 'J. Furnival', with a stylized flourish at the end.

Jason Furnival  
Approvals & Enquiries Manager  
Water Regulations Advisory Scheme

## **WRAS MATERIAL APPROVAL - MATERIALS WHICH HAVE PASSED FULL TESTS OF EFFECT ON WATER QUALITY**

The material referred to in this letter is suitable for contact with water for domestic purposes. **Approval of this material does not signify the approval of its mechanical or physical properties for any use.**

Manufacturers or applicants may only quote in their sales literature terms which are used in this letter, namely that; 'the material as listed, having passed the tests of effect on water quality, is suitable for use in contact with wholesome water'

This may be abbreviated to 'Water Regulations Advisory Scheme - Approved Material' or 'WRAS Approved Material'.

The scope of an Approval does not extend to rebranded materials unless otherwise agreed by the Scheme.

### **Use of the WRAS Approved Material Logo**

The WRAS Approved Material logo is registered under the Trade Marks Acts 1994

Approval holders may use the WRAS Approved Material logo and make reference to any approval issued by WRAS Ltd. in respect of a particular material or range of materials provided the approval is, and remains valid.

Approval holders are entitled to use the logo on the packing, promotional literature and point of sale advertising Approved Materials.

### **Modifications to existing Approvals**

It is a condition of WRAS Material Approval that **NO** changes or modifications to the Approved Material, be made without the Approval Holder first notifying WRAS Ltd. Full details of the proposed changes must be provided to the Scheme. Failure to comply with this condition will immediately invalidate a previously granted Approval.

### **Re-Approval**

WRAS will write to you 1 year before the approval expires asking whether you would like to renew it. Please complete the relevant section of the MA3 application form which will be included with the letter and return to WRAS (via e-mail or post).

Please note it is the responsibility of the Approval Holder to ensure the Approval remains valid. WRAS Ltd. accepts no liability for the delay in granting approval where this is caused by circumstances outside of the Scheme's control.

## Product certificate K5067/08

Issued 2016-09-15

Replaces K5067/07

Page 1 of 2

### Adhesives for joints in thermoplastic piping systems for the transport of drinking water

#### STATEMENT BY KIWA

With this product certificate, issued in accordance with the Kiwa Regulations for Product Certification, Kiwa declares that legitimate confidence exists that the products supplied by

### Bison International B.V.

as specified in this product certificate and marked with the Kiwa®-mark in the manner as indicated in this product certificate may, on delivery, be relied upon to comply with Kiwa evaluation guideline BRL-K525 "Adhesives for joints in thermoplastic piping systems for the transport of drinking water" dated 01-02-2012.



Luc Leroy  
Kiwa

Publication of the certificate is allowed.

Advice: consult [www.kiwa.nl](http://www.kiwa.nl) in order to ensure that this certificate is still valid.

#### Kiwa Nederland B.V.

Sir Winston Churchillaan 273  
Postbus 70  
2280 AB RIJSWIJK  
The Netherlands

Tel. +31 88 998 44 00  
Fax +31 88 998 44 20  
[info@kiwa.nl](mailto:info@kiwa.nl)  
[www.kiwa.nl](http://www.kiwa.nl)



287160324

#### Supplier

Bison International B.V.  
Dr. A.F. Philipsstraat 9  
4462 EW GOES  
Postbus 160  
4460 AD GOES  
The Netherlands  
T +31(0)113-235825  
F +31(0)113-232077  
E [info@bison.nl](mailto:info@bison.nl)  
I [www.bison.nl](http://www.bison.nl)

Certification process  
consists of initial and  
regular assessment of:

- quality system
- product

## Adhesives for joints in thermoplastic piping systems for the transport of drinking water

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### PRODUCT SPECIFICATION

The products as specified in the table below fulfil the requirements of BRL-K525.

BRL-K525 completely covers the requirements of NEN-EN 14814, "Adhesives for thermoplastic piping systems for fluids under pressure".

Adhesives
<ul style="list-style-type: none"> <li>Griffon T-88</li> </ul>
<ul style="list-style-type: none"> <li>Griffon UNI-100</li> </ul>
<ul style="list-style-type: none"> <li>Griffon UNI-100® XT</li> </ul>

### Fitness for contact with drinking water

This product is approved on the basis of the requirements for hygienic aspects set in the "Regeling materialen en chemicaliën drink- en warm tapwatervoorziening" ("Materials and chemicals in the supply of drinking water and warm tap water Regulation"; published in the Government Gazette).


These hygienic aspects are based on two main criteria. The product shall permanently comply with:

- The product recipe approved during the assessment procedure. This recipe is not to be changed without prior approval by Kiwa according to the Kiwa approval procedure for the hygienic aspects;
- Specific product requirements for the hygienic aspects.

The recipe and specific product requirements are laid down in the for confidentiality reasons undisclosed 'appendix hygienic aspects' to this certificate.

### MARKING

The following marks and indications must be provided on each product and product packaging in a clear, legible and indelible way:

- Kiwa (of Kiwa®-word mark) and additionally the Kiwa watermark ;
- BRL-K525;
- Manufacturer's or suppliers name and trade mark or identification mark of the adhesive;
- Application area: thermoplastic piping systems for the transport of drinking water;
- Type of plastics piping system for which the adhesive is suitable (e.g. PVC-U, PVC-C, ABS or SAN+ABS);
- Batch number;
- Date of manufacturing of "use before date", and a statement to the effect that the adhesive has a shelf life of minimum 12 months when stored in unopened containers in accordance with the manufacturer's instructions;
- Any safety precautions and instructions relating to use and storage.

The label must be in the language of the country in which the product is sold.

### APPLICATION AND USE

Adhesives with accompanying cleaners used for joining the components of PVC-U thermoplastic piping systems for the transport of drinking water.

### RECOMMENDATIONS FOR CUSTOMERS

Check at the time of delivery whether:

- the supplier has delivered in accordance with the agreement;
- the mark and the marking method are correct;
- the products show no visible defects as a result of transport etc.

If you should reject a product on the basis of the above, please contact:

- Bison International B.V.

and, if necessary,

- Kiwa Nederland B.V.

Consult the supplier's processing guidelines for the proper storage and transport methods.





Number	49133/01	Replaces	--
Issued	1 February 2017	Scope	KE 31-1
Contract number	Q 14/006	Page	1-2

## Product Certificate

### Griffon Easyfit

Based on pre-certification tests as well as periodic inspections by Kiwa Nederland B.V., the products referred to in this certificate and marked with the GASTEC QA mark, supplied by

### Bison International B.V.

may, on delivery, be relied upon to comply with the GASTEC QA Approval Requirements 31-1, for "Sealing materials for metallic threaded joints in contact with 2nd and 3rd family gases and hot water – Part 1: Anaerobic jointing compounds". 1<sup>st</sup> of March 2012.



Luc Leroy  
Kiwa

This certificate is issued by Kiwa Nederland B.V. in conjunction with the KIWA regulations for Product Certification.

This certificate consists of 2 pages.  
Publication of the certificate is allowed.



Number	49133/01	Replaces	--
Issued	1 February 2017	Scope	KE 31-1
Contract number	Q 14/006	Page	2-2

## Griffon Easyfit

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### PRODUCT SPECIFICATION

#### GRIFFON EASYFIT

Thread sealing for permanent closure of metallic threaded joints.

Heavy detachable.

Pressure class 8.

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### APPLICATION AND USE

The sealing materials are for use in gas installations for 2nd family gases (natural gas), 3rd family gases (liquefied petroleum gas- LPG) according to NEN-EN 437 and in hot water heating systems for gas and water pressures up to and including 8 bar.

The specific functional recommendations for application of these sealing materials in gas systems are described in NEN 1078, NEN 2078, NEN 7244 NEN-EN 12007 and national and international standards and/or regulations.

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### MARKING

Compulsory specifications:

- GASTEC QA trademark.
- In addition to that stated in NEN-EN 751-1, Article 8, each package of jointing compound shall be marked as well with the following information
  - 1. the GASTEC QA word mark or logo;
  - 2. Pressure class "Klasse 8"
  - 3. Note that the anaerobic jointing compound can be used on metallic pipe joints only. In Dutch: "Alleen voor metalen pijpschroefdraadverbindingen"

The manufacturer must also supply assembly instructions in Dutch.

The instructions shall include the recommended curing time of the jointing compound after assembly.

Place of the mark:

On the package.

Method of marking:

Non-erasable.

- 
- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1. Check at the time of delivery whether:           <ol style="list-style-type: none"> <li>1.1 the producer has delivery in accordance with the agreement;</li> <li>1.2 the mark and the marking method are correct;</li> <li>1.3 the products show no visible defects as a result of transport etc.</li> </ol> </li> <li>2. If you should reject a product on the basis of the above, please contact:           <ol style="list-style-type: none"> <li>2.1 Bison International B.V.<br/>and, if necessary,</li> <li>2.2 Kiwa Nederland B.V.</li> </ol> </li> </ol> | <ol style="list-style-type: none"> <li>3. Consult the producer's processing guidelines for the proper storage and transport methods.</li> <li>4. Check whether this certificate is still valid by consulting Kiwa Nederland B.V. or the Kiwa website.</li> </ol> |
|--|--|
-

# Kitemark™ Certificate

This is to certify that:

Bison International B.V.  
Dr. A.F. Philipsstraat 9  
Goes  
4462 EW  
The Netherlands

Holds Certificate Number:

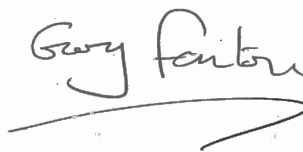
KM 87235

In respect of:

**BS EN 14814**  
**Adhesives for thermoplastic piping systems for fluids under pressure**

This issues the right and licence to use the Kitemark in accordance with the Kitemark Terms and Conditions governing the use of the Kitemark, as may be updated from time to time by BSI Assurance UK Ltd (the "Conditions"). All defined terms in this Certificate shall have the same meaning as in the Conditions.

The use of the Kitemark is authorized in respect of the Product(s) detailed on this Certificate provided at or from the above address.



For and on behalf of BSI:

Gary Fenton, Global Product Certification Director

First Issued: 15/12/2004

Latest Issue: 10/02/2017



Page: 1 of 2

...making excellence a habit.™

# Kitemark™ Certificate

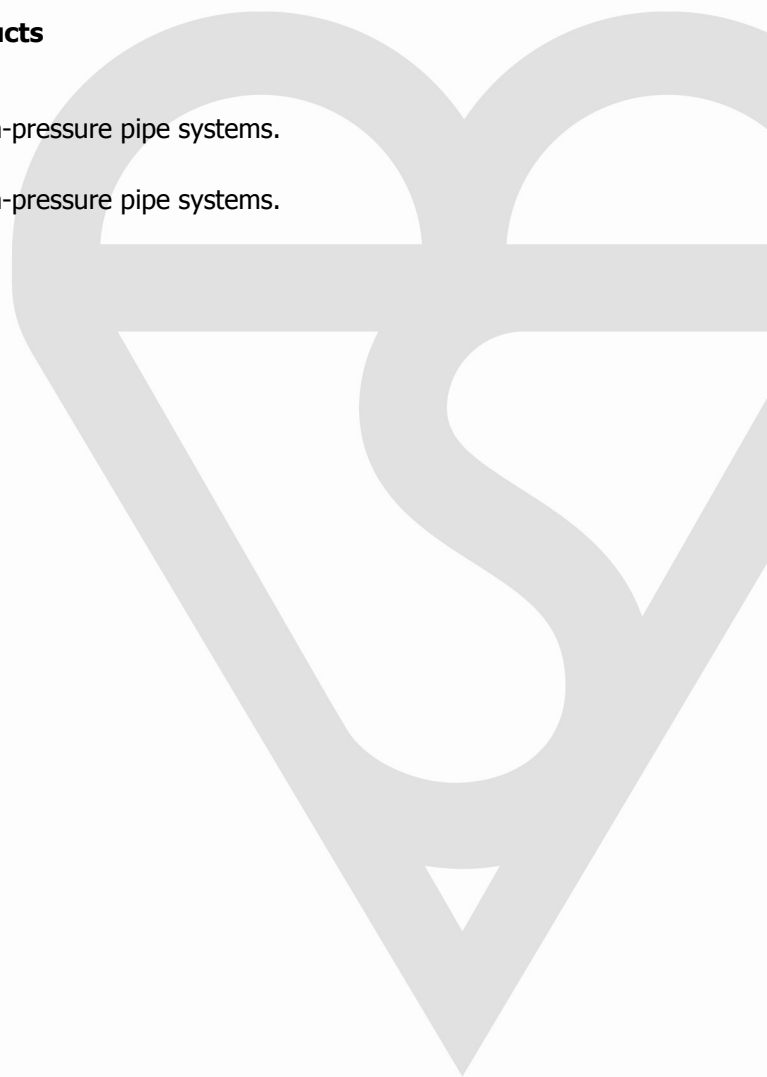
No. KM 87235

**BS EN 14814:2016 - Adhesives for thermoplastic piping systems for fluids under pressure.**

## **The scope of this Certificate covers the following products**

UNI-100            Solvent cement for U-PVC pressure and non-pressure pipe systems.

UNI-100XT        Solvent cement for U-PVC pressure and non-pressure pipe systems.



First Issued: 15/12/2004

Latest Issue: 10/02/2017

Page: 2 of 2

This certificate has been issued by and remains the property of BSI Assurance UK Ltd, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP, United Kingdom and should be returned immediately upon request.  
To check its validity telephone +44 (0) 345 080 9000. An electronic certificate can be authenticated [online](#).

BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.  
A member of BSI Group of Companies.



**DECLARATION OF PERFORMANCE**

*In compliance with EU Regulation (EU): No 305/2011  
(Construction Product Regulation)*

Declaration of Performance-Nr. **GR 00003/00004**

1. Unique identification code of the product-type:

**GRIFFON UNI-100®**  
**PVC-U Adhesive for thermoplastic piping systems for fluids under pressure (PN16)**  
**and fluids not under pressure**

2. Intended use(s):

**In installations/disposal/storage of water not intended for human consumption**  
**\* (see remark on the last page)**

3. Manufacturer:

**BISON INTERNATIONAL, Dr. A.F. Philipsstraat 9, NL - 4462 EW Goes, Netherlands**

4. Authorized representative:

**Not Applicable**

5. System or systems of assessment and verification of constancy of performance:

**System 4**

6. Harmonised standard: **EN14680:2006/EN14814:2007**  
Notified body/ies: **Not Applicable**

7. Declared performances:

Essential characteristics	Performance	Harmonised technical specification
Resistance to pull out / shear strength at 1 hour setting time	$\geq 0,25$ MPa	EN 14680:2006
Resistance to pull out / shear strength at 24 hours setting time	$\geq 1,5$ MPa	
Resistance to pull out / shear strength at 480 hours setting time	$\geq 3,0$ MPa	
Tightness / resistance to elevated temperature cycling	No leakage	
Resistance to high temperature / resistance to elevated temperature cycling	No leakage	
Durability on tightness and temperature resistance	No leakage	

Essential characteristics	Performance	Harmonised technical specification
Internal pressure / pressure resistance at 51,2 bar 20 °C	≥ 1000 hour, no leakage	EN 14814:2007
Internal pressure / pressure resistance at 16 bar 60 °C	≥ 1000 hour, no leakage	
Resistance to pull out / shear strength at 1 hour setting time	≥ 0,4 MPa	
Resistance to pull out / shear strength at 24 hours setting time	≥ 1,5 MPa	
Resistance to pull out / shear strength at 480 + 96 (60°C) hour setting time	≥ 7,0 MPa	
Tightness / pressure resistance at 51,2 bar 20 °C + 16 bar 60 °C	No leakage	
Resistance to high temperature / pressure resistance at 16 bar 60 °C	No leakage	
Durability on tightness and temperature resistance	No leakage	

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

Name : M.Dijsselbloem  
 Function : Technology Manager  
 Place and date : Goes, 22 April 2015  
 Signature



*The use in installations of water intended for human consumption is not in the scope of this harmonized standard, but will probably be introduced in the future revision of this standard. Until then the product can be used in installation of water intended for human consumption if it meets the relevant requirements of an separate Member State. See for details on the data sheet or label if you can use the product in contact with water intended for human consumption.*

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Resistance to high temperature / resistance to elevated temperature cycling	No leakage	
Durability on tightness and temperature resistance	No leakage	

Essential characteristics	Performance	Harmonised technical specification
Internal pressure / pressure resistance at 51,2 bar 20 °C	≥ 1000 hour, no leakage	EN 14814:2007
Internal pressure / pressure resistance at 16 bar 60 °C	≥ 1000 hour, no leakage	
Resistance to pull out / shear strength at 1 hour setting time	≥ 0,4 MPa	
Resistance to pull out / shear strength at 24 hours setting time	≥ 1,5 MPa	
Resistance to pull out / shear strength at 480 + 96 (60°C) hour setting time	≥ 7,0 MPa	
Tightness / pressure resistance at 51,2 bar 20 °C + 16 bar 60 °C	No leakage	
Resistance to high temperature / pressure resistance at 16 bar 60 °C	No leakage	
Durability on tightness and temperature resistance	No leakage	

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2. Intended use(s):

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**\* (see remark on the last page)**

3. Manufacturer:

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4. Authorized representative:

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Resistance to pull out / shear strength at 480 hours setting time	$\geq 3,0$ MPa	
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Durability on tightness and temperature resistance	No leakage	

Essential characteristics	Performance	Harmonised technical specification
Internal pressure / pressure resistance at 51,2 bar 20 °C	≥ 1000 hour, no leakage	EN 14814:2007
Internal pressure / pressure resistance at 16 bar 60 °C	≥ 1000 hour, no leakage	
Resistance to pull out / shear strength at 1 hour setting time	≥ 0,4 MPa	
Resistance to pull out / shear strength at 24 hours setting time	≥ 1,5 MPa	
Resistance to pull out / shear strength at 480 + 96 (60°C) hour setting time	≥ 7,0 MPa	
Tightness / pressure resistance at 51,2 bar 20 °C + 16 bar 60 °C	No leakage	
Resistance to high temperature / pressure resistance at 16 bar 60 °C	No leakage	
Durability on tightness and temperature resistance	No leakage	

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**and fluids not under pressure**

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**\* (see remark on the last page)**

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Tightness / resistance to elevated temperature cycling	No leakage	
Resistance to high temperature / resistance to elevated temperature cycling	No leakage	
Durability on tightness and temperature resistance	No leakage	

Essential characteristics	Performance	Harmonised technical specification
Internal pressure / pressure resistance at 51,2 bar 20 °C	≥ 1000 hour, no leakage	EN 14814:2007
Internal pressure / pressure resistance at 16 bar 60 °C	≥ 1000 hour, no leakage	
Resistance to pull out / shear strength at 1 hour setting time	≥ 0,4 MPa	
Resistance to pull out / shear strength at 24 hours setting time	≥ 1,5 MPa	
Resistance to pull out / shear strength at 480 + 96 (60°C) hour setting time	≥ 7,0 MPa	
Tightness / pressure resistance at 51,2 bar 20 °C + 16 bar 60 °C	No leakage	
Resistance to high temperature / pressure resistance at 16 bar 60 °C	No leakage	
Durability on tightness and temperature resistance	No leakage	

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**DECLARATION OF PERFORMANCE**

*In compliance with EU Regulation (EU): No 305/2011  
(Construction Product Regulation)*

Declaration of Performance-Nr. **GR 00018/00019**

1. Unique identification code of the product-type:

**GRIFFON HT-120®**  
**PVC-C Adhesive for thermoplastic piping systems for fluids under pressure (PN25)**  
**and fluids not under pressure**

2. Intended use(s):

**In installations/disposal/storage of water not intended for human consumption**  
**\* (see remark on the last page)**

3. Manufacturer:

**BISON INTERNATIONAL, Dr. A.F. Philipsstraat 9, NL - 4462 EW Goes, Netherlands**

4. Authorized representative:

**Not Applicable**

5. System or systems of assessment and verification of constancy of performance:

**System 4**

6. Harmonised standard: **EN14680:2006/EN14814:2007**  
Notified body/ies: **Not Applicable**

7. Declared performances:

Essential characteristics	Performance	Harmonised technical specification
Resistance to pull out / shear strength at 1 hour setting time	$\geq 0,25$ MPa	EN 14680:2006
Resistance to pull out / shear strength at 24 hours setting time	$\geq 1,5$ MPa	
Resistance to pull out / shear strength at 480 hours setting time	$\geq 3,0$ MPa	
Tightness / resistance to elevated temperature cycling	No leakage	
Resistance to high temperature / resistance to elevated temperature cycling	No leakage	
Durability on tightness and temperature resistance	No leakage	

Essential characteristics	Performance	Harmonised technical specification
Internal pressure / pressure resistance at 12,5 bar 80 °C	≥ 1000 hour, no leakage	EN 14814:2007
Resistance to pull out / shear strength at 1 hour setting time	≥ 0,4 MPa	
Resistance to pull out / shear strength at 24 hours setting time	≥ 1,5 MPa	
Resistance to pull out / shear strength at 480 + 96 (80°C) hour setting time	≥ 10,0 MPa	
Tightness / pressure resistance at 12,5 bar 80 °C	No leakage	
Resistance to high temperature / pressure resistance at 12,5 bar 80 °C	No leakage	
Durability on tightness and temperature resistance	No leakage	

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