



**MPA** **MPA STUTGART**  
**Otto-Graf-Institute**  
 Materials Testing Institute • University of Stuttgart

Department of Fire Safety – Reaction to Fire of Building Materials

Testing and Certification Point recognized by DIBt Identification number BWU-03

*Note: This is a translation from the German original version not certified by the MPA<sup>1</sup> (Materials Testing Institute) – University of Stuttgart, Otto Graf Institute.*

*(‘Von der MPA – Universität Stuttgart [Otto-Graf-Institut] nicht geprüfte Übersetzung der deutschen Originalfassung’).*

## General Building Regulation Test Certificate

Test Certificate Number:

**P-BWU03-I-16.5.271**

**Object:**

Fire protection agent ‘FLORIMP K VERDE’ for the finishing of cellulose woven fibre fabrics – except for jute woven fibre fabrics – and polyester woven fibre fabrics as a not-easily combustible construction material (building materials class DIN 4102-B1)

**Applicant:**

AISCO Chemieprodukte GmbH  
 Basler Straße 115  
 79115, Freiburg im Breisgau, Germany

**Date of Issue:**

26<sup>th</sup> of November, 2020

**Expiry date:**

30<sup>th</sup> of November, 2025

On the basis of this general building regulation test certificate, the above-mentioned object may be utilised as stated in the State Construction Codes .

This general building regulation test certificate encompasses 7 pages and zero annexes. It replaces the general building regulation certificate P-BWU03-I-16.5.271 dated January 8, 2016 . First date of issuance for the same

object: December 16, 2005. Jurisdiction: Stuttgart.

MPA = Test laboratory accredited according to DIN EN ISO/IEC 17025 with DAP Deutsches Akkreditierungssystem Prüfwesen GmbH.

Scope of accreditation: all testing procedures listed in the documents (DAR-Reg.-no.: DAP-PL-2907.99).

Additional accreditation according to DIN EN ISO/IEC 17025 by DKD / PTB, KBA, ZLS,

and certification according to DIN EN ISO 9001:2000 by TÜV .

Testing and Supervisory Certification Point („PÜZ-Stelle“) recognized by DIBt, reg.no. with EU: 0672 and 1080.

MPA • Universität Stuttgart • Pfaffenwaldring 4 • 70569 Stuttgart

<http://www.mpa.uni-stuttgart.de>

**MPA** **MPA STUTTGART**  
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Page 2 of the Standard Building Authority Test Certificate P-BWU03-I-16.5.271 dated November 26, 2020

**I. General Provisions**

1. The general building regulation test certificate does not substitute for the mandatory statutory authorisations, approvals and certifications required for the carrying out of planned construction and building works.
2. The general building regulation test certificate is issued without prejudice to the rights of third parties, in particular, without prejudice to private property rights.
3. The manufacturer and distributor of the construction product shall, irrespective of further provisions and regulations in the 'Special Provisions', provide the user of the construction product with copies of the general building regulation test certificate. Upon request, copies of the general building regulation test certificate are to be provided to all parties involved.
4. The general building regulation test certificate may only be duplicated in full. Publication or release of extracts only requires the approval of the MPA (Materials Testing Institute) at the University of Stuttgart, Otto Graf Institute. Texts and diagrams/ drawings/figures of advertising brochures may not contradict nor be inconsistent with the general building regulation test certificate. Translations of the general building regulation test certificate must contain the following note: 'Translation from the German original version not certified by the MPA (Materials Testing Institute) – University of Stuttgart, Otto Graf Institute ('Von der MPA – Universität Stuttgart [Otto-Graf-Institut] nicht geprüfte Übersetzung der deutschen Originalfassung').
5. The general building regulation test certificate is issued on the basis that it may be revoked at any time. The provisions of the general building regulation test certificate may be subsequently supplemented or amended, in particular, when new technical findings or expertise requires this.
6. The construction product specified in this general building regulation test certificate requires verification of its conformity (certificate of conformity) with and verification of its labelling with the conformity mark (Ü-mark [Ü-Zeichen]) in accordance with the regulations of the German federal states concerning the conformity mark.

<sup>1</sup>MPA – *Materialprüfungsanstalt* – Materials Testing Institute (at the University of Stuttgart).

<sup>3</sup>Ü-Zeichen – *Übereinstimmungszeichen* – conformity mark.

**MPA** **MPA STUTGART**  
**Otto-Graf-Institute**

Page 3 of the Standard Building Authority Test Certificate P-BWU03-I-16.5.271 dated November 26, 2020

**1. Object and Scope of Application****1.1 Object**

Fire protection agent 'FLORIMP K VERDE' for the finishing of cellulose woven fibre fabrics – except for jute woven fibre fabrics – and polyester woven fibre fabrics as a not-easily combustible construction material (building materials class DIN 4102-B1) in accordance with par. C 3.4 of the Regulation on Technical Construction Requirements („Verwaltungsvorschrift Technische Baubestimmungen – VwV TB“) jointly issued by the ministries for ecology and economics on December 20, 2017.

**1.2 Scope of Application**

- 1.2.1 The fire protection agent may be used for the finishing of cellulose woven fibre fabrics (with the exception of jute) and polyester woven fibre fabrics, insofar as these woven fibre fabrics are used as a construction product (e.g. stage or drop curtains), which must be installed in a fixed position.
- 1.2.2 The dry thickness of the coating of fire protection agent on cellulose woven fibre fabrics must be approximately 160 g/kg. The coating weight per unit area of the finished cellulose woven fibre fabrics must be 80 to 250 g/m<sup>2</sup>.  
The dry thickness of the coating of the fire protection agent on polyester woven fibre fabrics must be approximately 40 g/kg.  
The coating weight per unit area of the finished polyester woven fibre fabric must be between 80 and 250 g/m<sup>2</sup>.
- 1.2.3 The woven fibre fabrics finished with the fire protection agent may only be used in enclosed (indoor) spaces without being subject to the effects of humidity. The fire protection agent is not resistant against the effects of water or against the effects of chemical cleaning. Exposed to humidity or chemical cleaning, the flame retarding procedure must be repeated.
- 1.2.4 The woven fibre fabrics finished with the fire protection agent may not be exposed to the elements outdoors.
- 1.2.5 The woven fibre fabrics finished with the fire protection agent are only not easily combustible without additionally applied coatings, coverings or similar.
- 1.2.6 The suitability of the woven fibre fabrics finished with fire protection agent for use as heat insulation or for sound insulation has not been demonstrated or established.
- 1.2.7 This general building regulation test certificate shall be valid only insofar as specifications in accordance with par. C 3.4 of the Regulation on Technical Construction Requirements („Verwaltungsvorschrift Technische Baubestimmungen – VwV TB“) jointly issued by the ministries for ecology and economics on December 20, 2017, are to be fulfilled.
- 1.2.8 The verification or confirmation of further building regulation specifications, such as those of structural integrity, fire resistance, heat and sound insulation, or health and environmental protection are not the purpose or object of this general building regulation test certificate. For the purposes of these specifications, where required, other or further confirmations (standard building regulation authorisation) may be necessary.

# MPA

## MPA STUTGART Otto-Graf-Institute

Page 4 of the Standard Building Authority Test Certificate P-BWU03-I-16.5.271 dated November 26, 2020

## 2. Requirements on the Construction Product

### 2.1 Properties and Composition

- 2.1.1 The fire protection agent must be an aqueous solution of a phosphorous nitrogen compound.
- 2.1.2 The fire protection agent is to be manufactured in such a way that cellulose woven fibre fabrics finished with the agent – with the exception of jute – and polyester woven fibre fabrics, fulfil the specifications for construction materials that are not easily combustible (building materials class B1) in accordance with DIN<sup>2</sup> 4102-1: 1998-05. The composition must be consistent with the specifications deposited at the MPA<sup>1</sup> (Materials Testing Institute) at the University of Stuttgart, Otto Graf Institute.

#### 2.1.3 Test Procedure

The construction product must fulfil the specifications for construction materials that are not easily combustible (building materials class B1) in accordance with DIN<sup>2</sup> 4102-1: 1998-05.

- 2.1.4 Test reports which the issueing of the general building regulation test certificate is based on

<i>Name of Testing Institution Client</i>	<i>No. of Reports/Certificates</i>	<i>Test Procedure</i>
MPA Otto-Graf-Institute Stuttgart	Certificate 16-27939/1 dated January 10, 2001	DIN 4102-1 Constr.Mat.Class B1
MPA Otto-Graf-Institutue Stuttgart	Supervisory Report 900 5658 013/ZFÜ-5 dated , January 25, 2013	DIN 4102-1 Constr.Mat.Class B1
MPA Otto-Graf-Institute	Supervisory Report 903 5205 015/ZFÜ-1m dated November 11, 2015	DIN 4102-1 Constr.Mat.Class B1
MPA Otto-Graf-Institute	Supervisory Report 903 5205 020 – ZFÜ 5.54 dated November 19, 2020	DIN 4102-1 Constr.Mat.Class B1

#### 2.1.5 Provisions for Finishing

- 2.1.5.1 The fire protection agent may be used for the finishing of cellulose woven fibre fabrics – with the exception of jute – and polyester woven fibre fabrics, insofar as these woven fibre fabrics are used as construction materials (e.g. stage or drop curtains), which must be installed in a fixed position.

- 2.1.5.2 The dry thickness of the coating of fire protection agent on cellulose woven fibre fabrics must be approximately 160 g/kg. The coating weight per unit area of the finished cellulose woven fibre fabrics must be 80 to 250 g/m<sup>2</sup>.

The dry thickness of the coating of the fire protection agent on polyester woven fibre fabrics must be approximately 40 g/kg.

The coating weight per unit area of the finished polyester woven fibre fabric must be between 80 and 250 g/m<sup>2</sup>.

- 2.1.5.3 The woven fibre fabrics finished with the fire protection agent may only be used in enclosed (indoor) spaces without being subject to the effects of humidity. The fire protection agent is not resistant against the effects of water or against the effects of chemical cleaning. Exposed to humidity or chemical cleaning, the flame retarding procedure must be repeated.

**MPA** **MPA STUTGART**  
**Otto-Graf-Institute**

Page 5 of the Standard Building Authority Test Certificate P-BWU03-I-16.5.271 dated November 26, 2020

- 2.1.5.4 The woven fibre fabrics finished with the fire protection agent are only not easily combustible when they retain a distance of more than 40 mm to other construction materials with (large) surface areas.
- 2.1.5.5 The woven fibre fabrics finished with the fire protection agent are only not easily combustible without additionally applied coatings, coverings or similar.
- 2.1.5.6 The suitability of the woven fibre fabrics finished with fire protection agent for use as heat insulation or for sound insulation has not been demonstrated or established.
- 2.1.5.7 The provisions of section II, 2.1 are to be adhered to in the manufacture of the construction product.

## 2.2 Conformity Mark

The construction product must be labelled by the manufacturer with the conformity mark (Ü-mark [Ü-Zeichen<sup>3</sup>]) in accordance with the regulations of the German federal states concerning the conformity mark. Labelling with the conformity mark may only take place when the requirements for this as per sections 3.1 to 3.3 have been fulfilled.

The Ü-mark is to be affixed to the construction product or to its packaging (the enclosed label / leaflet is also considered as packaging), or shall this not be possible, the Ü-mark shall be affixed to the delivery note.

The following information is to be affixed to the construction product itself or to its packaging:

- product name
- conformity mark (Ü-mark [Ü-Zeichen]) with:
  - name of the manufacturer
  - certificate number: P-BWU03-I-16.5.271
  - picture trademark / graphic symbol or name of the certification authority
  - manufacturing plant

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-building materials class not easily combustible (DIN 4102-B1) in accordance with scope of application.

## 3. Certificate of Conformity

### 3.1 General Provisions

The confirmation of the conformity of the construction product with the provisions of this general building regulation test certificate must be effected for each and every manufacturing plant by means of a certificate of conformity on the basis of an in-house factory production control and an external quality control inspection carried out at regular intervals, including an initial inspection of the construction product in accordance with the following provisions.

The manufacturer of the construction product shall engage an accredited certification authority as well as an accredited inspection agency for the purposes of the issue of a certificate of conformity, and for the carrying out of external quality control inspection(s) including for product testing to be effected within the framework of such inspections.

**MPA MPA STUTGART**  
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Page 6 of the Standard Building Authority Test Certificate P-BWU03-I-16.5.271 dated November 26, 2020

**3.2 In-House Factory Production Control**

An in-house factory production control is to be set up and carried out in every manufacturing plant to be organized by the Manufacturer as a permanent supervision of the production making sure that the construction material shall be consistent with the requirements of the present general building material test certificate and the relevant guidelines of the DIBt published in „Mitteilungen DIBt 2/1997“.

The results of the In-House Factory Production Control must be documented and analyzed. The records must at least contain the following essentials:

- product name
- kind of control
- production date and date of product control
- result of control compared with the certified requirements
- signature of the person responsible for the In-House-Factory Production Control.

The records are to be kept for a period of five years and forwarded to the institution mandated with the External Quality Control Inspection.

In case of insufficient results of the In-House Factory Production Controls, the Manufacturer has to take – without delay – all necessary measures to ensure the certified product quality also sorting out all products not meeting the certified standards.

**3.3 External Quality Control Inspection**

In every manufacturing plant, the in-house factory production control is to be inspected at regular intervals by an external quality control inspection, at a minimum of once a year.

The 'Directives for a Certificate of Conformity' published in „DIBt Information 2/1997“ are authoritative for the carrying out of the inspection.

Within the framework of the external quality control inspection, an initial inspection of the construction product is to be carried out. During the on-going external quality control inspection, samples are to be taken for the purposes of sample testing. It is incumbent upon the accredited inspection agency to arrange for the taking of samples and the sample testing respectively.

The results of the certification and external quality control inspection procedures are to be retained for a minimum of five years. Upon request, they are to be submitted to the highest building regulation authority by the certification authority or the inspection agency.

**4. Legal Basis**

The present General Building Regulation Test Certificate is being issued based on § 19 of the State Building Code of the state of Baden-Württemberg (LBO / Landesbauordnung) edition March 5, 2010 + amendments by law on July 18, 2019, with details in VwV TB / Verwaltungsvorschrift Technische Baubestimmungen, issued on December 20, 2017. Also to be respected: The relevant provisions contained in the Building Codes of the remaining German Federal States.

**MPA** **MPA STUTTGART**  
**Otto-Graf-Institute**

Page 7 of the Standard Building Authority Test Certificate P-BWU03-I-16.5.271 dated November 26, 2020

**5. Instruction on the Right to Appeal**

**Objection (appeal) against the present general building regulation test certificate is admissible. This objection shall be lodged in writing or by declaration within a period of one month after receipt of the notification, at the University of Stuttgart, address: Keplerstr.7, 70174 Stuttgart, alternatively: P.O.Box 106037, 70049 Stuttgart.**

Department of Fire Safety  
Unit - Reaction to Fire of Building  
Materials

*<Seal of the Materials Testing Institute of  
the University of Stuttgart>*

Clerk / Administrator

B.Sc. Christine Arweiler

Vice-Director of the Testing Institute

Dr. forest. Sebastian Dantz

<sup>1</sup>MPA – *Materialprüfungsanstalt* – Materials Testing Institute (at the University of Stuttgart).

<sup>2</sup>DIN – *Deutsches Institut für Normung* – German Institute for Standardisation, the German national standards body

<sup>4</sup>Bauregelliste A from the DIBt – *Deutsches Institut für Bautechnik* – German Institute for Civil Engineering and Construction Technology