

CARSO - LABORATOIRE SANTÉ ENVIRONNEMENT HYGIÈNE DE LYON

Laboratoire Agréé pour les analyses d'eaux par le Ministère de la Santé

Laboratoire habilité par le Ministère chargé de la santé en application de l'article R°.1321-52 du code de la santé publique

ATTESTATION DE CONFORMITE SANITAIRE

Certificate of sanitary conformity

Conformément à l'arrêté du 29 mai 1997 modifié et à la circulaire du Ministère de la Santé

Direction Générale de la Santé DGS/SD7A N° 571 du 25 Novembre 2002

Coordonnées du demandeur d'ACS / Contact details of the ACS owner :

SANELA spol. s r. o.

Dukelskych hrđinu 989

56301 LANSKROUN

REPUBLIQUE TCHEQUE

Nom de l'accessoire représentatif / Reference of the representative accessory :

Mitigeur douche automatique / Automatic shower mixer SLS 02

N° de dossier attribué par le laboratoire habilité / File reference :

16 ACC LY 529

Date de réalisation des essais d'inertie selon la norme XP P41-280 : du 06 Décembre 2016 au 09 Janvier 2017

Tests date (according to the standard XP P 41-280) : from December 6, 2016 to January 9, 2017

Commentaires / Comments : les résultats des essais sont conformes aux exigences de la circulaire DGS/SD7A N°571 du 25 Novembre 2002. The results are in accordance with the requirements of the circular DGS/SD7A N°571 dated November 25, 2002

Famille d'accessoires couverte par l'ACS / Accessories' family covered by this certificate :

Mitigeurs automatiques / Automatic mixers

Références / References :

Voir Annexe Jointe / See Annex Enclosed

(5 pages)

Attestation délivrée par / Certificate issued by :

Christelle AUTUGELLE

Signature :

Responsable MCDE

CARSO - L.S.E.H.L.

Date de délivrance / Date of issue : 31 Août 2020

Date d'expiration / Expiry date : 11 Janvier 2022

Commentaires / Comments : Mise à jour de l'ACS par ajout de références. Cette ACS conserve donc la même date d'expiration que celle émise le 11 Janvier 2017 / This ACS is an update of the ACS issued on January 11, 2017 (additional references). Consequently, its expiry date remains the same.

F_MC060-b 15/09/2014 MLN

Société par action simplifiée au capital de 2 283 622,38 Euros - RCS Lyon B 410 545 313 - SIRET 410 545 313 00042 - APE 743 B - N° TVA : FR 82 410 545 313

Siège Social et laboratoire : 4, avenue Jean Moulin - CS 30228 - F - 69633 VENISSIEUX cedex - Tél : (33) 04 72 76 16 16 - Fax : (33) 04 78 72 35 03

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IMSL

INDUSTRIAL MICROBIOLOGICAL SERVICES LTD

STUDY REPORT: **Determination of the Antibacterial Activity of Samples against
Escherichia coli 0157, *Salmonella enteritidis*, Methicillin Resistant
Staphylococcus aureus, *Pseudomonas aeruginosa*, *Enterococcus faecalis*,
Vancomycin Resistant *Enterococcus*, *Campylobacter jejuni*,
Acinetobacter baumannii, *Saccharomyces cerevisiae* and the Spores of
Aspergillus niger using a method based on ISO 22196: 2011**

Sikagard - 405W
Sikagard - 406W

CLIENT: **Sika Services AG
Speckstrasse 22
CH-8330 Pfäffikon
Switzerland**

REPORT NO: **IMSL 2015/02/004.1A**

DATED: **12th May 2015**

Study: Determination of the Antibacterial Activity of Samples against *Escherichia coli* 0157, *Salmonella enteritidis*, Methicillin Resistant *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Enterococcus faecalis*, Vancomycin Resistant *Enterococcus*, *Campylobacter jejuni*, *Acinetobacter baumannii*, *Saccharomyces cerevisiae* and the Spores of *Aspergillus niger* using a method based on ISO 22196: 2011

Number: IMSL2015/02/004.1A

Client: Sika Services AG
Speckstrasse 22
CH-8330 Pfäffikon
Switzerland

The above study was conducted in the laboratories of Industrial Microbiological Services Ltd at Pale Lane Hartley Wintney, Hants, RG27 8DH, UK. This report represents a true and accurate account of the results obtained.

Start Date 08th April 2015

Report Issued 12th May 2015

Supervisor Peter D Askew
Managing Director



Operator Kyle Allison
Senior Microbiologist



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1 Introduction

This report summarises a study performed to assess the antibacterial performance of a paint formulation against *Escherichia coli* 0157, *Salmonella enteritidis*, Methicillin Resistant *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Enterococcus faecalis*, Vancomycin Resistant *Enterococcus*, *Campylobacter jejuni*, *Acinetobacter baumannii*, *Saccharomyces cerevisiae* and the spores of *Aspergillus niger* using the method described in the standard ISO 22196 : 2011.

2 Test Materials

Replicate flexible test panels (Leneta scrub resistance test panels) which had been coated with a paint prepared with an antimicrobial agent and then statically leached to eliminate any volatile components from the paint film were supplied by Sika Services AG. All samples were held in the dark at 20°C prior to testing. A sample of unfortified polypropylene was supplied by IMSL to act as a reference material.

3 Methods

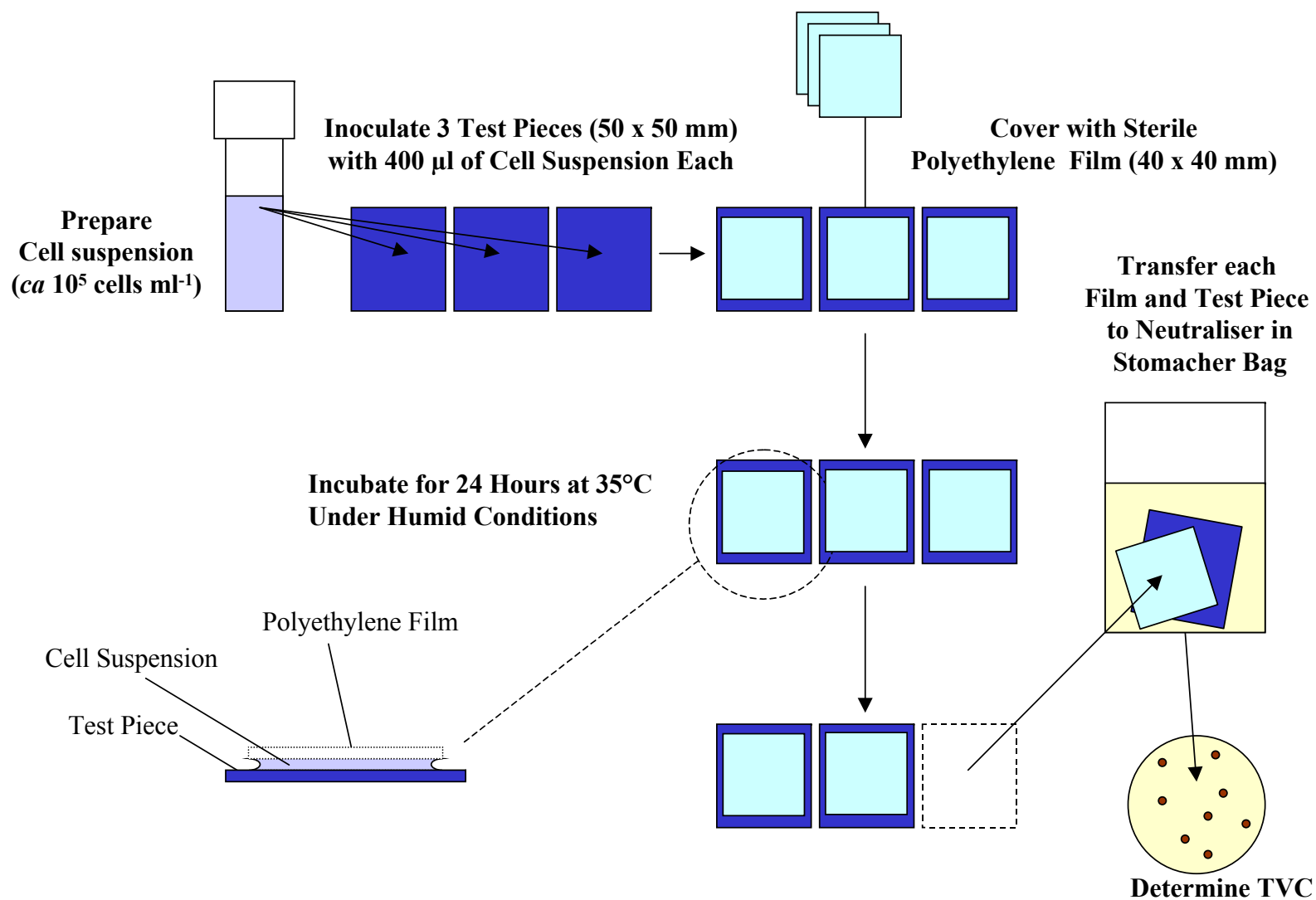
Antibacterial activity was determined using the method described in ISO 22196: 2011 (Ref 1).

3.1 Determination of Antibacterial Activity

An aliquot (225µl) of a log phase cell suspension of either *Escherichia coli* 0157 (DSMZ 19206), *Salmonella enteritidis* (ATCC 13076), Methicillin Resistant *Staphylococcus aureus* (NCTC 13142), *Pseudomonas aeruginosa* (ATCC 15442), *Enterococcus faecalis* (DSMZ 2570), Vancomycin Resistant *Enterococcus* (DSMZ 13591), *Acinetobacter baumannii* (DSMZ 30007) or *Saccharomyces cerevisiae* (BAM 128) prepared using the method described in ISO 22196 or *Campylobacter jejuni* (DSMZ 4688) prepared in 1: 100 nutrient broth or the spores of *Aspergillus niger* (ATCC 6275) prepared in sterile distilled water was held in intimate contact with each of 3 replicates of the test surfaces supplied using a 30 x 30 mm polyethylene film (cut from a sterile Stomacher bag) for 24 hours at 35°C. The size of the surviving population was determined using the method described in ISO 22196. The viable cells in the suspension were enumerated by spiral dilution on to Trypcase Soya Agar and by the pour plate method described in ISO 22196 except in the cases of *Campylobacter jejuni* where spiral dilution onto Columbia Blood Agar was employed and *Saccharomyces cerevisiae* and *Aspergillus niger* where spiral dilution onto Malt Extract Agar was employed. These plates were incubated at 35°C for 24 hours or 48 hours in the case of *Saccharomyces cerevisiae* and *Aspergillus niger* and then counted. An additional 3 replicate unfortified surfaces were also inoculated in the manner described above but were then analysed immediately for the size of microbial population present to provide 0-time control data. The method is described schematically in Figure 1 below.

All data were converted to colony forming units (CFU) cm⁻² and then transformed to provide a dataset that conformed to a Gaussian distribution.

Figure 1: ISO 22196 - Schematic Representation



4 Results / Discussion

The results as CFU cm⁻² are shown in Tables 1 - 10 and Figures 2 - 6.

Table 1: Activity Against *Escherichia coli* 0157
(Geometric Mean of 3 Replicates as Colony Forming Units cm⁻²)

Sample	Contact Time		Reductions from Initial	
	0 hours	24 hours	%	Log ₁₀
IMSL Polypropylene	1.4 x 10 ⁴	1.3 x 10 ⁵	-	-
Sikagard 405 W Paint	1.4 x 10 ⁴	7.8 x 10 ²	94.24	1.2
Sikagard 406 W Paint	1.4 x 10 ⁴	6.1 x 10 ²	95.50	1.3

‡ The theoretical limit of detection is 1 CFU cm⁻²

It can be seen from the results in Table 1 above that the populations of *Escherichia coli* 0157 held in contact with the polypropylene reference material increased in size by order of magnitude during the 24 hour contact period compared to the initial population. In contrast, a reduction of 1.2 and 1.3 orders of magnitude was observed in the populations of *Escherichia coli* 0157 held in contact with the samples of Sikagard 405W Paint and Sikagard 406 W Paint respectively compared to the initial population.

Table 2: Activity Against *Salmonella enterica*
(Geometric Mean of 3 Replicates as Colony Forming Units cm⁻²)

Sample	Contact Time		Reductions from Initial	
	0 hours	24 hours	%	Log ₁₀
IMSL Polypropylene	1.5 x 10 ⁴	5.5 x 10 ⁴	-	-
Sikagard 405 W Paint	1.5 x 10 ⁴	4.3 x 10 ⁰	99.97	3.6
Sikagard 406 W Paint	1.5 x 10 ⁴	≤ 1.0	≥ 99.99	≥ 4.2

‡ The theoretical limit of detection is 1 CFU cm⁻²

It can be seen from the results in Table 2 above that the populations of *Salmonella enterica* held in contact with the polypropylene reference material increased in size by *ca* 72% during the 24 hour contact period. In contrast, the populations of *Salmonella enterica* exposed to the surface of Sikagard 405W Paint and Sikagard 406 W Paint declined by 99.97% and ≥ 99.99% respectively compared to the initial population after 24 hours.

**Table 3: Activity Against Methicillin Resistant *Staphylococcus aureus*
(Geometric Mean of 3 Replicates as Colony Forming Units cm⁻²)**

Sample	Contact Time		Reductions from Initial	
	0 hours	24 hours	%	Log ₁₀
IMSL Polypropylene	2.4 x 10 ⁴	1.8 x 10 ⁴	23.72	0.1
Sikagard 405 W Paint	2.4 x 10 ⁴	≤ 1.0	≥ 99.99	≥ 4.4
Sikagard 406 W Paint	2.4 x 10 ⁴	1.3 x 10 ⁰	99.99	4.3

‡ The theoretical limit of detection is 1 CFU cm⁻²

Table 3 shows that the populations of MRSA held in contact with the polypropylene reference material decreased in size by *ca* 24% during the 24 hour contact period. A reduction of ≥ 99.99% to below the limit of detection and 99.99% was observed in the populations of MRSA held in contact with the samples of Sikagard 405W Paint and Sikagard 406 W Paint respectively compared to the initial population.

**Table 4: Activity Against *Pseudomonas aeruginosa*
(Geometric Mean of 3 Replicates as Colony Forming Units cm⁻²)**

Sample	Contact Time		Reductions from Initial	
	0 hours	24 hours	%	Log ₁₀
IMSL Polypropylene	2.0 x 10 ⁴	1.8 x 10 ⁵	-	-
Sikagard 405 W Paint	2.0 x 10 ⁴	≤ 1.0	≥ 99.99	≥ 4.3
Sikagard 406 W Paint	2.0 x 10 ⁴	≤ 1.0	≥ 99.99	≥ 4.3

‡ The theoretical limit of detection is 1 CFU cm⁻²

It can be seen from the results above that the populations of *Pseudomonas aeruginosa* held in contact with the inert reference sample increased by *ca* 89% during the 24 hour contact period. In contrast, a reduction of ≥ 99.99% to below the limit of detection was observed in the populations of *Pseudomonas aeruginosa* held in contact with the samples of Sikagard 405W Paint and Sikagard 406 W Paint compared to the initial population after 24 hours.

Table 5: Activity Against *Enterococcus faecalis*
(Geometric Mean of 3 Replicates as Colony Forming Units cm⁻²)

Sample	Contact Time		Reductions from Initial	
	0 hours	24 hours	%	Log ₁₀
IMSL Polypropylene	1.3 x 10 ⁴	9.3 x 10 ⁴	-	-
Sikagard 405 W Paint	1.3 x 10 ⁴	≤ 1.0	≥ 99.99	≥ 4.1
Sikagard 406 W Paint	1.3 x 10 ⁴	≤ 1.0	≥ 99.99	≥ 4.1

‡ The theoretical limit of detection is 1 CFU cm⁻²

It can be seen from the results in Table 5 above that the population of *Enterococcus faecalis* held in contact with the IMSL polypropylene increased by *ca* 86% during the 24 hour contact period compared to the initial population. In contrast, a reduction of ≥ 99.99% to below the limit of detection was observed in the populations of *Enterococcus faecalis* held in contact with the samples of Sikagard 405W Paint and Sikagard 406 W Paint compared to the initial population after 24 hours.

Table 6: Activity Against Vancomycin Resistant *Enterococcus*
(Geometric Mean of 3 Replicates as Colony Forming Units cm⁻²)

Sample	Contact Time		Reductions from Initial	
	0 hours	24 hours	%	Log ₁₀
IMSL Polypropylene	1.5 x 10 ⁴	3.6 x 10 ³	76.22	0.6
Sikagard 405 W Paint	1.5 x 10 ⁴	≤ 1.0	≥ 99.99	≥ 4.2
Sikagard 406 W Paint	1.5 x 10 ⁴	≤ 1.0	≥ 99.99	≥ 4.2

‡ The theoretical limit of detection is 1 CFU cm⁻²

It can be seen from the results in Table 6 that the population of Vancomycin Resistant *Enterococcus* held in contact with the polypropylene reference material declined by *ca* 76% during the 24 hour contact period. A reduction of ≥ 99.99% to below the limit of detection was observed in the populations of Vancomycin Resistant *Enterococcus* held in contact with the samples of Sikagard 405W Paint and Sikagard 406 W Paint after 24 hours compared to the initial population.

Table 7: Activity Against *Campylobacter jejuni*
(Geometric Mean of 3 Replicates as Colony Forming Units cm⁻²)

Sample	Contact Time		Reductions from Initial	
	0 hours	24 hours	%	Log ₁₀
IMSL Polypropylene	1.0 x 10 ⁴	7.6 x 10 ⁴	-	-
Sikagard 405 W Paint	1.0 x 10 ⁴	≤ 1.1 x 10 ¹	≥ 99.89	≥ 3.0
Sikagard 406 W Paint	1.0 x 10 ⁴	≤ 1.1 x 10 ¹	≥ 99.89	≥ 3.0

‡ The theoretical limit of detection is 11.1 CFU cm⁻²

It can be seen from the results in Table 7 above that the population of *Campylobacter jejuni* held in contact with the polypropylene reference material increased by *ca* 87% during the 24 hour contact period compared to the initial population. In contrast, a reduction of ≥ 99.89% to below the limit of detection was observed in the populations of *Campylobacter jejuni* held in contact with the samples of Sikagard 405W Paint and Sikagard 406 W Paint after 24 hours compared to the initial population.

Table 8: Activity Against *Acinetobacter baumannii*
(Geometric Mean of 3 Replicates as Colony Forming Units cm⁻²)

Sample	Contact Time		Reductions from Initial	
	0 hours	24 hours	%	Log ₁₀
IMSL Polypropylene	1.4 x 10 ⁴	8.0 x 10 ³	42.44	0.2
Sikagard 405 W Paint	1.4 x 10 ⁴	≤ 1.0	≥ 99.99	≥ 4.1
Sikagard 406 W Paint	1.4 x 10 ⁴	≤ 1.0	≥ 99.99	≥ 4.1

‡ The theoretical limit of detection is 1 CFU cm⁻²

It can be seen from the results in Table 8 above that the population of *Acinetobacter baumannii* held in contact with the IMSL polypropylene declined by *ca* 42% during the 24 hour contact period. In contrast, a reduction of ≥ 99.99% to below the limit of detection was observed in the populations of *Acinetobacter baumannii* held in contact with the samples of Sikagard 405W Paint and Sikagard 406 W Paint after 24 hours compared to the initial population.

Table 9: Activity Against *Saccharomyces cerevisiae*
(Geometric Mean of 3 Replicates as Colony Forming Units cm⁻²)

Sample	Contact Time		Reductions from Initial	
	0 hours	24 hours	%	Log ₁₀
IMSL Polypropylene	7.3 x 10 ³	1.5 x 10 ⁴	-	-
Sikagard 405 W Paint	7.3 x 10 ³	4.2 x 10 ²	94.31	1.3
Sikagard 406 W Paint	7.3 x 10 ³	6.2 x 10 ²	91.41	1.1

‡ The theoretical limit of detection is 1 CFU cm⁻²

It can be seen from the results in Table 9 above that the population of *Saccharomyces cerevisiae* held in contact with the polypropylene reference material increased in size by *ca* 53% during the 24 hour contact period compared to the initial population. In contrast, the population of *Saccharomyces cerevisiae* held in contact with the sample of Sikagard 405W Paint and Sikagard 406 W Paint declined by 94.31% and 91.41% respectively compared to the initial population after 24 hours.

Table 10: Activity Against the Spores of *Aspergillus niger*
(Geometric Mean of 3 Replicates as Colony Forming Units cm⁻²)

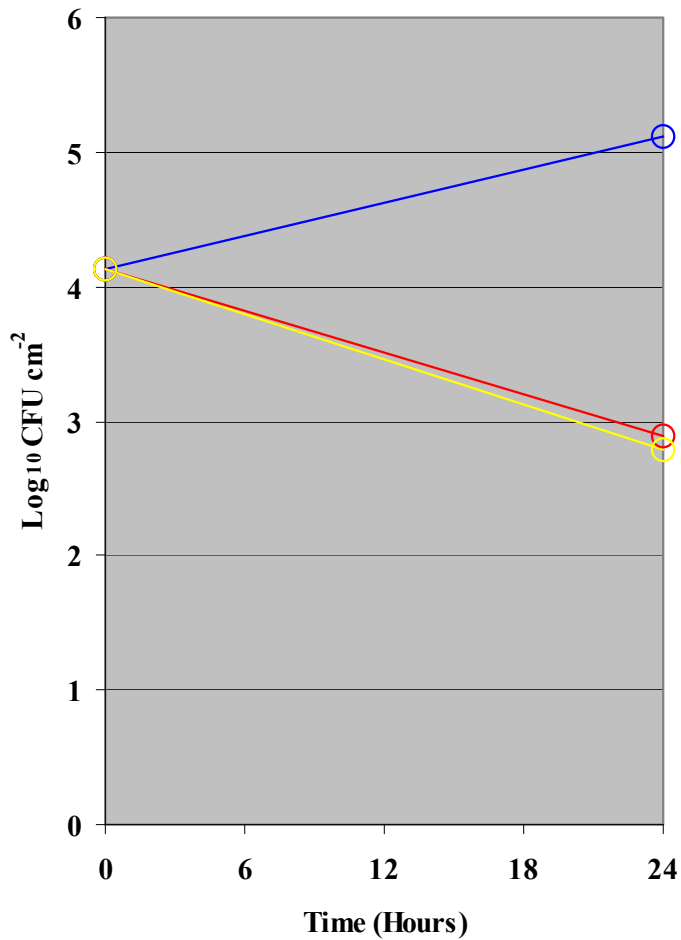
Sample	Contact Time		Reductions from Initial	
	0 hours	24 hours	%	Log ₁₀
IMSL Polypropylene	7.1 x 10 ³	1.6 x 10 ⁴	-	-
Sikagard 405 W Paint	7.1 x 10 ³	1.0 x 10 ³	85.84	0.8
Sikagard 406 W Paint	7.1 x 10 ³	1.3 x 10 ³	82.27	0.8

‡ The theoretical limit of detection is 1 CFU cm⁻²

The data in Table 10 shows that the population of *Aspergillus niger* spores held in contact with the polypropylene reference material increased in size by *ca* 55% during the 24 hour contact period. In contrast, the population of *Aspergillus niger* spores held in contact with the sample of Sikagard 405W Paint and Sikagard 406 W Paint declined by 85.84% and 82.27% respectively compared to the initial population after 24 hours.

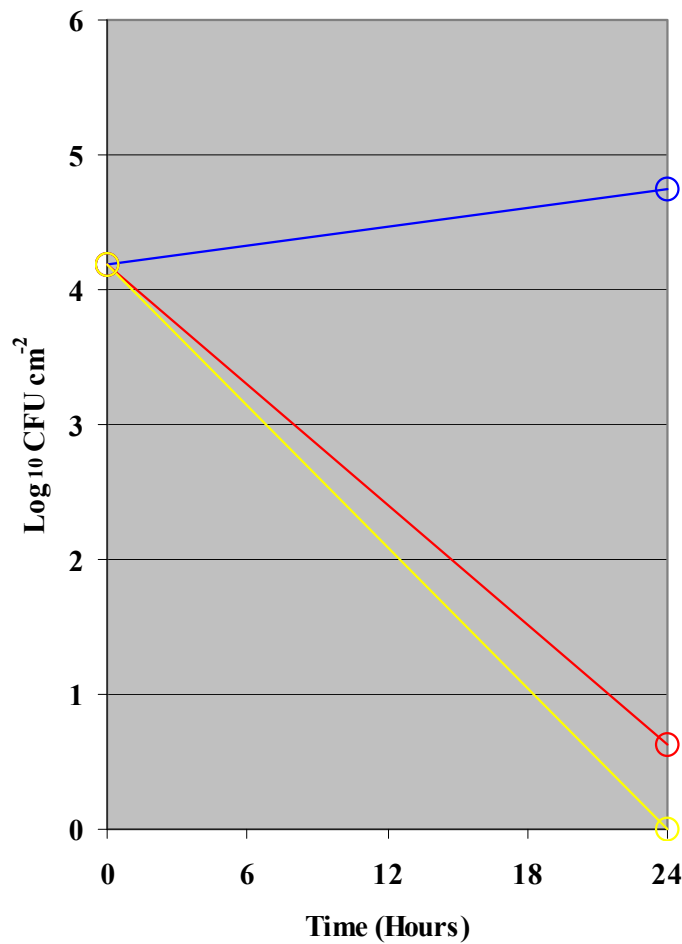
Figure 2: Results as Log₁₀ CFU cm⁻²

Escherichia coli



—○— Polypropylene —○— SG 405 W —○— SG 406 W

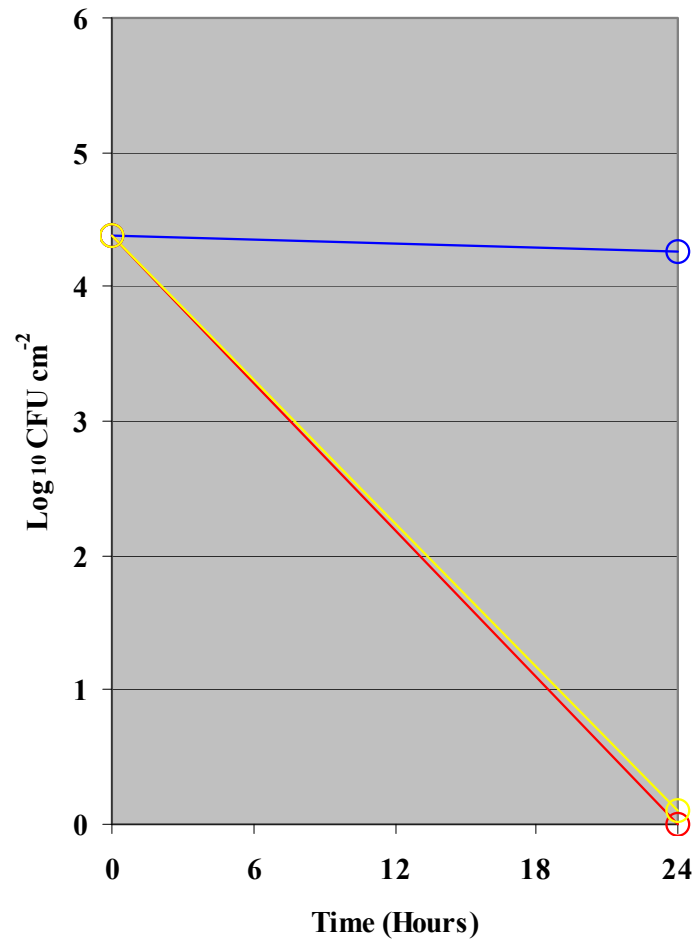
Salmonella enterica



—○— Polypropylene —○— SG 405 W —○— SG 406 W

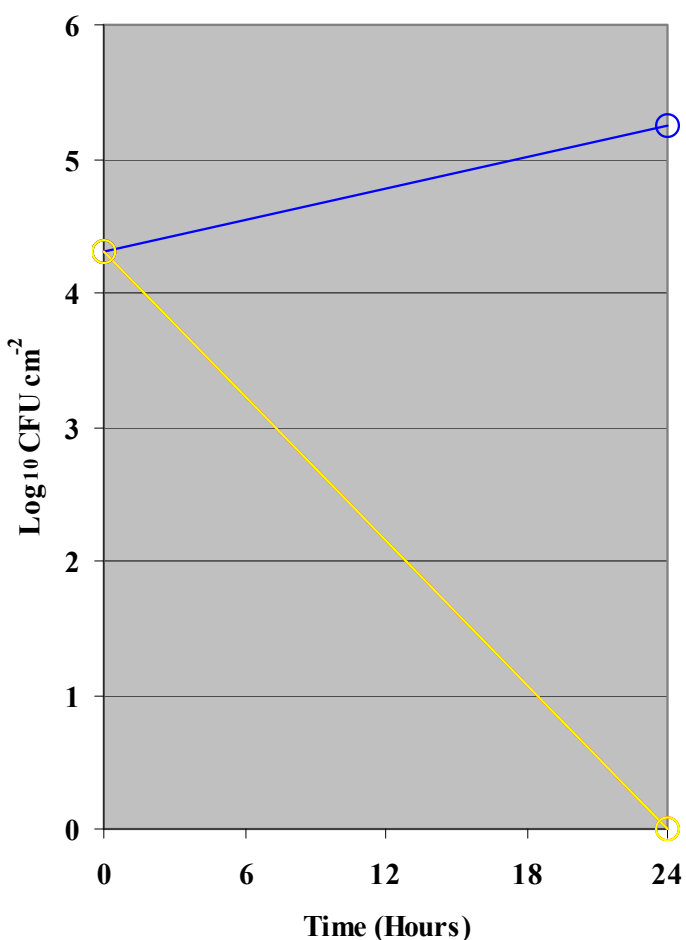
Figure 3: Results as Log₁₀ CFU cm⁻²

MRSA



—○— Polypropylene —○— SG 405 W —○— SG 406 W

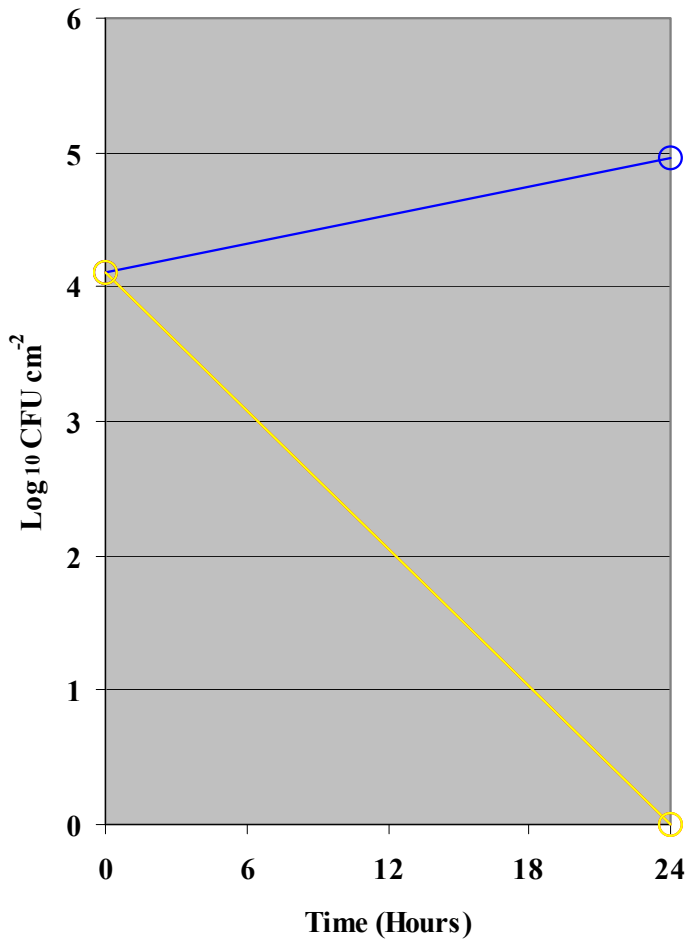
Pseudomonas aeruginosa



—○— Polypropylene —○— SG 405 W —○— SG 406 W

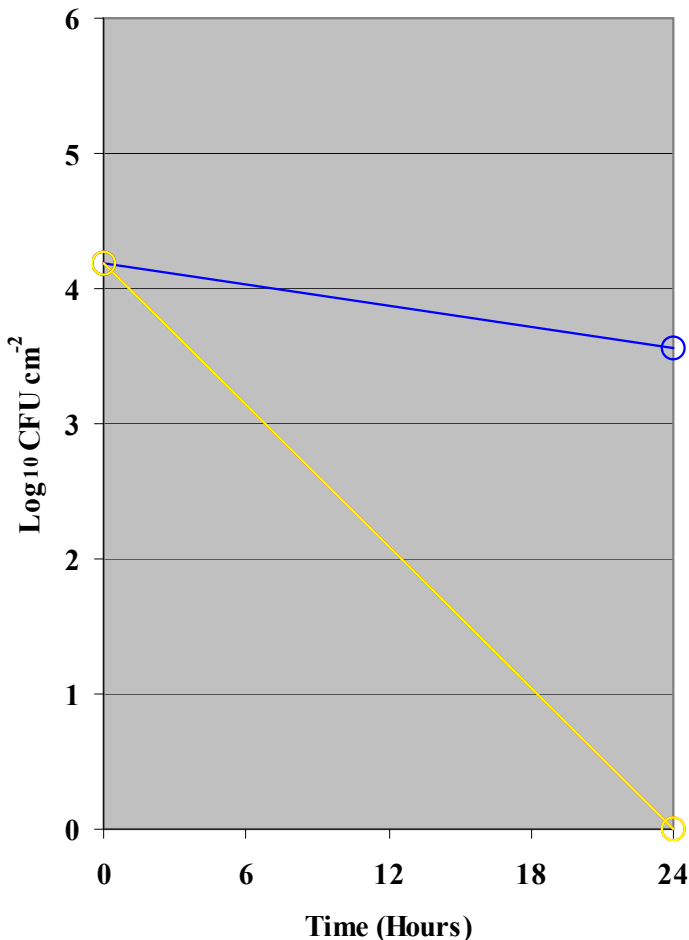
Figure 4: Results as Log₁₀ CFU cm

Enterococcus faecalis



—○— Polypropylene —○— SG 405 W —○— SG 406 W

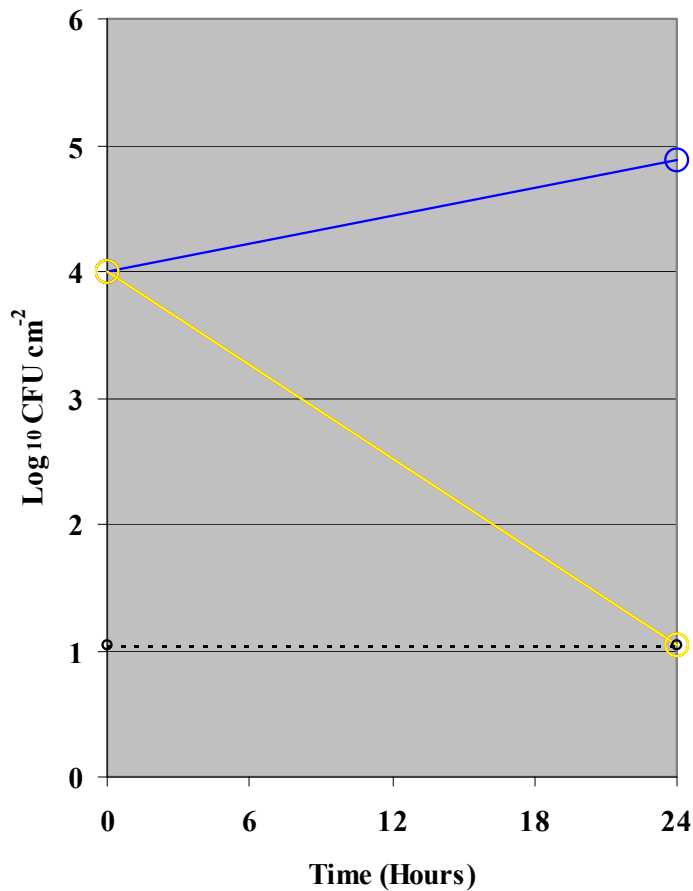
Vancomycin Resistant *Enterococcus*



—○— Polypropylene —○— SG 405 W —○— SG 406 W

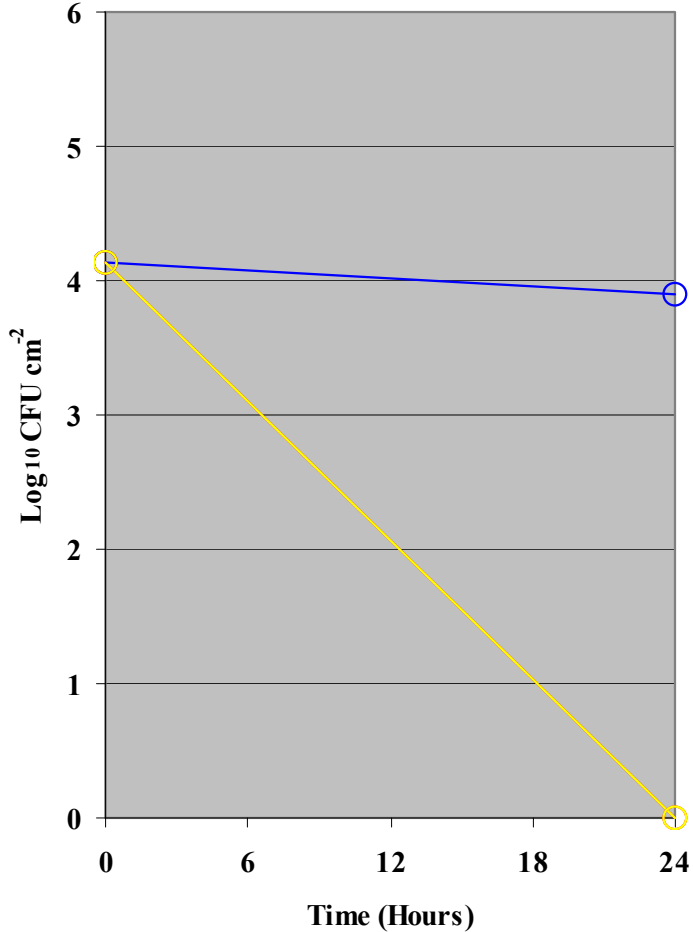
Figure 5: Results as Log₁₀ CFU cm

Campylobacter jejuni



—○— Polypropylene —○— SG 405 W
—○— SG 406 W ...○... LOD

Acinetobacter baumannii

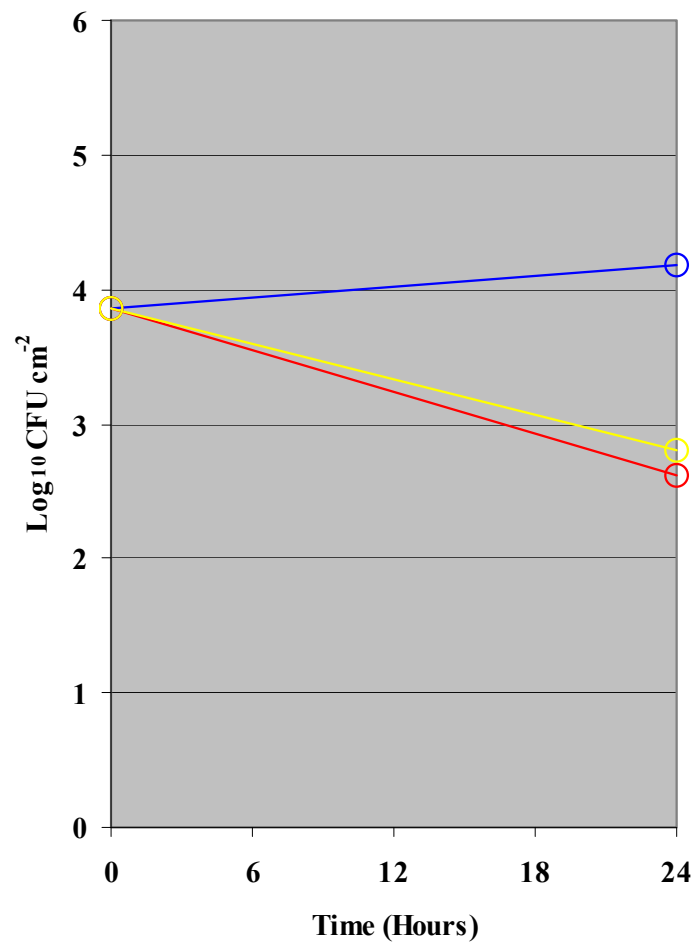


—○— Polypropylene —○— SG 405 W —○— SG 406 W

* LOD = Limit of Detection

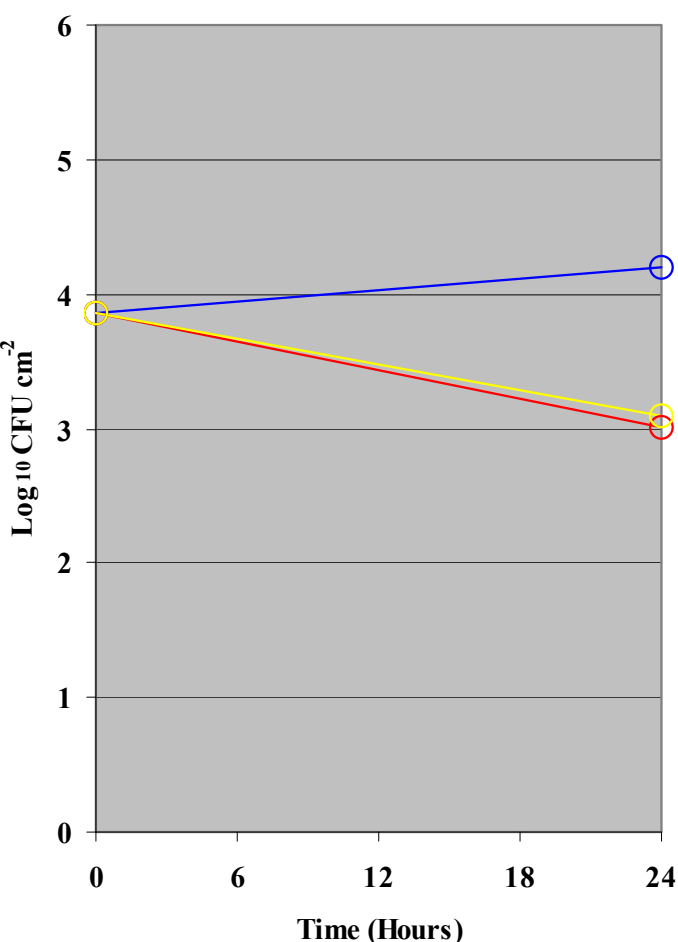
Figure 6: Results as Log₁₀ CFU cm

Saccharomyces cerevisiae



—○— Polypropylene —○— SG 405 W —○— SG 406 W

Aspergillus niger (Spores)



—○— Polypropylene —○— SG 405 W —○— SG 406 W

5 Raw Data

The raw data for this study will be held in file IMSL 2015/02/004 in the Archive of IMSL at Pale Lane, Hartley Wintney, Hants, RG27 8DH, UK for 6 years from the date of this report unless other specific instructions are given.

6 References

- 1 Anon, ISO 22196 : 2011, Measurement of antibacterial activity on plastics and other non-porous surfaces

7 Exclusion of Liability

The contents of this report are subject to the standard terms and conditions of IMSL as displayed on the reverse of the invoice. Specific attention is drawn to Section 10 restated below.

- (a) IMSL warrants that the results as stated in this Report are accurate in so far as they relate to the Samples as received in the laboratory of IMSL. Except in respect of death or personal injury caused by IMSL's negligence IMSL accepts no other liability or responsibility to any party whatsoever (whether caused by the negligence of IMSL, its employees, or agents or otherwise) arising out of or in connection with the provision of this Report. In particular, but without prejudice in the generality of the foregoing IMSL shall have no liability or responsibility whatsoever in respect of or in any way by reference to:-
 - (i) the taking of the Samples (unless this is done by an agent of IMSL), the accuracy of the Samples or their suitability for the purpose(s) for which they were taken or applied, the designation, handling, storage or transport of the Samples prior to their delivery to the laboratory of IMSL or their condition upon such delivery
 - (ii) the interpretation of the Report and / or the application of the results as stated and / or the accuracy of any advices based thereon
 - (iii) any (or any alleged) lack of competence, negligence, failure or breach of duty on the part of any person engaged in or responsible for any of the activities or functions referred to above whether or not such agent is described as an agent of IMSL or otherwise. All such persons shall be deemed to be agents of the Customer and not to be agents or representatives in any capacity of IMSL
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WINDOW TECHNOLOGY
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Clearance certificate in accordance with the REACH regulation

Within the framework of the obligations laid out in the REACH regulation (1907/2006/EC) for **Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)**, the Gretschi-Unitas group (Gretschi-Unitas GmbH Baubeschlge, FERCO S.A.S, BKS GmbH, GU Automatic GmbH) hereby confirms that their products fulfil the regulation's requirements and comply with the current threshold values (dated January 2019) regarding the so-called Substances of Very High Concern (SVHC substances) in accordance with section 33. In the event that this statement concerning freedom from harmful substances can no longer be complied with, we will, in compliance with section 33 of the above regulation, fulfil our duty to furnish information without being asked.

Various of our products contain components containing lead (CAS 7439-92-1) as an alloying element, e.g. in brass, in concentrations greater than 0.1%. The use of this substance complies with the applicable legal regulations. When used as intended, there is no danger to health or the environment. Safety instructions are not required.

Substances subjected to approval after being included in Annex XIV REACH (e.g. chrome VI) will cease to be used for production no later than the expiry date of their approval.

In our role as downstream user within the meaning of the REACH Regulation, we fulfil our obligations within the supply chain. All substances and mixtures used are already registered.

GU Surface Technology Division
Mr. Ulrich Mule

GU Surface Technology Division
Mr. Martin Speidel

Gretschi-Unitas group of companies • Johann-Maus-Str. 3 • 71254 Ditzingen, Germany

CERTIFICAT

DE VERIFICARE A ASIGURĂRII CONTROLULUI PRODUCȚIEI ÎN FABRICĂ
Numărul: CV-036-2021

Pentru:

Ferestre și uși din profile de policlorură de vinil (PVC) inclusiv:
Ferestre fixe cu ramă, ferestre și uși – ferestre acționate manual sau automat și
ansambluri compuse, pentru a fi montate în goluri verticale ale pereților;
Uși exterioare pentru pietoni acționate manual cu canaturi netede sau fățuite.

Fabricat de:

"FENSTER BAU" SRL,

str. Grenoble, 128, mun. Chisinau, Republica Moldova

Fabricat la punctul de lucru:

str. Grenoble, 128, mun. Chisinau, Republica Moldova

Produsele au fost supuse de către proiectantul de sisteme încercărilor inițiale de tip pentru produs și unui control al procesului de producție care cuprinde toate măsurile necesare pentru îndeplinirea și menținerea cerințelor specificate în documentele de referință. OC Certmatcon a efectuat verificarea asigurării controlului producției în fabrică de către producător conform sistemului 4, a evaluat rapoartele privind încercările inițiale de tip și va efectua supravegherea continuă a procesului de producție.

Acest certificat atestă îndeplinirea prevederilor descrise în anexa ZA a standardului:

SM EN 14351-1+A2:2016

Acest certificat a fost emis prima dată la data de 28.09.2020 și va rămâne valabil până la data de 27.09.2023, atât timp cât standardul armonizat, produsul pentru construcții, metodele de evaluare a constanței performanței și condițiile de producție în fabrică nu sunt modificate esențial.

Acest certificat poate fi suspendat sau retras dacă se constată că nu se mențin condițiile în baza cărora a fost emis.

Director General

Ion PUHA





VÝZKUMNÝ ÚSTAV POZEMNÍCH STAVEB - CERTIFIKAČNÍ SPOLEČNOST, s.r.o.

Oznámený subjekt Certifikační orgán pro produkty, kvalifikaci, EPD, kvalitu budov a systémy managementu Zkušební laboratoř
Rozhodnutí o autorizaci č. 32/2006 ze dne 31.8.2006

Autorizovaná osoba 227

PRODUCT CERTIFICATE

No. 227/C5a/2015/0365

In compliance with § 5a of Government Decree No. 163/2002 Coll. laying down technical requirements for selected construction products, as amended by Government Decree No. 312/2005 Coll., the authorised body confirms that for the construction product:

product name: **Automatically controlled fittings - type series
SLP, SLW, SLS, SLU**

intended use: end fittings of internal water supply

applicant: **SANELA spol. s r.o.**
Dukelských hrdinů 989, 563 01 Lanškroun ID: 252 62 955

manufacturer: **SANELA spol. s r.o.**
Dukelských hrdinů 989, 563 01 Lanškroun ID: 252 62 955

examined the documentation submitted by the manufacturer, performed an initial type test of the product on the sample and assessed the production control system and found that the product meets the technical requirements set by the specified standards ČSN EN 15091 and ČSN EN 60730-2-8 ed. 2 and technical regulations - Act No. 252/2000 Coll., Decree No. 409/2005 Coll. and ČSN 75 5409, which are related to the basic requirements.

The authorized body found that the factory production control system is in accordance with the respective technical documentation and ensures that products placed on the market fulfil the requirements of the aforementioned construction technical certificate and are in compliance with the technical documentation according to § 4 paragraph 3.

An integral part of this certificate is Protocol No. 227-P5a-07-0404 of 07.11.2007, as amended by Supplement No. 227-P5a-07-0404/2 of 10.02.2014, Protocol No. 227-D-15-0364 of 19.10.2015, which contain the conclusions of the survey, verification and test results, basic description and possibly display of the certified product necessary for its identification.

This certificate remains valid for as long as the requirements set out in the specified standards and technical regulations to which reference has been made or the manufacturing conditions at the place of manufacture or the production control system do not change significantly.

The authorized person 227 supervises the proper functioning of the production management system at the place of production at least once every 12 months in accordance with the provisions of Section 5a of the above-mentioned Government Decree. If the authorized person finds deficiencies, he is entitled to revoke or change this certificate.

This certificate cancels and fully replaces certificate No. 227/C5a/2007/0404 dated 7 November 2007.

Printout number: 1
Issue place and date:
In Prague on 19/10/2015
K. 8343/4



Ing. Lubomír Keim, CSc.
Director of Authorised Body 227

Výzkumný ústav pozemních staveb – Certifikační společnost, s.r.o. 102 21 Praha 10 - Hostivař, Pražská 810 / 10
IČO: 25052063 DIČ: CZ25052063 Tel.: +420 271 751 148, Fax: +420 281 017 241; E-mail: info@vups.cz www.vups.cz

Declaration of Performance

No. DoP-RFN-0123-041-4

Unique identification code of the product-type:

MediCare Standard

Intended use:

Suspended ceiling membrane for internal use

Manufacturer:

Rockfon®

ROCKWOOL International A/S

Hovedgaden 584 • DK-2640 Hedehusene • Denmark • Phone +45 4656 2122 • Fax +45 4656 4030 •
www.rockfon.com

Systems of AVCP:

1 for Reaction to Fire
3 for Safety in Use & Dangerous Substances
4 for other parameters

Harmonised standard:

EN 13964:2014

Notified body:

System 1: NB 0749 BCCA, Rue d'Arlon 53 • B-1040 Brussels, Belgium
System 3: NB 1235

Declared Performances:

Essential Characteristics	AVCP System	Performance	Harmonised Technical Specification
Reaction to fire	1	A1	EN 13964:2014
Release of formaldehyde	3	E1	
Sound Absorption (α_w)	4	0,95 0,85 (12mm)	
Flexural Tensile Strength	3	C/0N NPD (12mm)	
Susceptibility to the growth of harmful micro-organisms, as dampness	4	A - Not susceptible	
Susceptibility to the growth of harmful micro-organisms, through thermal insulation	4	A - Not susceptible	
Durability	4	C	
Thermal Conductivity (λ_D , W/mK)	4	NPD	

Appropriate technical documentation and/or specific technical documentation:

This product is certified by the Certificate of Constancy of Performance number

0749-CPR BC1-533-1817-0123-04, BC1-533-1817-0091-03, BC1-533-1817-0053-02

The performance of the product identified above is in conformity with the set of declared performances. 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:

Niels Blume-Frederiksen, Group Certification & Technical Data Manager, Rockfon®



Hedehusene, 2017-02-15

Déclaration de Performance

No. DoP-RFN-0123-041-4

Code d'identification unique du produit type:

MediCare Standard

Usage(s) prévu(s):

Elément d'habillage de plafond suspendu pour applications intérieures dans les bâtiments

Fabricant:

Rockfon®

ROCKWOOL International A/S

Hovedgaden 584 • DK-2640 Hedehusene • Denmark • Phone +45 4656 2122 • Fax +45 4656 4030 •
www.rockfon.com

Système(s) d'évaluation et de vérification de la constance des performances (EVCP):

1 pour la réaction au feu
3 pour la sécurité d'utilisation et les substances dangereuses
4 pour les autres paramètres

Norme harmonisée:

EN 13964:2014

Organisme notifié:

System 1: NB 0749 BCCA, Rue d'Arlon 53 • B-1040 Brussels, Belgium

System 3: NB 1235

Performance(s) déclarée(s):

Caractéristiques essentielles	Système d'EVCP	Performance	Norme harmonisée
Réaction au Feu	1	A1	EN 13964:2014
Rejet de Formaldéhyde	3	E1	
Absorption Acoustique (α_w)	4	0,95 0,85 (12mm)	
Résistance à la Flexion	3	C/0N NPD (12mm)	
Susceptibilité au développement de micro-organismes dangereux, par exemple l'humidité	4	A - Non susceptible	
Susceptibilité au développement de micro-organismes dangereux, à travers l'isolation thermique	4	A - Non susceptible	
Durabilité	4	C	
Conductivité Thermique (λ_D , W/mK)	4	NPD	

Documentation technique appropriée et/ou documentation technique spécifique:

Ce produit bénéficie du Certificat de constance des performances numéro

0749-CPR BC1-533-1817-0123-04, BC1-533-1817-0091-03, BC1-533-1817-0053-02

Les performances du produit identifié ci-dessus sont conformes aux performances déclarées. Conformément au règlement (UE) no 305/2011, la présente déclaration des performances est établie sous la seule responsabilité du fabricant mentionné ci-dessus.

Signé pour le fabricant et en son nom par:

Niels Blume-Frederiksen, Group Certification & Technical Data Manager, Rockfon®



Hedehusene, 2017-02-15

Leistungserklärung No. DoP-RFN-0123-041-4

Eindeutiger Kenncode des Produkttyps:

MediCare Standard

Verwendungszweck(e):

Unterdecken-Decklage zur Anwendung innerhalb von Gebäuden

Hersteller:

Rockfon®

ROCKWOOL International A/S

Hovedgaden 584 • DK-2640 Hedehusene • Denmark • Phone +45 4656 2122 • Fax +45 4656 4030 •
www.rockfon.com

System(e) zur Bewertung und Überprüfung der Leistungsbeständigkeit:

1 für das Brandverhalten
3 für Gebrauchssicherheit und gefährlicher
Stoffe
4 für andere Parameter

Harmonisierte Norm:

EN 13964:2014

Notifizierte Stelle(n):

System 1: NB 0749 BCCA, Rue d'Arlon 53 • B-1040 Brussels, Belgium

System 3: NB 1235

Erklärte Leistung(en):

Wesentliche Merkmale	AVCP System	Leistung	Harmonisierte technische Spezifikation
Brandverhalten	1	A1	EN 13964:2014
Freigabe von Formaldehyd	3	E1	
Schallabsorption (α_w)	4	0,95 0,85 (12mm)	
Biegezugfestigkeit	3	C/0N NPD (12mm)	
Anfälligkeit für das Wachstum gesundheitsgefährdender Mikroorganismen, wie Feuchtigkeit	4	A - Nicht anfällig	
Anfälligkeit für das Wachstum gesundheitsgefährdender Mikroorganismen, durch Wärmedämmung	4	A - Nicht anfällig	
Dauerhaftigkeit	4	C	
Wärmeleitfähigkeit (λ_D , W/mK)	4	NPD	

Angemessene Technische Dokumentation und/oder Spezifische Technische Dokumentation:

Dieses Produkt ist zertifiziert durch Leistungs-beständigkeitsbescheinigung Nummer

0749-CPR BC1-533-1817-0123-04, BC1-533-1817-0091-03, BC1-533-1817-0053-02

Die Leistung des vorstehenden Produkts entspricht der erklärten Leistung/den erklärten Leistungen. Für die Erstellung der Leistungserklärung im Einklang mit der Verordnung (EU) Nr. 305/2011 ist allein der obengenannte Hersteller verantwortlich.

Unterzeichnet für den Hersteller und im Namen des Herstellers von:

Niels Blume-Frederiksen, Group Certification & Technical Data Manager, Rockfon®



Hedehusene, 2017-02-15

Prohlášení o vlastnostech No. DoP-RFN-0123-041-4

Jedinečný identifikační kód typu výrobku:

MediCare Standard

Zamýšlené/zamýšlená použití:

Zavěšený pohled pro vnitřní užití

Výrobce:

Rockfon®

ROCKWOOL International A/S

Hovedgaden 584 • DK-2640 Hedehusene • Denmark • Phone +45 4656 2122 • Fax +45 4656 4030 •
www.rockfon.com

Systém/systémy POSV:

1 pro reakci na oheň
3 pro bezpečnost při použití a nebezpečných látek
4 pro další parametry

Harmonizovaná norma:

EN 13964:2014

Oznámený subjekt/
oznámené subjekty:

systém 1: NB 0749 BCCA, Rue d'Arlon 53 • B-1040 Brussels, Belgium
systém 3: NB 1235

Deklarovaná vlastnost/Deklarované vlastnosti

Základní technické parametry	Systém POSV	Vlastnosti	Harmonizovaná technická norma
Třída reakce na oheň	1	A1	EN 13964:2014
Uvolňování formaldehydu	3	E1	
Zvuková pohltivost (α_w)	4	0,95 0,85 (12mm)	
Pevnost v tahu za ohybu	3	C/0N NPD (12mm)	
Náchylnost k růstu škodlivých mikroorganismů, při vlhkosti	4	A - Není náchylný	
Náchylnost k růstu škodlivých mikroorganismů, a to prostřednictvím tepelné izolace	4	A - Není náchylný	
Životnost	4	C	
Tepelná vodivost (λ_D , W/mK)	4	NPD	

Příslušná technická dokumentace a/nebo specifická technická dokumentace:

Tento výrobek disponuje technickými parametry dle Certifikátu o stálosti vlastností, číslo

0749-CPR BC1-533-1817-0123-04, BC1-533-1817-0091-03, BC1-533-1817-0053-02

Vlastnosti výše uvedeného výrobku jsou ve shodě se souborem deklarovaných vlastností. Toto prohlášení o vlastnostech se v souladu s nařízením (EU) č. 305/2011 vydává na výhradní odpovědnost výrobce uvedeného výše.

Podepsáno za výrobce a jeho jménem:

Niels Blume-Frederiksen, Group Certification & Technical Data Manager, Rockfon®



Hedehusene, 2017-02-15

Ydeevnedeklaration No. DoP-RFN-0123-041-4

Varetypens unikke identifikationskode:

MediCare Standard

Tilsigtet anvendelse:

Nedhængt loftplade til indendørs brug

Fabrikant:

Rockfon®

ROCKWOOL International A/S

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www.rockfon.com

Systemer til vurdering og kontrol af ydeevnens konstans:

- 1 for reaktion på brand
- 3 for sikkerhed i brug og farlige stoffer
- 4 for andre parametre

Harmoniseret standard:

EN 13964:2014

Notificeret organ/
notificerede organer:

System 1: NB 0749 BCCA, Rue d'Arlon 53 • B-1040 Brussels, Belgium

System 3: NB 1235

Deklareret ydeevne/deklarerede ydeevner

Væsentlige egenskaber	AVCP System	Ydeevne	Harmoniseret teknisk specifikation
Brand reaktion	1	A1	EN 13964:2014
Formaldehyd afgivelse	3	E1	
Lydabsorption (α_w)	4	0,95 0,85 (12mm)	
Bøjningstrækstyrke	3	C/0N NPD (12mm)	
Modtagelighed for vækst af skadelige mikroorganismer, under fugtige forhold	4	A - Ikke modtagelig	
Modtagelighed for vækst af skadelige mikroorganismer, gennem varmeisolering	4	A - Ikke modtagelig	
Holdbarhed	4	C	
Varmeledningsevne (λ_D , W/mK)	4	NPD	

Relevant teknisk dokumentation og/eller specifik teknisk dokumentation:

Dette produkt er certificeret med Certifikat for Ydeevnens Konstans nummer:

0749-CPR BC1-533-1817-0123-04, BC1-533-1817-0091-03, BC1-533-1817-0053-02

Ydeevnen for den vare, der er anført ovenfor, er i overensstemmelse med den deklarerede ydeevne. Denne ydeevnedeklaration er udarbejdet i overensstemmelse med forordning (EU) nr. 305/2011 på eneansvar af den fabrikant, der er anført ovenfor.

Underskrevet for fabrikanten og på dennes vegne af:

Niels Blume-Frederiksen, Group Certification & Technical Data Manager, Rockfon®



Hedehusene, 2017-02-15

Toimivusdeklaratsioon No. DoP-RFN-0123-041-4

Tootetüübi kordumatu identifitseerimiskood:

MediCare Standard

Kavandatud kasutusala(d):

Ripplagi kasutamiseks siseruumides

Tootja:

Rockfon®

ROCKWOOL International A/S

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www.rockfon.com

Toimivuse püsivuse hindamise ja kontrolli süsteem:

- 1 Tuletundlikkus
- 3 Kasutusohutus & ohtlikud ained
- 4 Teised parameetrid

Ühtlustatud standard:

EN 13964:2014

Teavitatud asutus(ed):

Süsteemi 1: NB 0749 BCCA, Rue d'Arlon 53 • B-1040 Brussels, Belgium

Süsteemi 3: NB 1235

Deklareeritud toimivus

Põhiomadused	AVCP Süsteem	Toimivus	Ühtlustatud tehniline kirjeldus
Tuletundlikkus	1	A1	EN 13964:2014
Formaaldehüüdi eraldumine	3	E1	
Helineelduvus (α_w)	4	0,95 0,85 (12mm)	
Paindetõmbetugevus	3	C/0N NPD (12mm)	
Vastuvõtlikkus kahjulike mikroorganismide kasvuks niiskes keskkonnas	4	A - Ei ole vastuvõtlikud	
Vastuvõtlikkus kahjulike mikroorganismide kasvuks läbi soojusisolatsiooni	4	A - Ei ole vastuvõtlikud	
Vastupidavus	4	C	
Soojusjuhtivus (λ_D , W/mK)	4	NPD	

Asjakohane tehniline dokumentatsioon ja/või tehniline eridokumentatsioon:

Toode hinnatud vastavalt toimivuse hindamise ja kontrollsüsteemi standardile

0749-CPR BC1-533-1817-0123-04, BC1-533-1817-0091-03, BC1-533-1817-0053-02

Eespool kirjeldatud toote toimivus vastab deklareeritud toimivusele. Käesolev toimivusdeklaratsioon on välja antud kooskõlas määrusega (EL) nr 305/2011 eespool nimetatud tootja ainuvastutusel.

Tootja poolt ja nimel allkirjastanud:

Niels Blume-Frederiksen, Group Certification & Technical Data Manager, Rockfon®



Hedehusene, 2017-02-15

Declaración de Prestaciones

No. DoP-RFN-0123-041-4

Código de identificación única del producto tipo:

MediCare Standard

Usos previstos:

Elemento de techo suspendido para uso en aplicaciones internas

Fabricante:

Rockfon®

ROCKWOOL International A/S

Hovedgaden 584 • DK-2640 Hedehusene • Denmark • Phone +45 4656 2122 • Fax +45 4656 4030 •
www.rockfon.com

Sistemas de evaluación y verificación de la constancia de las prestaciones (EVCP):

1 para Reacción al Fuego
3 para la Seguridad en el Uso y sustancias peligrosas
4 para otros parámetros

Norma armonizada:

EN 13964:2014

Organismos notificados:

Sistema 1: NB 0749 BCCA, Rue d'Arlon 53 • B-1040 Brussels, Belgium

Sistema 3: NB 1235

Prestaciones declaradas:

Características principales	Sistema EVCP	Prestación	Especificaciones técnicas armonizadas
Reacción al Fuego	1	A1	EN 13964:2014
Emisión de Formaldehído	3	E1	
Absorción Acústica (α_w)	4	0,95 0,85 (12mm)	
Resistencia a la Flexión	3	C/0N NPD (12mm)	
Susceptible al crecimiento de microorganismos perjudiciales, como la humedad	4	A - No susceptible	
Susceptible al crecimiento de microorganismos perjudiciales, mediante aislamiento térmico	4	A - No susceptible	
Durabilidad	4	C	
Conductividad Térmica (λ_D , W/mK)	4	NPD	

Documentación técnica adecuada o documentación técnica específica:

Este producto está certificado con el Certificado de Prestaciones número

0749-CPR BC1-533-1817-0123-04, BC1-533-1817-0091-03, BC1-533-1817-0053-02

Las prestaciones del producto identificado anteriormente son conformes con el conjunto de prestaciones declaradas. La presente declaración de prestaciones se emite, de conformidad con el Reglamento (UE) no 305/2011, bajo la sola responsabilidad del fabricante arriba identificado.

Firmado por y en nombre del fabricante por:

Niels Blume-Frederiksen, Group Certification & Technical Data Manager, Rockfon®



Hedehusene, 2017-02-15

Suoritustasoilmoitus No. DoP-RFN-0123-041-4

Tuotetyypin yksilöllinen tunnistus:

MediCare Standard

Aiottu käyttötarkoitus (aiotut käyttötarkoitukset):

Sisäkäyttöön asennettavaksi tarkoitettu alakattolevy

Valmistaja:

Rockfon®

ROCKWOOL International A/S

Hovedgaden 584 • DK-2640 Hedehusene • Denmark • Phone +45 4656 2122 • Fax +45 4656 4030 •
www.rockfon.com

Suoritustason pysyvyyden arvioinnissa ja varmentamisessa käytetty järjestelmä/käytetyt järjestelmät:

- 1 Palotekninen käyttäytyminen
- 3 Käyttöturvallisuus ja vaarallinen sisältö
- 4 muista arvoista

Yhdenmukaistettu standardi:

EN 13964:2014

Ilmoitettu laitos/
ilmoitetut laitokset:

System 1: NB 0749 BCCA, Rue d'Arlon 53 • B-1040 Brussels, Belgium

System 3: NB 1235

Ilmoitettu suoritustaso/ilmoitetut suoritustasot

Perusominaisuudet	AVCP järjestelmä	Suoritustaso	Yhdenmukaistetut tekniset eritelmät
Palotekniset ominaisuudet	1	A1	EN 13964:2014
Formaldehydipäästöt	3	E1	
Äänenvaimennus (α_w)	4	0,95 0,85 (12mm)	
Taivutusvetolujuus	3	C/0N NPD (12mm)	
Kasvualustana mikro-organismeille kosteassa	4	A - Ei altista	
Kasvualustana mikro-organismeille jos lämmöneristeenä	4	A - Ei altista	
Kestävyys	4	C	
Lämmönjohtavuus (λ_D , W/mK)	4	NPD	

Asianmukainen tekninen asiakirja ja/tai tekninen erityisasiakirja:

Tämä tuote on sertifioitu suoritustason pysyvyyden mukaan numerolla

0749-CPR BC1-533-1817-0123-04, BC1-533-1817-0091-03, BC1-533-1817-0053-02

Edellä yksilöidyn tuotteen suoritustaso on ilmoitettujen suoritustasojen joukon mukainen. Tämä suoritustasoilmoitus on asetuksen (EU) N:o 305/2011 mukaisesti annettu edellä ilmoitetun valmistajan yksinomaisella vastuulla.

Valmistajan puolesta allekirjoittanut:

Niels Blume-Frederiksen, Group Certification & Technical Data Manager, Rockfon®



Hedehusene, 2017-02-15

Dichiarazione di Prestazione No. DoP-RFN-0123-041-4

Codice di identificazione unico del prodotto-tipo:

MediCare Standard

Usi previsti:

Pannello per Controsoffitto per uso interno

Fabbricante:

Rockfon®

ROCKWOOL International A/S

Hovedgaden 584 • DK-2640 Hedehusene • Denmark • Phone +45 4656 2122 • Fax +45 4656 4030 •
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Sistemi di WVCP:

1 per la reazione al fuoco
3 per la sicurezza nell'uso e le sostanze pericolose
4 per gli altri parametri

Norma armonizzata:

EN 13964:2014

Organismi notificati:

Sistema 1: NB 0749 BCCA, Rue d'Arlon 53 • B-1040 Brussels, Belgium
Sistema 3: NB 1235

Prestazioni dichiarate:

Caratteristiche essenziali	Sistemi di WVCP	Prestazioni	Specifica tecnica armonizzata
Reazione al Fuoco	1	A1	EN 13964:2014
Rilascio di Formaldeide	3	E1	
Assorbimento Acustico (α_w)	4	0,95 0,85 (12mm)	
Stabilità alla Flessione	3	C/0N NPD (12mm)	
Predisposizione alla sviluppo di microorganismi nocivi, come l'umidità	4	A - Non predisposto	
Predisposizione alla sviluppo di microorganismi nocivi, attraverso l'isolamento termico	4	A - Non predisposto	
Durabilità	4	C	
Conduttività Termica (λ_D , W/mK)	4	NPD	

Documentazione tecnica appropriata e/o documentazione tecnica specifica:

Questo prodotto è certificato dal Certificato di Costanza della Prestazione numero

0749-CPR BC1-533-1817-0123-04, BC1-533-1817-0091-03, BC1-533-1817-0053-02

La prestazione del prodotto sopra identificato è conforme all'insieme delle prestazioni dichiarate. La presente dichiarazione di responsabilità viene emessa, in conformità al regolamento (UE) n. 305/2011, sotto la sola responsabilità del fabbricante sopra identificato

Firmato a nome e per conto del fabbricante da:

Niels Blume-Frederiksen, Group Certification & Technical Data Manager, Rockfon®



Hedehusene, 2017-02-15

Prestatieverklaring No. DoP-RFN-0123-041-4

Unieke identificatiecode van het producttype:

MediCare Standard

Beoogd gebruik:

Verlaagd plafond membraan voor binnentoepassingen

Fabrikant:

Rockfon®

ROCKWOOL International A/S

Hovedgaden 584 • DK-2640 Hedehusene • Denmark • Phone +45 4656 2122 • Fax +45 4656 4030 •
www.rockfon.com

Het systeem of de systemen voor de beoordeling en verificatie van de prestatiebestendigheid:

1 voor Brandreactie
3 voor Veiligheid in gebruik en gevaarlijke stoffen
4 voor Andere parameters

Geharmoniseerde norm:

EN 13964:2014

Aangemelde instantie(s):

System 1: NB 0749 BCCA, Rue d'Arlon 53 • B-1040 Brussels, Belgium

System 3: NB 1235

Aangegeven prestatie(s):

Essentiële eigenschappen	AVCP systeem	Prestatie	Geharmoniseerde technische specificatie
Brandgedrag	1	A1	EN 13964:2014
Formaldehyde emissieklasse	3	E1	
Geluidsabsorptie (α_w)	4	0,95 0,85 (12mm)	
Dimensiestabiliteit	3	C/0N NPD (12mm)	
Gevoelig voor groei van schadelijke micro-organismen, zoals vochtigheid	4	A - Ongevoelig	
Gevoelig voor groei van schadelijke micro-organismen, door de thermische isolatie	4	A - Ongevoelig	
Duurzaamheid	4	C	
Thermischegeleidingscoëfficiënt (λ_D , W/mK)	4	NPD	

Geëigende technische documentatie en/of specifieke technische documentatie:

Dit product is gecertificeerd door Certificaat van Prestatiebestendigheid nummer

0749-CPR BC1-533-1817-0123-04, BC1-533-1817-0091-03, BC1-533-1817-0053-02

De prestaties van het hierboven omschreven product zijn conform de aangegeven prestaties. Deze prestatieverklaring wordt in overeenstemming met Verordening (EU) nr. 305/2011 onder de exclusieve verantwoordelijkheid van de hierboven vermelde fabrikant verstrekt

Ondertekend voor en namens de fabrikant door:

Niels Blume-Frederiksen, Group Certification & Technical Data Manager, Rockfon®



Hedehusene, 2017-02-15

Deklaracja właściwości użytkowych No. DoP-RFN-0123-041-4

Niepowtarzalny kod identyfikacyjny typu wyrobu:

MediCare Standard

Zamierzone zastosowanie:

Element połączenia sufitu podwieszanego przeznaczony do stosowania wewnątrz budynku

Producent:

Rockfon®

ROCKWOOL International A/S

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www.rockfon.com

System oceny i weryfikacji stałości właściwości użytkowych:

1 dla reakcji na ogień
3 dla bezpieczeństwa użytkowania i substancji niebezpiecznych
4 dla innych parametrów

Norma zharmonizowana:

EN 13964:2014

Jednostka notyfikowana:

System 1: NB 0749 BCCA, Rue d'Arlon 53 • B-1040 Brussels, Belgium

System 3: NB 1235

Deklarowane właściwości użytkowe

Zasadnicze charakterystyki	System AVCP	Poziom lub klasa	Zharmonizowana specyfikacja techniczna
Reakcja na ogień	1	A1	EN 13964:2014
Uwalnianie formaldehydu	3	E1	
Pochłanianie dźwięku (α_w)	4	0,95 0,85 (12mm)	
Wytrzymałość na zginanie	3	C/0N NPD (12mm)	
Podatność na rozwój szkodliwych mikroorganizmów, wilgoć z otoczenia	4	A - Niepodatny	
Podatność na rozwój szkodliwych mikroorganizmów, wilgoć w izolacji cieplnej	4	A - Niepodatny	
Trwałość	4	C	
Przewodzenie ciepła (λ_D , W/mK)	4	NPD	

Odpowiednia dokumentacja techniczna lub specjalna dokumentacja techniczna:

Produkt ten posiada parametry techniczne zgodne z Certyfikatem stałości właściwości użytkowych nr

0749-CPR BC1-533-1817-0123-04, BC1-533-1817-0091-03, BC1-533-1817-0053-02

Właściwości użytkowe określonego powyżej wyrobu są zgodne z zestawem deklarowanych właściwości użytkowych. Niniejsza deklaracja właściwości użytkowych wydana zostaje zgodnie z rozporządzeniem (UE) nr 305/2011 na wyłączną odpowiedzialność producenta określonego powyżej.

W imieniu producenta podpisał:

Niels Blume-Frederiksen, Group Certification & Technical Data Manager, Rockfon®



Hedehusene, 2017-02-15

PrestandadeklARATION No. DoP-RFN-0123-041-4

Produkttypens unika identifikationskod:

MediCare Standard

Avsedd användning/avsedda användningar:

Nedpendlad undertakskiva för inomhus bruk

Tillverkare:

Rockfon®

ROCKWOOL International A/S

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System för bedömning och fortlöpande kontroll av prestanda:

1 för reaktion vid brandpåverkan
3 för säkerhet vid användning och farliga ämnen
4 för andra parametrar

Harmoniserad standard:

EN 13964:2014

Notificeret organ/
notificerede organer:

System 1: NB 0749 BCCA, Rue d'Arlon 53 • B-1040 Brussels, Belgium

System 3: NB 1235

Angiven prestanda:

Väsentliga egenskaper	AVCP System	Prestanda	Harmoniserad teknisk specifikation
Reaktion vid brandpåverkan	1	A1	EN 13964:2014
Avgivning av formaldehyd	3	E1	
Ljudabsorption (α_w)	4	0,95 0,85 (12mm)	
Böjhallfasthet	3	C/0N NPD (12mm)	
Känslighet för tillväxt av skadliga mikroorganismer, vid fuktiga förhållande	4	A - Icke Känslig	
Känslighet för tillväxt av skadliga mikroorganismer, genom termisk isolering	4	A - Icke Känslig	
Hållbarhet	4	C	
Värmeledningsförmåga (λ_D , W/mK)	4	NPD	

Lämplig teknisk dokumentation och/eller särskild teknisk dokumentation:

Denna produkt är certifierad med intyget om fortlöpande prestandakontroll nummer

0749-CPR BC1-533-1817-0123-04, BC1-533-1817-0091-03, BC1-533-1817-0053-02

Prestandan för ovanstående produkt överensstämmer med den angivna prestandan. Denna prestandadeklARATION har utfärdats i enlighet med förordning (EU) nr 305/2011 på eget ansvar av den tillverkare som anges ovan.

Undertecknad på tillverkarens vägnar av:

Niels Blume-Frederiksen, Group Certification & Technical Data Manager, Rockfon®



Hedehusene, 2017-02-15

Prehlásenie o vlastnostiach No. DoP-RFN-0123-041-4

Jedinečný identifikačný kód typu výrobku:

MediCare Standard

Zamýšľané použitie/použitia:

Zaveseny podhlád na vnútorné použitie

Výrobca:

Rockfon®

ROCKWOOL International A/S

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www.rockfon.com

Systém(-y) posudzovania a overovania nemennosti parametrov:

1 pre reakciu na oheň
3 pre bezpečnosť pri použití a nebezpečných látok
4 pre ďalšie parametre

Harmonizovaná norma:

EN 13964:2014

Notifikovaný(-é)
subjekt(-y):

systém 1: NB 0749 BCCA, Rue d'Arlon 53 • B-1040 Brussels, Belgium

systém 3: NB 1235

Deklarované parametre:

Základné technické parametre	Systém AVCP	Vlastnosti	Harmonizovaná technická norma
Trieda reakcie na oheň	1	A1	EN 13964:2014
Uvoľňovanie formaldehydu	3	E1	
Zvuková pohltivosť (α_w)	4	0,95 0,85 (12mm)	
Pevnosť v ťahu za ohybu	3	C/0N NPD (12mm)	
Náchylnosť k rastu škodlivých mikroorganizmov, pri vlhkostiach	4	A - Není náchilný	
Náchylnosť k rastu škodlivých mikroorganizmov, pôsobením tepelnej izolácie	4	A - Není náchilný	
Životnosť	4	C	
Tepelná vodivosť (λ_D , W/mK)	4	NPD	

Vhodná technická dokumentácia a/alebo špecifická technická dokumentácia:

Tento výrobok disponuje technickými parametrami podľa Certifikátu o stálosti vlastností, číslo

0749-CPR BC1-533-1817-0123-04, BC1-533-1817-0091-03, BC1-533-1817-0053-02

Uvedené parametre výrobku sú v zhode so súborom deklarovaných parametrov. Toto vyhlásenie o parametroch sa v súlade s nariadením (EÚ) č. 305/2011 vydáva na výhradnú zodpovednosť uvedeného výrobcu.

Podpísal(-a) za a v mene výrobcu:

Niels Blume-Frederiksen, Group Certification & Technical Data Manager, Rockfon®



Hedehusene, 2017-02-15

Декларация Характеристики Качества No. DoP-RFN-0123-041-4

Идентификационный код типа продукта:

MediCare Standard

Целевое назначение:

Мембрана внутреннего использования для подвесных потолков

Производитель:

Rockfon®

ROCKWOOL International A/S

Hovedgaden 584 • DK-2640 Hedehusene • Denmark • Phone +45 4656 2122 • Fax +45 4656 4030 • www.rockfon.com

Система оценки проверки постоянства качественных показателей:

- 1 Для пожаробезопасность
3 Для безопасность использования и опасных веществ
4 Для другие параметры

Соответствие стандартам:

EN 13964:2014Аккредитованный орган
сертификации:

система 1: NB 0749 BCCA, Rue d'Arlon 53 • B-1040 Brussels, Belgium

система 3: NB 1235

Заявленные характеристики

Основные характеристики	Система проверки производства (AVCP)	Показатели	Свод технических требований
Реакция на огонь	1	A1	EN 13964:2014
Эмиссия формальдегида	3	E1	
Индекс звукопоглощения (α_w)	4	0,95 0,85 (12mm)	
Прочность на растяжение при изгибе	3	C/0N NPD (12mm)	
Способствует росту вредоносных микроорганизмов и сырости	4	A - Не восприимчив	
Способствует росту вредных микроорганизмов при образовании конденсата	4	A - Не восприимчив	
Долговечность	4	C	
Коэффициент теплопроводности (λ_D , W/mK)	4	NPD	

Соответствующая техническая документация:

Этому продукту был выдан Сертификат Постоянства Свойств

0749-CPR BC1-533-1817-0123-04, BC1-533-1817-0091-03, BC1-533-1817-0053-02

Показатели продукта, указанного выше, соответствуют, заявленным производителем характеристикам. Данная декларация качества издана производителем в соответствии с Регламентом (EU) номер 305/2011, под ответственностью производителя.

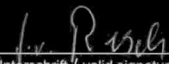
Подписано производителем в лице:

Niels Blume-Frederiksen, Group Certification & Technical Data Manager, Rockfon®



Hedehusene, 2017-02-15

19 Einbauerklärung / Declaration of incorporation

Einbauerklärung (für eine unvollständige Maschine)	
Declaration of incorporation (for a partly completed machinery)	
Hiermit erklären wir, dass folgendes Produkt <i>We hereby declare that the following product</i>	
Hersteller: <i>Manufacturer:</i>	Gretsch-Unitas GmbH Baubeschläge Johann-Maus-Str. 3 D-71254 Ditzingen
Produktbezeichnung: <i>Product Designation:</i>	Fenster-Kettenantrieb 230V AC Window chain drive 230V AC
Typ/ Type:	ELTRAL K30 ELTRAL K30-Synchro
Baujahr: <i>Year of manufacture:</i>	ab 2011 <i>from 2011</i>
die Anforderungen der Maschinenrichtlinie 2006/42/EG, Anhang I, Teil 1 erfüllt. Die technischen Unterlagen sind nach Maschinenrichtlinie 2006/42/EG Anhang VII, Teil B erstellt worden. <i>complies with the requirements of the Machinery Directive 2006/42/EC, Appendix I, Part 1</i> <i>The technical documents are issued according to the Machinery Directive 2006/42/EC, Appendix VII, Part B.</i>	
Der Bevollmächtigte für die Zusammenstellung technischer Unterlagen ist <i>Authorised to compile the relevant technical documentation is</i>	
Dipl.-Ing (BA) Daniel Gründler, Gretsch-Unitas GmbH Baubeschläge	
Auf begründeten Antrag hin sind wir verpflichtet, die spezifischen Dokumente für die oben genannten Produkte innerhalb einer angemessenen Frist bereitzustellen. Die Dokumente werden per E-Mail zur Verfügung gestellt. <i>Upon justified request, we shall be obligated to provide the specific documents regarding the product listed above within an adequate period. The documents will be provided via e-mail.</i>	
Die unvollständige Maschine entspricht weiterhin allen Bestimmungen der <i>Furthermore the partly completed machinery complies with all regulations of</i>	
Richtlinie 2004/108/EG Elektromagnetische Verträglichkeit Richtlinie 2006/95/EG Niederspannungsrichtlinie	Directive 2004/108/EC EMC Compatibility Directive 2006/95/EC Low Voltage Directive.
und folgenden harmonisierten Normen / <i>and the following harmonised standards:</i>	
DIN EN 60335-2 – 103, EN 55011, EN 55014-1, EN 55014-02, EN 55022	
Die vollständige Maschine, inklusive der von uns gelieferten o.a. Antriebe darf erst dann in Betrieb genommen werden, wenn festgestellt wurde, dass die Anlage entsprechend den Vorgaben der Montageanleitung und der Betriebs- und Installationshinweise montiert wurde und die Abnahme durch einen Sachkundigen mit Nachweis mittels Abnahmeprotokoll durchgeführt wurde. Dadurch wird den Bestimmungen der Maschinenrichtlinie 2006/42/EG entsprochen. <i>Commissioning of the complete machinery including the above mentioned drives delivered by us is not allowed until it is ascertained that the installation of the complete machinery was performed in accordance with the specifications and the operating and installation advice given in our "Mounting Instructions", and that the acceptance procedure was duly carried out and documented in an acceptance protocol by a specialist.</i> <i>This stipulation is made in accordance with the regulations of the Machinery Directive 2006/42/EC.</i>	
Diese Erklärung wird verantwortlich für den Hersteller / <i>This is declared by the manufacturer</i> Gretsch-Unitas GmbH Baubeschläge, Johann-Maus-Str. 3, D-71254 Ditzingen abgegeben durch / <i>represented by</i>	
Julius von Resch – Geschäftsführer / <i>Managing Director</i> (Titel, Vorname, Name, Stellung im Betrieb des Herstellers / <i>title, first name, name, responsibility in the company</i>)	
Ditzingen, 13. Januar 2011	 rechtsgültige Unterschrift / <i>valid signature</i>
Einbauerklärung-Nr. / <i>Manufacturer's Declaration no.</i> G.U. K-1037	

Einbauerklärung
(für eine unvollständige Maschine)
Declaration of incorporation
(for a partly completed machinery)

Hiermit erklären wir, dass folgendes Produkt
We hereby declare that the following product

Hersteller: <i>Manufacturer:</i>	Gretsch-Unitas GmbH Baubeschläge Johann-Maus-Str. 3 D-71254 Ditzingen
Produktbezeichnung: <i>Product Designation:</i>	Fenster-Kettenantrieb 24V DC Window chain drive 24V DC
Typ/ Type:	ELTRAL K30, ELTRAL K30-Synchro ELTRAL K35, ELTRAL K35-Synchro

Baujahr: ab 2011
Year of manufacture: from 2011

die Anforderungen der Maschinenrichtlinie 2006/42/EG, Anhang I, Teil 1 erfüllt. Die technischen Unterlagen sind nach Maschinenrichtlinie 2006/42/EG Anhang VII, Teil B erstellt worden.
complies with the requirements of the Machinery Directive 2006/42/EC, Appendix I, Part 1
The technical documents are issued according to the Machinery Directive 2006/42/EC, Appendix VII, Part B.

Der Bevollmächtigte für die Zusammenstellung technischer Unterlagen ist
Authorised to compile the relevant technical documentation is

Dipl.-Ing (BA) Daniel Gründler, Gretsch-Unitas GmbH Baubeschläge

Auf begründeten Antrag hin sind wir verpflichtet, die spezifischen Dokumente für die oben genannten Produkte innerhalb einer angemessenen Frist bereitzustellen. Die Dokumente werden per E-Mail zur Verfügung gestellt.
Upon justified request, we shall be obligated to provide the specific documents regarding the product listed above within an adequate period. The documents will be provided via e-mail.

Die unvollständige Maschine entspricht weiterhin allen Bestimmungen der
Furthermore the partly completed machinery complies with all regulations of

Richtlinie 2004/108/EG Elektromagnetische Verträglichkeit	Directive 2004/108/EC	EMC Compatibility
Richtlinie 2006/95/EG Niederspannungsrichtlinie	Directive 2006/95/EC	Low Voltage Directive.

und folgenden harmonisierten Normen / *and the following harmonised standards:*

DIN EN 60335-2 – 103, EN 55011, EN 55014-1, EN 55014-02, EN 55022, EN 12101-2

Die vollständige Maschine, inklusive der von uns gelieferten o.ä. Antriebe darf erst dann in Betrieb genommen werden, wenn festgestellt wurde, dass die Anlage entsprechend den Vorgaben der Montageanleitung und der Betriebs- und Installationshinweise montiert wurde und die Abnahme durch einen Sachkundigen mit Nachweis mittels Abnahmeprotokoll durchgeführt wurde. Dadurch wird den Bestimmungen der Maschinenrichtlinie 2006/42/EG entsprochen.

Commissioning of the complete machinery including the above mentioned drives delivered by us is not allowed until it is ascertained that the installation of the complete machinery was performed in accordance with the specifications and the operating and installation advice given in our "Mounting Instructions", and that the acceptance procedure was duly carried out and documented in an acceptance protocol by a specialist.
This stipulation is made in accordance with the regulations of the Machinery Directive 2006/42/EC.

Diese Erklärung wird verantwortlich für den Hersteller / *This is declared by the manufacturer*
Gretsch-Unitas GmbH Baubeschläge, Johann-Maus-Str. 3, D-71254 Ditzingen
abgegeben durch / *represented by*

Julius von Resch – Geschäftsführer / *Managing Director*
(Titel, Vorname, Name, Stellung im Betrieb des Herstellers / *title, first name, name, responsibility in the company*)

Ditzingen, 13. Januar 2011


rechtsgültige Unterschrift / *valid signature*

Einbauerklärung-Nr. / *Manufacturer's Declaration no.* G.U. K-1036



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0-46380-IE-0-0 | 04 | 10.2013 | G28063 | Printed in Germany

Fehler, Irrtümer und technische Änderungen vorbehalten.
Errors and omissions reserved. Subject to technical modifications.

Vorsprung mit System
Securing technology for you



Chain drive
ELTRAL K30
ELTRAL K30 Synchro
Assembly and operating instructions



ELTRAL K30 | ELTRAL K30 Synchro

Chain drive

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Symbols used in this manual

Symbol	Signal word	Meaning	Symbol	Signal word	Meaning
	Danger !	Risk of damage to people and property warning sign		Info	Special functions or user advice
	Attention !	Property damage warning sign		Note	Call to action
	Caution !	Risk of crushing warning sign		Danger !	Electrical hazard symbol sign

General advice

The present installation and function description is exclusively addressed to specialists trained by Gretsch-Unitas GmbH Baubeschläge who in turn will instruct the end user. For this reason, the instructions are provided in German (original language) and English (translation) only.

The body responsible for all instruction manuals is the Technical Office of Gretsch-Unitas GmbH Baubeschläge in Ditzingen.

This product is to be considered as uncompleted apparatus. The instructions accompanying it do not contain a risk assessment. In fact, it is the installer of the complete technical equipment who is in charge of carrying out a risk analysis.

1 Basic advice

The Installation and Operating Guide is an important part of the supplied equipment, and is addressed to the people who will install, operate or maintain the motor. The Guide tells you what you need to know about the product and how to use it safely.

- ➔ Please read the Guide carefully and pay particular attention to instructions concerning safety.
- ➔ Keep the Guide in a safe place.
- ➔ Reliable functioning and prevention of risk and damage are only achieved with accurate assembly and setting according to the instructions.
- ➔ In the event of incorrect mounting and installation, Gretsch-Unitas GmbH Baubeschläge accepts no liability.
- ➔ After removing all packaging, please verify that all parts of the appliance are present and intact.



Plastic bags and small parts such as clips etc. must be kept out of the reach of children as they are potential sources of danger.

2 General safety instructions

It is absolutely essential to observe the following safety instructions:

Additional instructions in the further sections of the Guide are clearly identified by the symbols referred to above.

- ➔ Ensure that the mounting, installation and initial commissioning of the equipment is carried out by trained and qualified persons only.
- ➔ Observe all rules and regulations applicable at the place of installation, such as.
 - Health and safety regulations,
 - Accident prevention regulations,
 - VDE (German Electrical Engineers Association) regulations and DIN standards,
 - Technical Rules for Workplaces ASR A1.6 and A1.7 (formerly Directive BGR 232 for power-operated windows, doors and shutters) - ask Gretsch-Unitas GmbH Baubeschläge for a copy, if necessary,
 - "Leaflet KB.01: Power-Operated Windows" of the German Association of Window and Curtain Wall Manufacturers (VFF) (ask Gretsch-Unitas GmbH Baubeschläge for a copy if necessary).
- ➔ Use the motor only if it is in full technical working order, for the purpose for which it is designed, in a safety-conscious way and with due regard to the dangers, and in accordance with the Installation and Operating Guide.
- ➔ Attach safety devices such as safety catches or security stays correctly and ensure that they work properly. Ensure that the opening distance of the catching device is sufficiently large to match the travel of the drive.
- ➔ Use only original spare parts, original accessories and original fastening materials from Gretsch-Unitas GmbH Baubeschläge.
- ➔ Fixing material must be compatible with the structure and supplemented if required.
- ➔ Always verify if your appliance complies with the prevailing regulations. Special attention must be paid to: opening distance of window, allowed installation dimensions, opening speed, pressure force, cross section of connecting cable depending on cable length and current consumption.
- ➔ The drive is designed for the use in dry rooms only. Ensure that it is permanently protected against moisture and dirt.

ELTRAL K30 | ELTRAL K30 Synchro

Chain drive

3 Appropriate Use

The ELTRAL K30 and ELTRAL K30 Synchro chain motor is designed for the automatic opening and closing of tilt, top hung, side hung, horizontal and vertical pivot windows, roof-lights and small domes exclusively. Any other use is considered unintended use.

Gretsch-Unitas GmbH Baubeschläge is not liable for damage caused by unintended use.

The warranty shall be null and void in consequence.

All deliveries are made on the basis of our General Terms and Conditions.

4 Description of ELTRAL K30 and ELTRAL K30 Synchro

The chain motor ELTRAL K30 and ELTRAL K30 Synchro is designed for use in dry rooms with an ambient temperature from -5°C to max. +65°C.

It can be installed either horizontally or vertically.

One ELTRAL K30 kit consists of: • 1x Chain drive K30 • 1x Connecting cable, length 2 m • 1x Drilling template • 1x Assembly and operating instructions	One ELTRAL K30 Synchro kit consists of: • 2x Chain drive K30 • 2x Connecting cable, length 2.5 m • 1x Connecting clamp • 1x Drilling template • 1x Assembly and operating instructions
--	--

The following installation variants are possible:

- mounted on the frame,
- mounted on the sash.

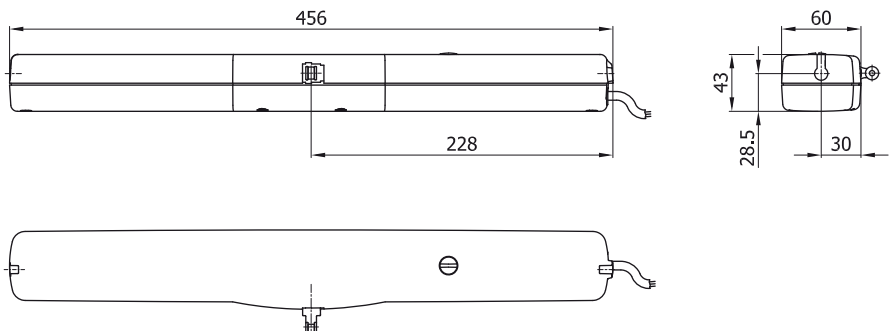
Note!	Type label
	The type label is attached to the motor. With the motor installed, the type label is not visible.

5 Technical data for 1 motor

Modell	110 V / 230 V	24 V
Push / pull force	max. 300 N	
Opening width (adjustable)	300, 400, 500 mm	
Rated voltage	110 V / 230 V~ 50/60 Hz	24 V DC
Rated current consumption	0.16 A	0.91 A
Power consumption	~36 W	~20 W
Push speed	8.9 mm/s	8.9 mm/s
Run time unloaded (500 mm travel)	56 s	
Double electrical insulation	Yes	Low voltage
Duty ratio (power-on time)	30% (10 min)	
Ambient temperature	-5°C to +65°C	
Protection class	IP32	
Connection of several drives in parallel	Yes (max. 10 pieces)	
Limit switch stop at opening	Electronic	
Limit switch stop at closing	Electronic with power input	
Connecting cable	approx. 2 m (Synchro approx. 2.5 m)	
Core	connecting cable synchronizing cable signal VAN	3x 0.5 mm ² 2x 0.5 mm ² -
		2x 0.5 mm ² 2x 0.5 mm ² 1x 0.5 mm ²
Max. numbers of drives of one switch (10 A)	10 pieces	
Dimensions Height x Depth x Width	43 x 60 x 456 mm	
Weight	approx. 1.34 kg	approx. 1.55 kg

The specifications stated in this table are not binding and may be changed without notice.

Dimensioned drawing



ELTRAL K30 | ELTRAL K30 Synchro

Chain drive

To determine the installation variant depending on the sash height, refer to the following table or the charts in chapter „18 Application diagram“ on page 41.

Min. sash high

Installation method	travel 300 mm	travel 400 mm	travel 500 mm
Tilt window inward frame mounting	300 mm	400 mm	500 mm
Tilt window inward sash mounting	400 mm	650 mm	900 mm
Top hung window outward frame mounting	350 mm	450 mm	600 mm

Note!	Smaller sash heights
	Please contact us if smaller sash heights are required.

6 Preparing to install

DANGER	Incorrect use may cause injury to people and damage to property
	Refer to the type label of the motor and the technical data in chapter „5 Technical data for 1 motor“ on page 25 to ensure that you have the correct motor for your installation situation

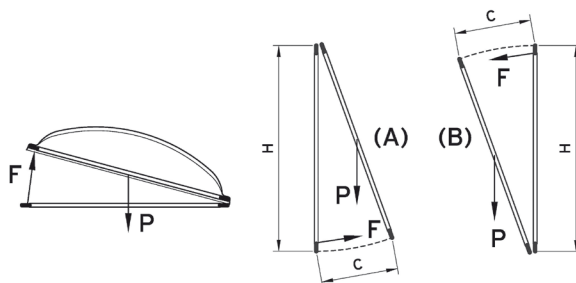
-  Examine the delivered equipment immediately upon receipt and check it for transport damage. Do not install the motor if it is damaged.

Note!	With tilt sashes, the clearance between frame and sash profile must be at least 0 mm in order to provide for safe closing of the window.
	If frame and sash profiles are flush, or if the sash profile stands back from the frame profile on the interior side, it is necessary to underlay the tilt sash bracket accordingly.

7 Calculation of force to open and close

Note! 	With the formulae indicated below it is possible to determine the approximate force required to open or close a (smooth-running) window. Possible snow loads are to be considered.
------------------	---

Note! 	The application formula considers tilt and top hung windows only. The maximum rated drive force is to be taken from the technical data you will find in chapter „5 Technical data for 1 motor“ on page 25. If the values you calculated exceed the max. allowed force, please contact Gretsche-Unitas GmbH Baubeschlge.
------------------	---



F, F_g, F_K = opening / closing force (N)

P = sash weight ()

A = window area (m^2)

H = sash high (mm)

C = opening distance of sash (mm)

F_w = wind load

Wind load in dependence on the building height

height	F_w
0 - 8 m	500 N/ m^2
8 - 20 m	800 N/ m^2
20 - 100 m	1100 N/ m^2
> 100 m	1300 N/ m^2

For vertically installed tilt or top hung windows

Calculating the drive force depending on the sash weight P

$$F_g = 5.4 \times P$$

For vertically installed tilt or top hung windows

Calculating the drive force depending on the sash weight P

$$F_g = 5.4 \times P \times C / H$$

Calculating the drive force depending on the wind load F_w

$$F_K = F_w \times A / 2$$

Calculating the drive force depending on the sash weight F_g and the wind load F_w

$$F = F_g + F_K$$

ELTRAL K30 | ELTRAL K30 Synchro

Chain drive

8 Installation (mechanical)

ATTENTION 	Risk of installation errors Installation must only be carried out by trained and qualified personnel. ⇒ When installing fittings, verify their faultless functioning. ⇒ Follow the enclosed installation drawings exactly.
DANGER 	Crushing hazard During the automatic opening or closing of the window, push and pull forces exceeding 300 N occur. These forces can crush limbs when reaching between sash and frame, especially since the motor repeatedly tries to complete the lift. ⇒ Keep children, disabled people and animals away from the window. ⇒ Do not reach between sash and frame when the motor is running. ⇒ In the case of a window sash installed below 2.50 m, secure all crushing and shearing points to ensure that people do not accidentally reach into them. Observe VFF leaflet KB.01: "Power-Operated Windows".
DANGER 	Risk of injury Motorised tilting windows must always be equipped with a safety catch to prevent injury due to falling sashes. Also with the motor being mounted on a window already installed, you may be injured by the sash opening suddenly. ⇒ Use appropriate safety devices such as security stays to catch the window. ⇒ The safety device must be adapted to the travel of the drive. To avoid a blockade, the opening width of the safety device must be larger than the drive travel.

- ⇒ Install the motor in such a way that it is always accessible.
- ⇒ Follow the installation drawing which is enclosed in the fastening kit or can be ordered by your responsible distribution company. The drawing contains all dimensions depending on the installation method and the profile system.
- ⇒ All dimensions of the particular location are the responsibility of the installer.
- ⇒ Before working on the profiles, take note of the following
 - Minimum sash width,
 - Minimum sash height,
 - Maximum sash weight,
 - Possible wind- and snow loads,
 - Space required on the profile according to the installation method.
- ⇒ Check the required minimum distances.
- ⇒ Carry out a function test. Use the appropriate Gretsch-Unitas testing and setting apparatus for this purpose (see chapter „11 Components and accessories“ on page 33).

9 Installation (electrical)

DANGER 	Risk of electric shock Electrical installation on site must be carried out by a qualified electrician only. ➤ For electrical installation on site observe VDE (German Electrical Engineers Association) regulations and the requirements of the local mains supplier. ➤ Disconnect mains supply before carrying out any work on the installation or the control unit.
--	---

DANGER 	Risk of destroying the motor The motor requires a 24 V DC respectively 230 V AC connection. Other voltages will destroy the motor. ➤ Connect the motor accordingly. ➤ Do not lay the motor connecting cable together with a mains wire. ➤ Never connect 24 V DC drives to 230 V ! Danger of life ! ➤ Low-voltage lines and power lines must be wired separately.
--	--

A two-core (24 V) or three-core (230 V) connecting cable is required to connect the motor (see "Technical Data").

- Follow the electrical connection diagram in chapter „16 Connection diagram“ on page 36.
- For cable lengths, cable types and cable cross-sections observe the details in the connection diagram and the „Technical Data“.
- Make sure that the cables are prevented from being cut, kinked or twisted. If necessary use cable ducts.
- Verify the correct terminal assignment, the supply voltage (see type label) and the minimum and maximum ratings (see technical data). Carefully adhere to all assembly details given.

Depending on the variant, the drive requires either a voltage of 24 V = (direct current) or a mains voltage of 230 V ~ (alternating current) 50 Hz. The 24 V DC variant requires a class II mains adapter to transform the supply voltage (230 V~, 50 Hz or other) to 24 V DC; the technical specification of the adapter must correspond to the parameters indicated on the type label.

Determining the supply cable cross-section for 24 V DC

With 24 V DC, the cable cross-section must be calculated depending on the cable length. The following table shows the cable lengths for the connection of one drive.

Cable cross section	Cable length
4.00 mm ²	~ 270 m
2.5 mm ²	~ 170 m
1.5 mm ²	~ 100 m
0.75 mm ²	~ 50 m
0.5 mm ²	~ 35 m

ELTRAL K30 | ELTRAL K30 Synchro

Chain drive

10 Operation / Control

For reversing the running direction, the drive must be de-energized for at least 1 s.

Switch-off in closed position

Thanks to the integral load interruption, the drive switches off in closed position. Setting the limit switch is therefore not required. When the end position is reached, the drive carries out a reverse travel of approx. 1 mm. Thus relieving both gaskets and holding brackets.

Setting the travel

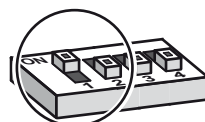
The factory setting of the travel is 300 mm; it can be changed via DIP switches at any time. The DIP-switches lie detailed under the black screw cap on the upper side of the engine case. The DIP switches 1 and 2 have to be set according to the following table.

In order to make a change effective, it is necessary to extend the chain a little bit and retract it again.

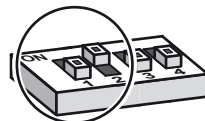
After changing the travel, a test run should be carried out.

Travel [mm]	DIP-switch	
	1	2
300	ON	OFF
400	OFF	ON
500	ON	ON

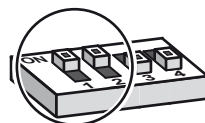
Travel 300 mm



Travel 400 mm



Travel 500 mm



Switch shown
in position „ON“



Programming for synchronised operation (Synchro only)

ELTRAL K30 Synchro is preset to synchronised operation, so programming is not necessary except for adjusting the travel.

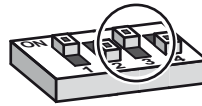
In the case of data loss, the drives must be synchronised anew (as described below).

The table below shows the DIP switch setting for running a Synchro drive in standalone mode without synchronisation with another drive.

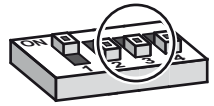
A test run should be carried out after programming.

Operating Mode	DIP-switch
	3
Solo	ON
Synchro	OFF

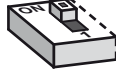
Operating mode Solo



Operating mode Synchro

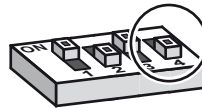


Switch shown
in position „ON“

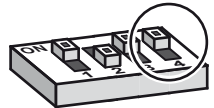


Operating Mode	DIP-switch
	4
without VAN	OFF
with VAN	ON

Drive without VAN



Drive with VAN



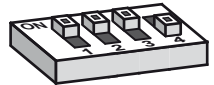
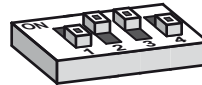
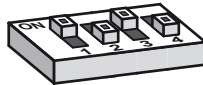
Examples for DIP-switch settings:

Travel 300 mm

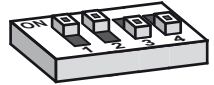
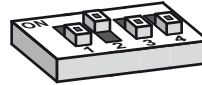
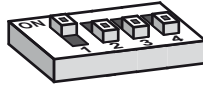
Travel 400 mm

Travel 500 mm

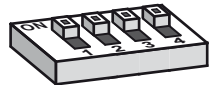
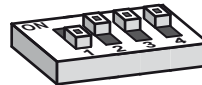
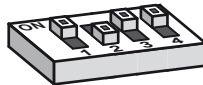
Operating mode
Solo



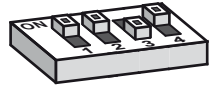
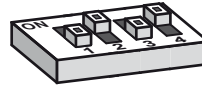
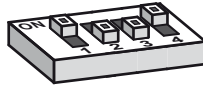
Operating mode
Synchro



Operating mode
Solo with VAN



Operating mode
Synchro with VAN*



* For drives with VAN only! Drives in operating mode 'Synchro' without VAN see DIP-switch settings 'Operating mode Synchro'

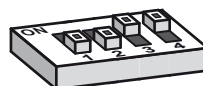
Resetting the drives:

Resetting a Solo drive

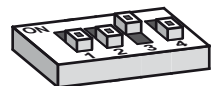
- Isolate the drive from the power supply.
- Undo the chain of the drive from the window.
- Set the DIP switch of the drive as follows:

DIP-switch	1	2	3	4
Drive with VAN	OFF	OFF	ON	ON
Drive without VAN	OFF	OFF	ON	OFF

Drive with VAN



Drive without VAN



ELTRAL K30 | ELTRAL K30 Synchro

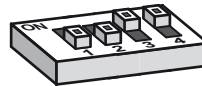
- Connect the drive to the power supply again.
The drive starts with the learning process. The chain moves in and out and then stops in the end position (chain run out by approx. 8 cm).
- Isolate the drive from the power supply
- Set the travel via DIP switch 1 and 2 (see Page 30)
- Connect the drive to the power supply again

Resetting Synchro drives

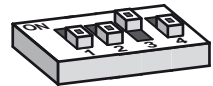
- Ensure that the synchronisation cables of all drives are connected correctly (see connection diagrams from Page 36).
- Isolate the drives from the power supply.
- Undo the chain of the drives from the window.
- Set the DIP switch of the drives as follows:

DIP-switch	1	2	3	4
Drive with VAN	OFF	OFF	ON	ON
Drive without VAN	OFF	OFF	ON	OFF

Drive with VAN



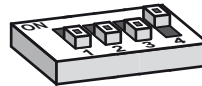
Drive without VAN



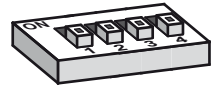
- Connect the drives to the mains again.
The drives start with the learning process. The chains move in and out and then stop in the end position (each chain run out by approx. 8 cm).
- Ensure that the chains of all drives have run out equally (approx. 8 cm).
If the chains have not run out equally, start the reset process from the beginning again.
- Isolate the drives from the power supply.
- Set the DIP switch of the drives as follows:

DIP-switch	1	2	3	4
Drive with VAN	OFF	OFF	OFF	ON
Drive without VAN	OFF	OFF	OFF	OFF

Drive with VAN



Drive without VAN



- Connect the drives to the mains again.
The drives now learn their new address.
The blue LED (in the opening of the DIP switches) of each drive starts to flash corresponding to their position in the system.
Ensure that the LEDs of the drives connected flash differently.
(The first drive flashes 1 x short flash - pause - 1 x short flash - pause..., second drive flashes 2 x short flash - pause - 2 x short flash - pause...).
Repeat this procedure in case of an error!
- Isolate the drives from the power supply.
- Set the desired travel via DIP switch 1 and 2 (see Page 30).
- Connect the drives to the mains again.

11 Components and accessories

Chain drive ELTRAL K30 and ELTRAL K30 Synchro

ELTRAL K30 - 24V	K-17832-00-0-*
ELTRAL K30 Synchro - 24V	K-17833-00-0-*
ELTRAL K30 - 230V	K-17834-00-0-*
ELTRAL K30 Synchro - 230V	K-17835-00-0-*
ELTRAL K30 - 24V with VAN	K-18023-00-0-*
ELTRAL K30 Synchro - 24V with VAN	K-18024-00-0-*

* = color: 1 = grey (RAL7035); 6 = black (RAL9005); 7 = white (RAL9016)

Accessories for chain drive ELTRAL K30 and ELTRAL K30 Synchro

(Examples of use see chapter „17 Examples of use“ on page 40).

Mounting set K30, tilt window, frame mounting, console short	K-17837-00-0-*
Mounting set K30, tilt window, sash mounting, console short	K-17838-00-0-*
Mounting set K30, top hung window, frame mounting, console short	K-17839-00-0-*
Mounting set K30, top hung window, frame mounting, console long	K-17840-00-0-*
Mounting set K30, tilt window, sash mounting, console long	K-17841-00-0-*
Mounting set K30, tilt window, sash mounting, console short, small sash bracket	K-17842-00-0-*
Mounting set K30, tilt window, sash mounting, console long, small sash bracket	K-17843-00-0-*
Power supply unit with checkback signal	6-37487-00-0-0
Power supply unit without checkback signal	6-37487-01-0-0
Testing and setting apparatus	K-17736-00-0-0

* = color: 1 = grey (RAL7035); 6 = black (RAL9005); 7 = white (RAL9016)

Security stay Euro-Solid

K-17915-00-0-8	(for aluminium or timber windows without lateral locking point)
K-17915-01-0-8	(for aluminium or timber windows without lateral locking point)
K-18046-00-0-8	(for timber windows with lateral locking point)

- ➔ For installation see application diagram
- ➔ The installation of the security stay may require a profile-related base plate. See catalogue.
- ➔ Fastening kits vary depending on installation method, profile system and profile material.

12 Maintenance and care

To ensure a problem-free operation, you must perform the following jobs after every 1,000 opening cycles, however, at least once a year.

- ➔ Check all screws to ensure they are tight and retighten them if necessary.
- ➔ Check if the window sash is seated perfectly in the window frame. Adjust fixings if necessary.
- ➔ Check all parts for damage and wear. Replace parts where necessary.
- ➔ Never use acidic or basic cleaning agents. Do not immerse the appliance in water.
- ➔ Do not try to repair the drive yourself in case of failure. Do not remove the casing or other parts. In case of signs of damage to the appliance contact the manufacturer. Only spare parts supplied by the manufacturer may be used for repair.

ELTRAL K30 | ELTRAL K30 Synchro

Chain drive

13 Help in case of malfunctions

Installers or end-users must not repair a faulty motor themselves. Professional repair can only be carried out by the manufacturer. If you open the motor or manipulate it in any way, the warranty shall be null and void.

- ➔ Therefore you should replace a faulty motor and have it repaired.
- ➔ If the motor stops, check whether the limit position switch is activated.

In case any problems arise during installation or operation of the drive, please consult the following table for possible help:

Problem	Possible cause	Solution
Drive not functioning	• Mains adapter without current supply. • Connecting cable unplugged or wire(s) loose. • Mains adapter not providing the rated voltage (24 V). • Switching mains adapter in the drive damaged, not providing low voltage.	➔ Protection switch or safety switch. ➔ Check all electrical connection of drive. ➔ Exchange mains adapter. ➔ Exchange drive.
Limit stop not functioning	• Programming not carried out correctly. • Failure of the electrical DIP switch contact.	➔ Repeat programming of DIP switch. ➔ Exchange drive.
Drive(s) not functioning • Blue LED* flashes "1x - pause..." • Blue LED* flashes "2x - pause..." • Blue LED* flashes permanently	• Overload of the motor from an obstacle • Communication error of the Synchro drives • General error	➔ Remove the obstacle ➔ Check the cable connection between the drives ➔ Check the position of the DIP switch ➔ Carry out a complete reset of the drives (see Page 31)

* The blue LED is located in the opening of the housing together with the DIP switches

If the motor does not respond to actuation by switch/button, have the power supply checked by a qualified person.

14 Dismantling and disposal

Dismantling

DANGER 	Observe the safety instructions!
--	--

For dismantling the appliance proceed as described under chapter „8 Installation (mechanical)“ on page 28, however, in reverse order. Settings are irrelevant.

Disposal

Note! 	Motor components • Aluminium • Iron • Plastic • Copper • Zinc
---	---

➔ Dispose of the parts in accordance with the local disposal regulations.

15 Warranty and customer service

Our „General Terms of Business“ apply in principle.

The warranty complies with legal regulations and is valid in the country where the motor was purchased.

The warranty covers material and manufacturing defects occurring under normal stress.

Warranty and liability claims in view of personal injury and damage to property are excluded, if the latter have occurred as a result of.

- Inappropriate use of the motor.
- Improper installation, commissioning, operation, maintenance and repair of the motor.
- Operation of the motor with faulty, incorrectly fitted or non-functional safety and protection devices.
- Failure to observe the instructions in the Installation and Operating Guide.
- Unauthorised structural modification of the motor.
- Catastrophic events due to penetration of foreign bodies and force majeure.
- Wear.

For possible warranty claims or the delivery of spare parts or accessories, please contact your responsible distribution company.

ELTRAL K30 | ELTRAL K30 Synchro

Chain drive

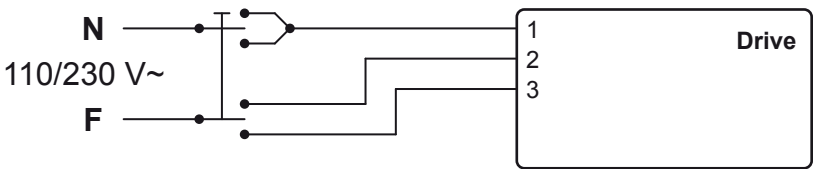
16 Connection diagram

Connection of K30 - 110/230 V and 24 V

The connecting cable of the drive is approx 2 m long. If the distance between drive and wall switch is longer, the cable must be extended (see chapter „9 Installation (electrical)“ on page 29).

The connection is to be carried out according to the following wiring diagram.

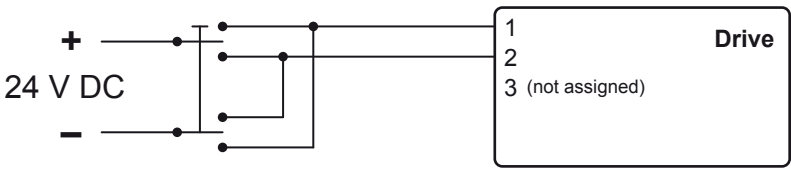
110/230 V~ 50/60 Hz



Cable	Colour	Function
1	Light blue	
2	Black	
3	Brown	

If, after connection, the running direction is contrary to that of the arrows on the wall switch, the wires 2 and 3 must be inverted

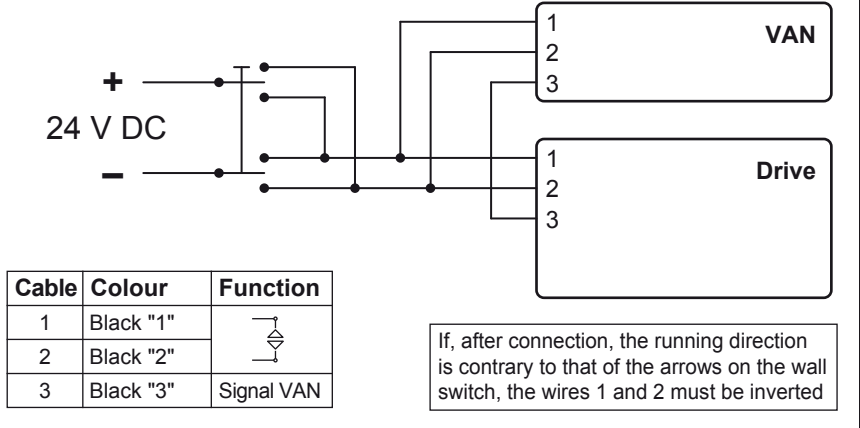
24 V DC



Cable	Colour	Function
1	Black "1"	
2	Black "2"	
3	Black "3"	

If, after connection, the running direction is contrary to that of the arrows on the wall switch, the wires 1 and 2 must be inverted

24 V DC with Eltral VAN



Connection of K30 Synchro - 110/230 V und 24 V

The connecting cable of the drive is approx 2.5 m long. If the distance between drive and wall switch is longer, there is only the possibility to extend the supply line.

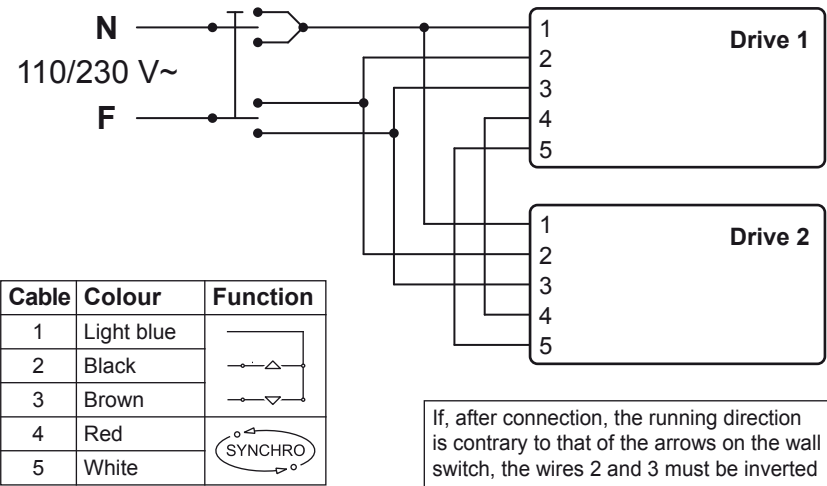
DANGER	The white and the red lines must not be extended but connected to the delivered clamp at a spot within a distance of max. 2.5 m. If the distance between the drives exceeds 5 m, a faultless transmission of the synchronising signal cannot be guaranteed. Due to the low transforming voltage (5 V), a safe connection with a faultless electrical contact is of major importance.
Note!	IMPORTANT: Both lines (white and red) must be connected with the chain completely retracted before the first movement of the synchronised drives. Otherwise communication problems between the drives might arise.
DANGER	Never apply any voltage (24 V / 230 V) to the red and white lines.

ELTRAL K30 | ELTRAL K30 Synchro

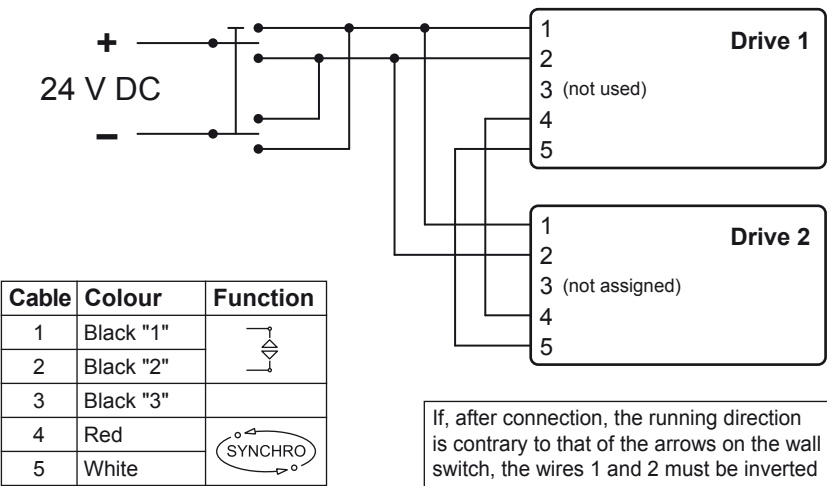
Chain drive

The connection is to be carried out according to the following wiring diagrams.

110/230 V~ 50/60 Hz

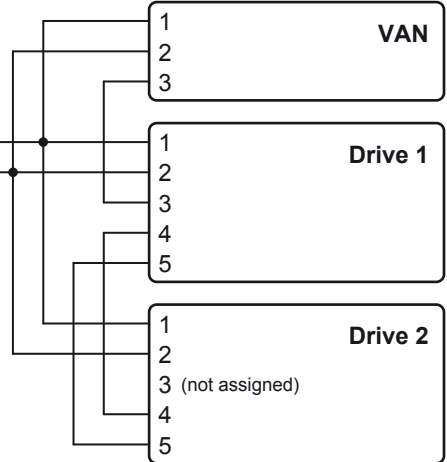


24 V DC



24 V DC with Eltral VAN

+
 24 V DC
 -



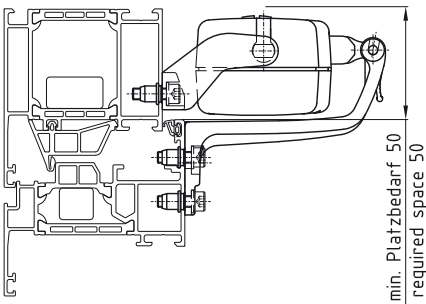
Cable	Colour	Function
1	Black "1"	
2	Black "2"	
3	Black "3"	Signal VAN
4	Red	
5	White	

If, after connection, the running direction is contrary to that of the arrows on the wall switch, the wires 1 and 2 must be inverted

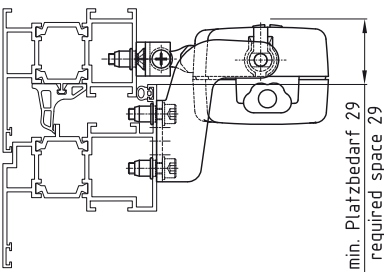
17 Anwendungsbeispiele / Examples of use

Der Anwendungsbereich der Motoren ist eine Empfehlung der Fa. Gretsch-Unitas GmbH Baubeschläge und kann je nach Profilsystem variieren. Die Produktinformationen der Systemhersteller, insbesondere Informationen zu Konstruktion und Verarbeitung, Dichtigkeit, zu max. Flügelgewichte sowie zu Materialeigenschaften, wie z. B. Längenausdehnung von Profilen, sind zu beachten.	The application range of the drives is a recommendation of Gretsch-Unitas GmbH Baubeschläge and may vary depending on the profile system. The product guidelines of the profile manufacturers regarding construction, assembly, max. sash dimensions, max. sash weights and material qualities (e.g. longitudinal expansion) are to be observed.
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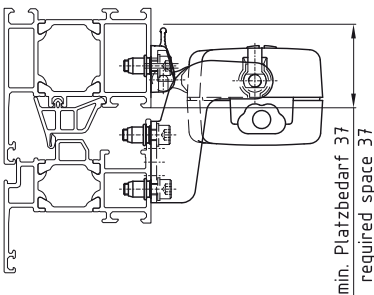
K-18157-00-0-*



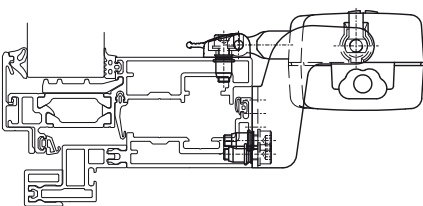
K-17843-00-0-*



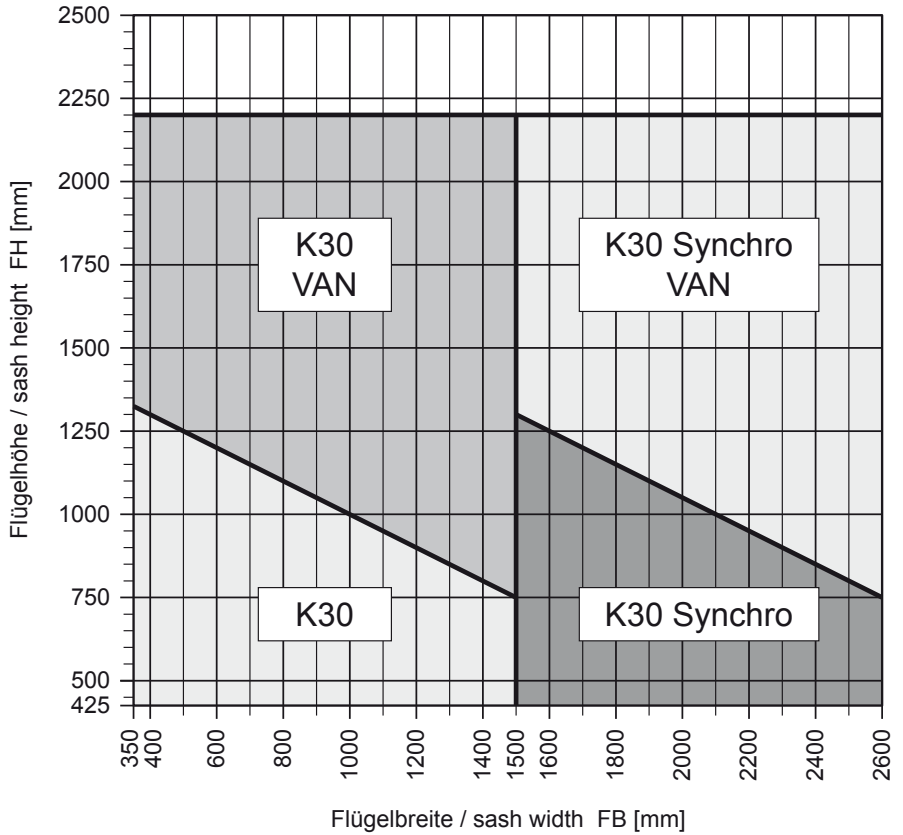
K-17841-00-0-*



K-17840-00-0-*



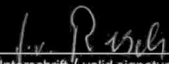
18 Anwendungsdiagramm / Application diagram



Anwendungsbereich K30 VAN und K30 Synchro VAN nur für **24 V** Ausführung gültig.

Application range K30 VAN and K30 Synchro VAN for **24 V** version only.

19 Einbauerklärung / Declaration of incorporation

Einbauerklärung (für eine unvollständige Maschine)	
Declaration of incorporation (for a partly completed machinery)	
Hiermit erklären wir, dass folgendes Produkt <i>We hereby declare that the following product</i>	
Hersteller: <i>Manufacturer:</i>	Gretsch-Unitas GmbH Baubeschläge Johann-Maus-Str. 3 D-71254 Ditzingen
Produktbezeichnung: <i>Product Designation:</i>	Fenster-Kettenantrieb 230V AC Window chain drive 230V AC
Type/ Type:	ELTRAL K30 ELTRAL K30-Synchro
Baujahr: <i>Year of manufacture:</i>	ab 2011 from 2011
die Anforderungen der Maschinenrichtlinie 2006/42/EG, Anhang I, Teil 1 erfüllt. Die technischen Unterlagen sind nach Maschinenrichtlinie 2006/42/EG Anhang VII, Teil B erstellt worden. <i>complies with the requirements of the Machinery Directive 2006/42/EC, Appendix I, Part 1 The technical documents are issued according to the Machinery Directive 2006/42/EC, Appendix VII, Part B.</i>	
Der Bevollmächtigte für die Zusammenstellung technischer Unterlagen ist <i>Authorised to compile the relevant technical documentation is</i>	
Dipl.-Ing (BA) Daniel Gründler, Gretsch-Unitas GmbH Baubeschläge	
Auf begründeten Antrag hin sind wir verpflichtet, die spezifischen Dokumente für die oben genannten Produkte innerhalb einer angemessenen Frist bereitzustellen. Die Dokumente werden per E-Mail zur Verfügung gestellt. <i>Upon justified request, we shall be obligated to provide the specific documents regarding the product listed above within an adequate period. The documents will be provided via e-mail.</i>	
Die unvollständige Maschine entspricht weiterhin allen Bestimmungen der <i>Furthermore the partly completed machinery complies with all regulations of</i>	
Richtlinie 2004/108/EG Elektromagnetische Verträglichkeit Richtlinie 2006/95/EG Niederspannungsrichtlinie	Directive 2004/108/EC EMC Compatibility Directive 2006/95/EC Low Voltage Directive.
und folgenden harmonisierten Normen / and the following harmonised standards:	
DIN EN 60335-2 – 103, EN 55011, EN 55014-1, EN 55014-02, EN 55022	
Die vollständige Maschine, inklusive der von uns gelieferten o.a. Antriebe darf erst dann in Betrieb genommen werden, wenn festgestellt wurde, dass die Anlage entsprechend den Vorgaben der Montageanleitung und der Betriebs- und Installationshinweise montiert wurde und die Abnahme durch einen Sachkundigen mit Nachweis mittels Abnahmeprotokoll durchgeführt wurde. Dadurch wird den Bestimmungen der Maschinenrichtlinie 2006/42/EG entsprochen. <i>Commissioning of the complete machinery including the above mentioned drives delivered by us is not allowed until it is ascertained that the installation of the complete machinery was performed in accordance with the specifications and the operating and installation advice given in our "Mounting Instructions", and that the acceptance procedure was duly carried out and documented in an acceptance protocol by a specialist. This stipulation is made in accordance with the regulations of the Machinery Directive 2006/42/EC.</i>	
Diese Erklärung wird verantwortlich für den Hersteller / This is declared by the manufacturer Gretsch-Unitas GmbH Baubeschläge, Johann-Maus-Str. 3, D-71254 Ditzingen abgegeben durch / represented by	
Julius von Resch – Geschäftsführer / Managing Director (Titel, Vorname, Name, Stellung im Betrieb des Herstellers / title, first name, name, responsibility in the company)	
Ditzingen, 13. Januar 2011	 rechtsgültige Unterschrift / valid signature
Einbauerklärung-Nr. / Manufacturer's Declaration no. G.U. K-1037	

Einbauerklärung
(für eine unvollständige Maschine)
Declaration of incorporation
(for a partly completed machinery)

Hiermit erklären wir, dass folgendes Produkt
We hereby declare that the following product

Hersteller: <i>Manufacturer:</i>	Gretsch-Unitas GmbH Baubeschläge Johann-Maus-Str. 3 D-71254 Ditzingen
Produktbezeichnung: <i>Product Designation:</i>	Fenster-Kettenantrieb 24V DC Window chain drive 24V DC
Typ/ Type:	ELTRAL K30, ELTRAL K30-Synchro ELTRAL K35, ELTRAL K35-Synchro

Baujahr: ab 2011
Year of manufacture: from 2011

die Anforderungen der Maschinenrichtlinie 2006/42/EG, Anhang I, Teil 1 erfüllt. Die technischen Unterlagen sind nach Maschinenrichtlinie 2006/42/EG Anhang VII, Teil B erstellt worden.
complies with the requirements of the Machinery Directive 2006/42/EC, Appendix I, Part 1
The technical documents are issued according to the Machinery Directive 2006/42/EC, Appendix VII, Part B.

Der Bevollmächtigte für die Zusammenstellung technischer Unterlagen ist
Authorised to compile the relevant technical documentation is

Dipl.-Ing (BA) Daniel Gründler, Gretsch-Unitas GmbH Baubeschläge

Auf begründeten Antrag hin sind wir verpflichtet, die spezifischen Dokumente für die oben genannten Produkte innerhalb einer angemessenen Frist bereitzustellen. Die Dokumente werden per E-Mail zur Verfügung gestellt.
Upon justified request, we shall be obligated to provide the specific documents regarding the product listed above within an adequate period. The documents will be provided via e-mail.

Die unvollständige Maschine entspricht weiterhin allen Bestimmungen der
Furthermore the partly completed machinery complies with all regulations of

Richtlinie 2004/108/EG Elektromagnetische Verträglichkeit	Directive 2004/108/EC	EMC Compatibility
Richtlinie 2006/95/EG Niederspannungsrichtlinie	Directive 2006/95/EC	Low Voltage Directive.

und folgenden harmonisierten Normen / *and the following harmonised standards:*

DIN EN 60335-2 – 103, EN 55011, EN 55014-1, EN 55014-02, EN 55022, EN 12101-2

Die vollständige Maschine, inklusive der von uns gelieferten o.ä. Antriebe darf erst dann in Betrieb genommen werden, wenn festgestellt wurde, dass die Anlage entsprechend den Vorgaben der Montageanleitung und der Betriebs- und Installationshinweise montiert wurde und die Abnahme durch einen Sachkundigen mit Nachweis mittels Abnahmeprotokoll durchgeführt wurde. Dadurch wird den Bestimmungen der Maschinenrichtlinie 2006/42/EG entsprochen.

Commissioning of the complete machinery including the above mentioned drives delivered by us is not allowed until it is ascertained that the installation of the complete machinery was performed in accordance with the specifications and the operating and installation advice given in our "Mounting Instructions", and that the acceptance procedure was duly carried out and documented in an acceptance protocol by a specialist.
This stipulation is made in accordance with the regulations of the Machinery Directive 2006/42/EC.

Diese Erklärung wird verantwortlich für den Hersteller / *This is declared by the manufacturer*
Gretsch-Unitas GmbH Baubeschläge, Johann-Maus-Str. 3, D-71254 Ditzingen

abgegeben durch / *represented by*

Julius von Resch – Geschäftsführer / *Managing Director*

(Titel, Vorname, Name, Stellung im Betrieb des Herstellers / *title, first name, name, responsibility in the company*)

Ditzingen, 13. Januar 2011


rechtsgültige Unterschrift / *valid signature*

Einbauerklärung-Nr. / *Manufacturer's Declaration no.* G.U. K-1036



Gretsch-Unitas GmbH
Baubeschläge
Johann-Maus-Str. 3
D-71254 Ditzingen
Tel. + 49 (0) 71 56 3 01-0
Fax + 49 (0) 71 56 3 01-2 93

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0-46380-IE-0-0 | 04 | 10.2013 | G28063 | Printed in Germany

Fehler, Irrtümer und technische Änderungen vorbehalten.
Errors and omissions reserved. Subject to technical modifications.

Vorsprung mit System
Securing technology for you



Declaration of Conformity

issued in the meaning of Section 12 and Section 13 of Government Regulation No. 163/2002 Coll., laying down technical requirements for selected construction products, as amended by Government Regulation No. 312/2005 Coll. and Government Regulation No. 215/2016 Coll. (hereinafter referred to as the "Government Regulation"), by:

Producer: SANELA spol. s r.o.
Dukelských hrdinů 989
563 01 Lanškroun
Company Identification No.: 252 62 955

The producer declares, at its exclusive liability, that the characteristics of the below specified products meet the general requirements stipulated under the Government Regulation, the products are safe under the terms of their determined usage, and the producer has adopted measures ensuring compliance of all the products launched into the market with the technical documentation and general requirements for:

Automatically controlled fittings – type series SLP, SLW, SLS and SLU,

designated as closing fittings of the water distribution pipes.

Herewith the producer declares the specified products meet the general requirements of Government Regulation No. 163/2002 Coll., as amended by Government Regulation No. 312/2005 Coll., concretized by the below mentioned construction technical certificate, and they are safe under the terms of the above-mentioned usage.

The conformity was assessed in compliance with **Section 5a** of the above-mentioned Government Regulation, by applying the following documents:

1. Certificate No. 227/C5a/2015/0365, issued on 19 October 2015 by VÚPS - Certifikační společnost, s.r.o. (Building Research Institute - Certification Company, Ltd.), AO 227.
2. Certification protocol No. 227-P5a-07-0404 as of 17 November 2007, as amended, issued by VÚPS - Certifikační společnost, s.r.o. (Building Research Institute - Certification Company, Ltd.), AO 227.
3. Determined standards: CSN EN 15091 and CSN EN 60730-2-8 ed. 2.

CERTIFICATE

No. 42014450



This is to certify the Quality Management System of

SANELA spol. s r.o.

Dukelských hrdinů 989
563 01 Lanskroun
Czech Republic

has been assessed and found to be in compliance with the Standard

ISO 9001:2015

applicable to

Development, production, sales and service of sanitary electronics, facilities and other electronics equipments.

The certificate has been issued under No. 42014450 for the registration period from 20 February 2021 to 19 February 2024.
The first certificate date of issue is 20 February 2015.

Approved by

Printed by



validity code **5C584989-7B8**

Check the validity of this certificate using this code at www.ll-c.info

LL-C (Certification) Czech Republic a.s. | Pobřežní 620/3, 186 00 Praha 8

CERTIFICATE

No. 42014449



This is to certify the Quality Management System of

SEAL ELECTRONIC s. r. o.

Dukelských hrdinů 989
563 01 Lanskroun
Czech Republic

has been assessed and found to be in compliance with the Standard

ISO 9001:2015

applicable to

**Development and production of sanitary electronics,
electrical assemblies and devices.**

The certificate has been issued under No. 42014449 for the registration period
from 20 February 2021 to 19 February 2024.
The first certificate date of issue is 20 February 2015.

Approved by

Printed by



validity code **C745B106-FB0**

Check the validity of this certificate using this code at www.ll-c.info

LL-C (Certification) Czech Republic a.s. | Pobřežní 620/3, 186 00 Praha 8



EC DECLARATION OF CONFORMITY

NUMBER: 2/14

Issued in compliance with § 13, Act No. 22/97 Coll. as amended

We, SANELA spol. s r.o., Dukelských hrdinů 989, 563 01 Lanškroun, Česká republika

declare on our exclusive responsibility that

Product: Automatically controlled fixtures

Type series: SLU... – for wash basins SLS... – for showers
SLP... – for urinals SLW... – for toilets

Manufacturer: Sanela spol. s r.o., Dukelských hrdinů 989, 563 01 Lanškroun,
Česká republika

Intended use: Terminal fixtures of house water plumbing

comply with the following standards:

Czech standards	European standards
ČSN EN 61326:1998, art. 7.2, table 4	EN 61326 including amendments
ČSN EN 61326-1:2006, table 1	EN 61326-1 including amendments
ČSN EN 61326-2-3:2007	EN 61326-2-3 including amendments
ČSN EN 61326-1:2013	EN 61326-1:2013 including amendments
ČSN EN 61326-2-3:2013	EN 61326-2-3:2013 including amendments

and the following statutory orders:

NV 116/2006 Coll.	2004/108/ES - including amendments
NV 481/2012 Coll.	2011/65/EC - including amendments

Last two digits of the year when CE mark was placed on the product: 03

Place of issue: Lanškroun
Date of issue: 1.4.2014

Ing. Radomír Ambrož
Managing Director



DECLARATION OF CONFORMITY

Issued in compliance with § 13, Act No. 22/97 Coll. as amended

We, SANELA spol. s r. o. Dukelských hrdinů 989, 563 01 Lanškroun, Czech Republic declare on our exclusive responsibility that

Product: Stainless steel sanitary products

Type series: SLUN... - for stainless wash basins
SLPN... - for stainless urinals
SLZN... - for stainless steel accessories
SLVN... - for stainless cleaners sinks

SLSN... - for stainless showers
SLWN... - for stainless toilets

Manufacturer: SANELA spol. s r. o., Dukelských hrdinů 989, 563 01 Lanškroun
Czech Republic

Intended use: Terminal fixtures of house water plumbing

comply with the following standards:

ČSN EN 14688	EN 14688	including amendments
ČSN EN 13407	EN 13407	including amendments
ČSN EN 80	EN 80	including amendments
ČSN EN 13310	EN 13310	including amendments
ČSN 724841		
ČSN EN 997	EN 997	including amendments
ČSN 72 4841		

and the following statutory orders:

NV 163/2002 Coll. in the wording of NV no.
312/2005 Coll.

The manufacturer declares that product characteristics meet essential requirements of NV 163/2002 in the wording of NV no. 312/2005 Coll., the product is safe and the manufacturer adopted all measures ensuring conformity of the products placed on the market with technical documents and the essential requirements.

Conformity evaluated by:

TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p., Accredited Testing Laboratory,

Notified body, the certifying authority, the inspection body.

Testing laboratory 0300 - Plzeň, Zahradní 15, 326 00 Plzeň. Conformity assessment carried out on the basis of the test.

Place of issue: Lanškroun

Date of issue: 1.6.2013


Dukelských hrdinů 989
563 01 Lanškroun
IČO 2550044
tel./fax: 465 350 770-8
fax: 465 350 778
e-mail: info@sanela.cz

Ing. Radomír Ambroz
Managing Director

FIȘĂ TEHNICĂ A PRODUSULUI

Sikagard®-405 W

RĂȘINĂ ACRILICĂ MODIFICATĂ PE BAZĂ DE APĂ, MONOCOMPONENTĂ, PENTRU ACOPERIREA PEREȚILOR

DESCRIEREA PRODUSULUI

Sikagard®-405 W este o rășină acrilică pe bază de apă, monocomponentă, alba, cu luciu mediu, care conține în peliculă un antiseptic organic.

UTILIZĂRI

Sikagard®-405 W poate fi folosit doar de către utilizatori profesioniști.

- Strat superior în cadrul sistemului sau acoperire pentru pereți și tavane la interior
- Se poate aplica pe beton, caramizi, suporturi pe bază de ciment și gips, suprafețe din metal, lemn, plăci ceramice și plastic
- Adecvat pentru spații în industria farmaceutică și medicală, industria alimentară și a băuturilor, precum și spitale, bucătării, penitenciare și zone de agrement

CARACTERISTICI/AVANTAJE

- Rezistență bună la regimuri de curățare repetată folosind detergenți slabi și agenți de curățare
- Rezistent și foarte durabil
- Putere de acoperire bună
- Permeabil la vaporii de apă
- Emisii foarte scăzute
- Fără miros
- Fără rosturi, finisaj ușor curățat
- Ușor de aplicat
- Finisaj mediu-lucios

SUSTENABILITATE

Sikagard®-405 W se conformează cerințelor LEED IEQc 4.2: Materiale cu Emisii Scăzute - Vopseluri și Acoperiri, Metoda SCAQMD 304-9; conținut COV <100g/l

APROBĂRI / CERTIFICĂRI

- Raport de testare nr. 392-2016-00071401_E_EN, Eurofins, Emisia de COV conform Regulamentului francez Decret DEVL 11019093D și Decret DEVL 11034675A, 20 octombrie 2015
- Exova Warringtonfire, test report No. 363979, behaviour to fire acc. BS 476, April 27th 2016 Raport de testare Nr. 363979, clasificarea reacției la foc conform BS 476, 27 Aprilie 2016
- Raport de testare nr.392-2015-00386901, Eurofins, determinarea conținutului de COV și COSV conform ISO 11890-2, CEPE/EC/2015-04-13 și Decizia Comisiei Europene, 2014/312/EU, 10 decembrie 2015
- Raport de testare nr. 77584-049, PRA, Luciu, finețe, rezistență la spălare umedă și raport de contrast conform EN 13300, 29 ianuarie 2016
- Raport de testare nr. 2015/02/004.1A, IMSL, determinarea activității antibacteriene conform ISO 22196, 12 mai 2015
- Raport de testare nr. S/REP/138532/1, Campden BRI Group, Evaluarea Senzorială a Potențialului de Contaminare, Metoda Testului Triunghiului TES -S-002, Metoda Transferului de Miros, 2 martie 2016
- Raport de testare nr. C2905, 4wardtesting, Rata de transmisie a vaporilor de apă și permeabilitatea vaporilor de apă conform ISO 7783-1:2000, 5 ianuarie 2016

INFORMAȚII DESPRE PRODUS

Bază chimică	Dispersie copolimerică acrilică pe bază de apă
Ambalare	5.0 l = 6.60 kg găleată 15.0 l = 19.80 kg găleată
Aspect/Culoare	albă
Termen de valabilitate	12 luni de la data producției
Condiții de depozitare	Produsul trebuie depozitat corespunzător în ambalajul original, sigilat și nedeteriorat, în condiții uscate la temperaturi între +5°C și +30°C. Protejați de lumina directă a soarelui și de îngheț.
Densitate	~1.31 kg/l (EN ISO 2811-1)
Conținut de solide în procente de greutate	~42%
Conținut de solide în procente de volum	~55%

INFORMAȚII TEHNICE

Rezistența la întindere	~10 N/mm ²	(EN ISO 527-3)																				
Alungire la rupere	~70%	(EN ISO 527-3)																				
Rezistența la aderență la întindere	≥ 1.5N/mm ² pe beton amorsat cu Sika Bonding Primer	(ISO 4624)																				
Rezistența chimică	Rezistență bună pe termen scurt la acizi slabi, baze și produse de curățat.Vă rugăm să contactați serviciul tehnic Sika pentru informații specifice. Dezinfectare cu vapori de peroxid de hidrogen: ▪ Rezistent la utilizarea tehnologiei Steris VHP ▪ Rezistent la tehnologia de vaporizare PEA, conform raport testare PEA ▪ Rezistent atunci când se utilizează vaporizator Oxypharm tip NOCOSPRAY în următoarele condiții: <table><tr><th>Dezinfectant</th><th>Concentrație</th><th>Setarea vaporizatorului</th><th>Timp de contact</th></tr><tr><td>NOCOLYSE Mint (6%)</td><td>1 ml/m³</td><td>20m³ (vaporizare1.5 minute)</td><td>30 min</td></tr><tr><td>NOCOLYSE ONE Shot (12%)</td><td>3 ml/m³ (2 cicluri)</td><td>45m³ (vaporizare 5 minute)</td><td>30 min</td></tr><tr><td>NOCOLYSE Food (7.9%)</td><td>1 ml/m³</td><td>20m³ (vaporizare 1.5 minute)</td><td>30 min</td></tr><tr><td>NOCOLYSE Food (7.9%)</td><td>5 ml/m³</td><td>75m³ (vaporizare 5 minute)</td><td>60 min</td></tr></table>		Dezinfectant	Concentrație	Setarea vaporizatorului	Timp de contact	NOCOLYSE Mint (6%)	1 ml/m ³	20m ³ (vaporizare1.5 minute)	30 min	NOCOLYSE ONE Shot (12%)	3 ml/m ³ (2 cicluri)	45m ³ (vaporizare 5 minute)	30 min	NOCOLYSE Food (7.9%)	1 ml/m ³	20m ³ (vaporizare 1.5 minute)	30 min	NOCOLYSE Food (7.9%)	5 ml/m ³	75m ³ (vaporizare 5 minute)	60 min
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NOCOLYSE Food (7.9%)	5 ml/m ³	75m ³ (vaporizare 5 minute)	60 min																			
Permeabilitate la vapori de apă	~51.5 g/m ² în 24 ore	(EN ISO 7783-1:2011)																				

INFORMAȚII DE APLICARE

Consum	~0.20 kg/m ² pe strat ~0.15 l/m ² pe strat
Grosime de strat	~120μm
Temperatura ambientală a aerului	+8°C - +35°C
Umiditatea relativă a aerului	80% max.
Punct de rouă	Atenție la condens!

Temperatura suportului și a materialului neîntărit pe suprafață trebuie să fie cu cel puțin 3°C mai mare decât punctul de rouă.

Temperatura suportului	+8°C - +35°C		
Timp de întărire	Înainte de aplicarea Sikagard®-405 W pe Sikagard®-405 W se va lăsa un timp de așteptare după cum urmează:		
	Temperatura stratului suport	Minim	Maxim
	+10°C	4 ore	7 zile
	+20°C	2 ore	7 zile
	+30°C	1 oră	7 zile
	Înainte de aplicarea Sikagard®-405 W pe Sikagard®-403 W se va lăsa un timp de așteptare după cum urmează:		
	Temperatura stratului suport	Minim	Maxim
	+10°C	4 ore	7 zile
	+20°C	1 oră	7 zile
	+30°C	1 oră	7 zile
Produsul aplicat este utilizabil după	Temperatură	Uscare preliminară	Uscare completă
	+10°C	8 ore	7 zile
	+20°C	4 ore	7 zile
	+30°C	3 ore	7 zile

INSTRUCȚIUNI DE APLICARE

APLICARE

Amestecați produsul mecanic până se obține un lichid uniform. Folosiți un mixer electric cu viteză scăzută (300-400 rpm) pentru a evita aerarea amestecului. Pentru aplicația cu rola trafalet, folosiți-o pe cea cu păr scurt. Pentru aplicația prin pulverizare airless folosiți vârfuri de mărimea 0,38 - 0,53 mm și unghiuri de la 40° la 60°.

CURAȚAREA SCULELOR

Curățați toate instrumentele și echipamentele de aplicare cu apă imediat după utilizare. Materialul întărit și/sau uscat poate fi desprins numai mecanic sau cu o soluție adecvată de eliminare a vopselei.

LIMITĂRI

- Fiecare tip de aplicare va da o finisare ușor diferită a suprafeței. Dacă este un aspect important, nu folosiți mai multe tipuri de aplicare în cadrul aceleiași zone.
- Fiecare tip de rolă va da o finisare ușor diferită a suprafeței - folosiți întotdeauna același tip de rolă în aceleiași zone.
- Asigurați-vă că întreaga suprafață este complet uscată înainte să continuați. Pot apărea fisurii fine în cazul aplicării unui strat pe suprafețe neuscate sau dacă se aplică un strat excesiv de gros de material.
- Nu aplicați peste sigilanți din silicon.
- Lucrul materialului aplicat este influențat de umiditate, temperatură și absorbția substratului.
- Întotdeauna asigurați o ventilație adecvată când se aplică în spații închise pentru a permite uscarea și întărirea completă.
- Evaluarea și tratarea incorectă a fisurilor poate cauza

- reducerea duratei de viață și reflectarea fisurării.
- Pentru aplicații prin pulverizare este obligatorie purtarea echipamentului de securitate și sănătate în muncă.
- Dacă este necesară încălzirea nu folosiți gaz, ulei, parafină sau alte tipuri de încălzire cu combustibili fosili. Aceștia produc cantități mari de CO₂ și vapori de apă care pot afecta negativ acoperirea. Pentru încălzire folosiți numai sisteme electrice care suflă aer cald.
- Betonul nou turnat trebuie să se întărească/hidrateze minim 10 zile, durata recomandată fiind de 28 de zile.
- Nu aplicați în apropierea produselor alimentare în spații fără ventilație. Asigurați întotdeauna ventilația.
- Nu diluați vopseaua asemenea produselor convenționale.
- Plăcile de izolare acustică pot pierde unele proprietăți de absorbție acustică.

SURSA VALORILOR DECLARATE

Toate datele din prezenta Fișă Tehnică se bazează pe teste de laborator. Datele efectiv măsurate, pot varia din cauza unor circumstanțe independente de controlul nostru.

RESTRICȚII LOCALE

Vă rugăm să țineți seamă că performanțele produsului pot varia de la țară la țară, din cauza regulamentelor și normativelor locale. Vă rugăm să consultați Fișa Tehnică locală a produsului pentru descrierea exactă a domeniilor de aplicare.

INFORMAȚII PRIVIND SĂNĂTATEA ȘI PROTECȚIA MUNCII

Pentru informații și recomandări privind siguranța utilizării, depozitarea și eliminarea produselor chimice, utilizatorii vor consulta cea mai recentă versiune a Fișei cu Date de Securitate a produsului, care conține informații de ordin fizic, ecologic și toxicologic, precum și alte informații privind siguranța.

DIRECTIVA 2004/42/CE - LIMITAREA EMISIILOR DE SUBSTANȚE VOLATILE

Conform directivei UE 2004/42/CE, conținutul maxim admis de COV (Produs categoria IIA / j tip wb) este 140 g/l (Limita 2010) pentru produsul gata de utilizare. Conținutul maxim de COV al Sikagard®-403 W este < 140 g/l pentru produsul gata de utilizare.

PREVEDERI LEGALE

Informațiile și în mod special recomandările privind aplicarea și utilizarea finală a produselor Sika, sunt furnizate cu bună credință, în baza cunoștințelor actuale și a experienței Sika și sunt valabile atunci când produsul este depozitat corespunzător, manipulat și aplicat în condiții normale și în conformitate cu recomandările Sika. În practică, diferențele de material și de substrat, precum și condițiile concrete din teren, sunt de așa manieră încât, nici o garanție în raport cu vandabilitatea sau utilizarea într-un anumit scop a produsului și nici o altă responsabilitate decurgând din orice analogie valabilă nu pot fi deduse din prezentele informații, din alte recomandări scrise sau din sfaturile oferite în cadrul consilierii. Utilizatorul produsului trebuie să verifice conformitatea acestuia în vederea aplicării pentru atingerea scopului propus. Sika își rezervă dreptul de a aduce modificări caracteristicilor produselor sale. Se vor respecta drepturile de proprietate ale terților. Toate comenzile sunt acceptate în concordanță cu condițiile generale de vânzare și de livrare actuale. Utilizatorii trebuie să consulte cea mai recentă versiune a Fișei Tehnice a produsului respectiv, a cărei copie se livrează la cerere.

Sika Romania SRL

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Fișă Tehnică a produsului

Sikagard®-405 W

Noiembrie 2019, Versiune 02.01
020813020020000023

Sikagard-405W-ro-RO-(11-2019)-2-1.pdf

Product Sustainability Declaration

Rockfon® MediCare® Standard



Our sustainable commitment

Sustainability sits at the heart of our research and development. It's why we use natural stone, constantly reduce our carbon footprint and recycle as part of circular economy.

Our noise absorbing ceiling and wall systems are a fast and simple way to create beautiful, comfortable spaces. Easy to install and durable, they protect people from noise and the spread of fire while making a constructive contribution toward a sustainable future.

Content

In this declaration you will find product specific information on the following:

1. Contribution to the major building rating schemes
2. Our approach to responsible sourcing of raw materials
3. Recycled content
4. Recycling of product in the end of life
5. Where you can find our third-party verified EPD
6. Health and safety of stone wool fibers
7. Compliance with REACH
8. Our corporate sustainability reporting from ROCKWOOL Group
9. Availability of indoor low emission labels
10. Availability of ISO certificates for manufacturing
11. Information on material content

Contribution to building rating schemes

LEED® version 4.1

Integrative Process (IP)	Max credits
- Integrative process	1 point
Materials and resources (MR)	Max credits
- Building Life-Cycle Impact Reduction	1 point
- Building product disclosure and optimization	
- Environmental Product Declarations	1 point
- Building product disclosure and optimization	
- Sourcing of Raw Materials	2 points
- Building product disclosure and optimization	
- Material Ingredients	2 points
- Construction and Demolition Waste Management	2 points
Indoor Environmental Quality (EQ)	Max credits
- Low-emitting materials	3 points
- Indoor Air Quality assessment	2 points
- Interior lighting	1 point
- Acoustic performance	1 point
Innovation (IN)	Max credits
- Innovation	5 points

WELL Building Standard™ version 2

Air Concept	Max credits
- A01: Air Quality	n/a - Precondition
- A04: Construction pollution management	n/a - Precondition
- A05: Enhanced Air Quality	1 point
Water Concept	Max credits
- W07: Moisture Management	1 point
Light Concept	Max credits
- L01: Light Exposure (indirect)	n/a – Precondition
- L02: Visual Lighting Design (indirect)	n/a – Precondition
- L06: Daylight Simulation (indirect)	2 points
- L07: Visual Balance (indirect)	1 point
Thermal Comfort	Max credits
- T01: Thermal Performance	n/a – Precondition
- T07: Humidity Control	1 point
Sound Concept	Max credits
- S02: Maximum Noise Levels	3 points
- S03: Sound Barriers	3 points
- S04: Reverberation Time	2 points
- S05: Sound Reducing Surfaces	2 points
- S06: Minimum Background Sound	1 point
Material Concept	Max credits
- X01 Material Restrictions	n/a – Precondition
- X05 Enhanced Material Restrictions	1 point
- X06 VOC Restrictions	2 points
- X08 Materials Optimization	2 points
Mind Concept	Max credits
- M02 Nature and Space	n/a – Precondition
- M07 Restorative Spaces	1 point
Innovation Concept	Max credits
- I01 Innovate WELL max	10 points

BREEAM® International (New Construction 2016)

Management	Max credits
- MAN 02: Life cycle cost and service life planning	1 credit
Health and Well-Being (HEA)	Max credits
- HEA 01: Visual Comfort	4 credits
- HEA 02: Indoor Air Quality	1 credit
- HEA 04: Thermal Comfort	2 credits
- HEA 05: Acoustic Performance	4 credits
Materials (MAT)	Max credits
- Mat 01: Life cycle impacts	1 credit
- Mat 03: Responsible sourcing of construction products	4 credits
- Mat 06: Material efficiency	1 credit
Waste (WST)	Max credits
- WST 01: Construction waste management	3 credits
- WST 06: Functional adaptability	1 credit
Innovation (INN)	Max credits
- INN 01: Innovation	10 credits

DGNB 2020 INTERNATIONAL – New Buildings

Environmental Quality (ENV)	Max credits
- ENV 1.1: Building Life Cycle Assessment	9.5%
- ENV 1.2: Local environmental impact	4.7%
- ENV 1.3: Sustainable resource extraction	2.4%
Economic Quality (ECO)	Max credits
- ECO 1.1: Building Related Costs	12.9%
- ECO 2.1: Flexibility and adaptability	9.6%
Sociocultural and functional quality (SOC)	Max credits
- SOC 1.1: Thermal comfort	4.5%
- SOC 1.2: Indoor air quality	5.4%
- SOC 1.3: Acoustic comfort	2.9%
- SOC 1.4: Visual comfort	3.4%
- SOC 1.6: Quality of indoor and outdoor spaces	5.4%
Technical Quality (TEC)	Max credits
- TEC 1.1: Fire safety	2.9%
- TEC 1.2: Sound insulation	2.3%
- TEC 1.5: Ease of cleaning building components	1.8%
- TEC 1.6: Ease of recovery and recycling	3.5%
Process Quality (PRO)	Max credits
- PRO 1.5: Documentation for sustainable management	1.1%
- PRO 2.1: Construction site / construction process	1.6%

The points or credits gained in each scheme are not solely dependent upon the performance of Rockfon products. Rockfon products merely help towards the goal of achieving the credits or points but they are not a stand alone element. The final credits earned depend on various elements, components and overall building performance. Rockfon shall not guarantee or be held liable for non-fulfilment of the credits which can include a broader assessment of construction products and building elements. The credits or points in each scheme are the result of internal evaluation.



Life cycle and environmental certifications

Sourcing of raw materials

Recycled content

The recycled content of the mineral wool core in Rockfon products is >40%. Including facings (paint and glass fleeces) the recycled content of the full product is between 29% and 64% according to ISO 14021.

The recycled content is primarily post-industrial/pre-consumer resulting from upcycling waste from other industries, that would otherwise be sent to landfill. Wool waste from end of life recycling, installation cut-offs and manufacturing (e.g. as part of briquettes) is also included.

The information provided under recycled content is self-declared.

Responsible sourcing

>90% of all suppliers identified as key suppliers to the ROCKWOOL Group have currently signed the ROCKWOOL Code of Conduct for Suppliers.

The ROCKWOOL Code of Conduct addresses laws and standards compliance, equal opportunities, trade union recognition, fair employment, safe and healthy working conditions, no child labour, sound environmental principles, purchasing ethics and bribery.

Environmental Product Declarations and Carbon Footprint

Our EPD covers our full portfolio and it is third party verified according to EN 15804. It is available in our website and also in external databases, like IBU (Institut Bauen und Umwelt), EPD Norge, INIES and UL. In order to get product specific information, please use the product scaling formula in the EPD or get in touch with our local support team.

The carbon footprint (kg of CO₂ eq.) of the product, from cradle to gate is given in this declaration in the Performance section below. The carbon footprint value derives from the third party verified Rockfon EPD with the application of the product scaling formula and the impact of the facing.

Cradle to Cradle Certified®

Rockfon acoustic solutions are Cradle to Cradle Certified® Silver and Bronze. The certification covers most of the products in our portfolio. Cradle to Cradle Certified® Product Standard is a globally recognized measure to create safer, more sustainable products made for circular economy.



* According to the information provided by such third party manufacturers, who have been carefully selected by Rockfon, the products delivered by said third party suppliers fulfil the content requirements stated in the above schemes. Rockfon however accepts no liability should such information provided prove to be incorrect.



Product health

Low emitting materials

This product is certified for low emissions. Laboratories employed by Rockfon are accredited under ISO/IEC 17025 for the applied test methods. Please consult the table in the final page to see which low emission labels are available for the product.

Safe raw materials

Material ingredients

Rockfon materials are regularly screened against BREEAM Norway A20 list and the REACH candidate list; biocides/pesticide, flame retardants, azo dyes, nitrosamines and aromatic amines, halogenated compounds, nanomaterials, plastic softeners, surfactants and classified substances, among others, by an independent third party (Alttox Ltd).

Rockfon products comply with the Authorization List – Annex XIV, the Restriction list – Annex XVII and the SVHC candidate list, (June 2013). No substances listed in Annex XIV and Annex XVII of REACH regulation* are intentionally added to the products included in this declaration". Rockfon ceiling tiles do not contain substances of very high concern (SVHC) in concentrations >0.01% (100 ppm).

The general cut off concentrations is 1000 ppm for external raw material suppliers. But for the stone wool core material the inventory threshold is 100 ppm (0.01%).

Health and fibres

The Rockfon stone wool fibers are a non-hazardous material to work with. This fact is supported by the decision of the World Health Organisation's International Agency for Research on Cancer (IARC) to exempt stone wool from its list of "possibly cancer causing agents". Rockfon stone wool core is certified to comply with the Note Q for safe mineral wool fibres of EU Regulations (EC) No 1272/2008 and Directive 97/69/EEC and has a certificate from EUCB (European Certification Board for Mineral Wool Products).



Corporate sustainability reporting

Sustainability reporting

ROCKWOOL Group is a participant in the UN Global Compact. SDG Invest includes ROCKWOOL Group in a portfolio of the 60 best performing companies globally. The ROCKWOOL Group Sustainability report covers the calendar year and is informed by the Global Reporting Initiative (GRI) Standards. The Group performance on CO₂ emissions is regularly disclosed through international reporting platforms such as the Carbon Disclosure Project (CDP). Our Environmental Health & Safety performance was rated 'Prime' – the highest rating score – by leading sustainable investment rating agency ISS-oekom.

The report is available for download on www.rockwoolgroup.com/sustainability

Material ingredients table

Substances	E.C. Number ¹⁾	Amount weight (%)	REACH Regulation	REACH substances registration number	Function
Stone wool	926-099-9	73-97%	Not classified	01-211-947-2313-44	Core insulation material
Binder, a thermoset inert polymer resin	Proprietary composition	<4%	Not classified	No number	Structural binder
Mineral oil	Proprietary composition	<0,2%	Not classified	No number	Water repellent
Non-woven glass wool facing	Proprietary composition	1-15%	Not classified	No number	Facing
Water based paints	Proprietary composition	0-16%	Not classified	No number	Decorative finish
Glue	Proprietary composition	0,01	Not classified	No number	Glue

¹⁾ E.C.: EC-no, determined by the European Commission for identifying materials

Performance



Sound absorption

α_w : 0.95 (Class A)



Reaction to fire

A1



Light reflection

86%



Humidity and sag resistance

Up to 100% RH.
No visible deflection in high humidity
C/0N



Environment

Fully recyclable stone wool
The recycled content of Rockfon products is between 29% and 64% according to ISO 14021.
Rockfon acoustic solutions are Cradle to Cradle Certified® Silver and Bronze (depending on product type).



Hygiene

Stone wool provides no sustenance to microorganisms
Microbiological class M1 fulfilling the requirements of Zone 4 (very high risk) defined by NF S 90-351:2013.
Tested with:
- Methicillin Resistant Staphylococcus Aureus (MRSA)
- Candida Albicans
- Aspergillus Brasiliensis

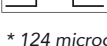


Carbon footprint

2.04 - 2.43 kg of CO2 eq.
(cradle to gate based on EPD)

Product summary table

The following table is categorised by edge type and provides all relevant information related to the products sustainability profile.

	Module size (mm)	Recycled content	Environmental & emission labels							Management systems certifications		Fibre chemistry	Substance Screening	
			E1*	Cradle to Cradle	Blue Angel (RAL DE-UZ 132)	Danish Indoor Climate Label	M1	Singapore Green Building Council	Singapore Green Label	ISO 14001	ISO 9001	EC Note Q compliance (EUCEB)	REACH compliance	BREEAM NO A20 list
	600 x 600 x 15	30%	✓	Bronze	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	600 x 600 x 15	30%	✓	Bronze	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1200 x 600 x 15	30%	✓	Bronze	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	600 x 600 x 15	33%	✓	Bronze	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1200 x 600 x 15	33%	✓	Bronze	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	600 x 600 x 15	33%	✓	Bronze	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1200 x 600 x 15	33%	✓	Bronze	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

* 124 microgram/m³ according to test method EN717-1, based on loading scenario 1 m²/m³, after 14 days (23+/-0,5 °C, RH 45+/-3%.)

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Sounds Beautiful

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VOC TEST REPORT

French VOC Regulation

05 April 2016

1 Sample Information

Sample name	Sikagard 405 W
Batch no.	3001733591
Production date	20/10/2015
Product type	Paint
Sample reception	18/02/2016

2 Brief Evaluation of the Results

Regulation or protocol	Conclusion	Version of regulation or protocol
French VOC Regulation		Regulation of March and April 2011 (DEVL1101903D and DEVL1104875A)

Full details based on the testing and direct comparison with limit values is available in the following pages


Janne R. Norup
Chemist


Thomas Bjerring
Analytical Service Manager

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3 Applied Test Methods

3.1 General Test References

Regulation, protocol or standard	Version	Reporting limit VOC [$\mu\text{g}/\text{m}^3$]	Calculation of TVOC	Combined uncertainty ^a [RSD(%)]
CEN/TS 16516	October 2013	5	Toluene equivalents	22.5%
ISO 16000 -3 -6 -9 -11	2006-2011 depending on part	2	Toluene equivalents	22.5%
French VOC	Regulation of March and April 2011 (DEVL1101903D and DEVL1104875A)	2	Toluene equivalents	22.5%

3.2 Specific Laboratory Sampling and Analyses

Procedure	External Method	Internal S.O.P.	Quantification limit	Analytical principle	Uncertainty ^a [RSD(%)]
Sample preparation	ISO 16000-11:2006, EN16402:2013, CDPH, AgBB/DIBt, EMICODE	71M549810	-	-	-
VOC emission chamber testing	ISO 16000-9:2006, CEN/TS 16516:2013	71M549811	-	Chamber and air control	-
Sampling of VOC	ISO 16000-6:2011, CEN/TS 16516:2013	71M549812	5 L	Tenax TA	-
Analysis of VOC	ISO 16000-6:2011, CEN/TS 16516:2013	71M542808B	1 $\mu\text{g}/\text{m}^3$	ATD-GC/MS	10%
Sampling of aldehydes	ISO 16000-3:2011, CEN/TS 16516:2013	71M549812	35 L	DNPH	-
Analysis of aldehydes	ISO 16000-3:2011, EN 717-1, CEN/TS 16516:2013	71M548400	3-6 $\mu\text{g}/\text{m}^3$	HPLC-UV	10%

4 Test Parameters, Sample Preparation and Deviations

4.1 VOC Emission Chamber Test Parameters

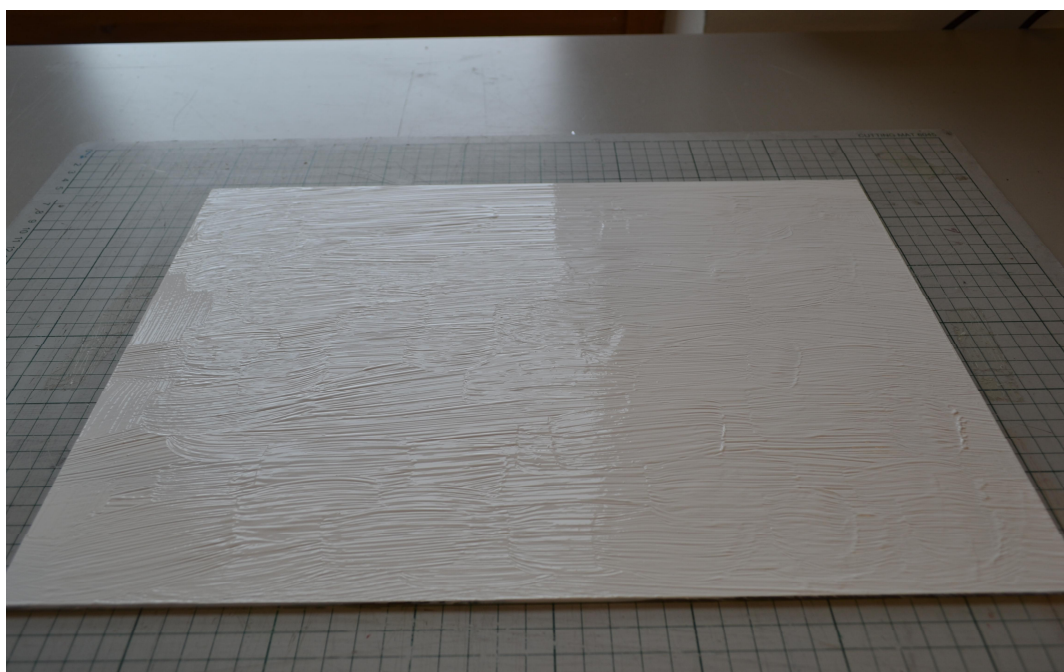
Parameter	Value	Parameter	Value
Chamber volume, V[L]	119	Preconditioning period	-
Air Change rate, $n[h^{-1}]$	0.5	Test period	01/03/2016 - 29/03/2016
Relative humidity of supply air, RH [%]	50 ± 3	Area specific ventilation rate, $q [m/h \text{ or } m^3/m^2/h]$	0.5
Temperature of supply air, T [°C]	23 ± 1	Loading factor [m^2/m^3]	1

4.2 Preparation of the Test Specimen

The sample was homogenised and applied onto a glass plate.

Number of Layers	Application amount, g/m^2	Drying time, h
2	220	4

4.3 Picture of Sample



4.4 Deviations from Referenced Protocols and Regulations

No deviations from the referenced test methods were observed.

5 Summary and Evaluation of the Results

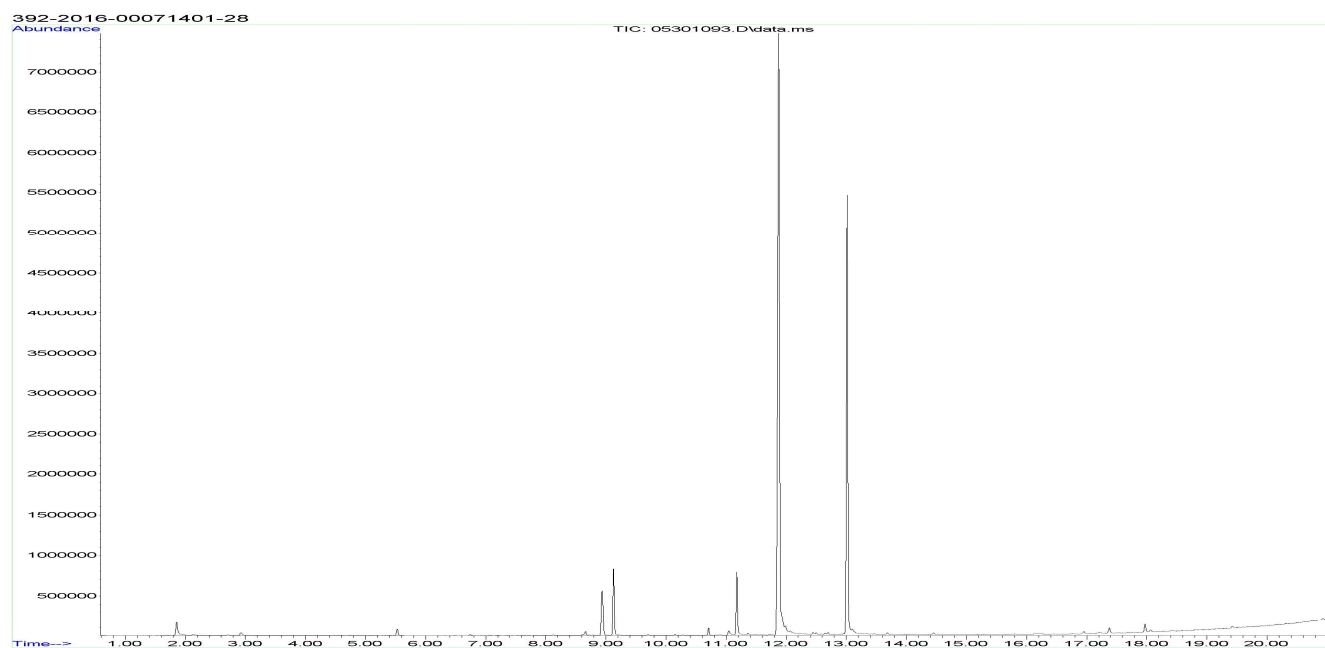
5.1 Comparison with Limit Values of the French VOC Regulation

	CAS No.	Conc. 28 days $\mu\text{g}/\text{m}^3$	 $\mu\text{g}/\text{m}^3$	 $\mu\text{g}/\text{m}^3$	 $\mu\text{g}/\text{m}^3$	 $\mu\text{g}/\text{m}^3$
TVOC	-	760	>2000	<2000	<1500	<1000
Formaldehyde	50-00-0	< 3	>120	<120	<60	<10
Acetaldehyde	75-07-0	< 3	>400	<400	<300	<200
Toluene	108-88-3	< 2	>600	<600	<450	<300
Tetrachloroethylene	127-18-4	< 2	>500	<500	<350	<250
Ethylbenzene	100-41-4	< 2	>1500	<1500	<1000	<750
Xylene	1330-20-7	< 2	>400	<400	<300	<200
Styrene	100-42-5	< 2	>500	<500	<350	<250
2-Butoxyethanol	111-76-2	< 2	>2000	<2000	<1500	<1000
1,2,4-Trimethylbenzene	95-63-6	< 2	>2000	<2000	<1500	<1000
1,4-Dichlorobenzene	106-46-7	< 2	>120	<120	<90	<60

The product was assigned a VOC emission class without taking into account the measurement uncertainty associated with the result. As specified in French Decree no. 2011-321 of March 23 2011, correct assignment of the VOC emission class is the sole responsibility of the party responsible for distribution of the product in the French market.

6 Appendices

6.1 Chromatogram of VOC Emissions after 28 Days



6.2 How to Understand the Results

6.2.1 Acronyms Used in the Report

- < Means less than
 - > Means bigger than (Tube/GC-MS overload)
 - * Not a part of our accreditation
 - α Um(%) is given as 2x RSD%. Please see section regarding Uncertainty in the Appendices.
 - § Deviation from method. Please see deviation section
 - a The method is not optimal for very volatile compounds. For these substances smaller results and a higher measurement uncertainty cannot be ruled out.
 - b The component originates from the wooden panels and is thus removed.
 - c The results have been corrected by the emission from wooden panels.
 - d Very polar organic compounds are not suitable for reliable quantification using tenax TA adsorbent and HP-5 GC column. A high degree of uncertainty must be expected.
- SER Specific emission rate.

6.3 Qualitative Description of VOC Emission Test

6.3.1 Test Chamber

The test chamber is made of stainless steel. A multi-step air clean-up is performed before loading the chamber, and a blank check of the empty chamber is performed.

The chamber operation parameters are as described in the test method section. (CEN/TS 16516, ISO 16000-9, internal method no.: 71M549811).

6.3.2 Expression of the Test Results

All test results are calculated as specific emissions rate, and as extrapolated air concentration in the European Reference Room (CEN/TS 16516, AgBB, EMICODE, M1 and Indoor Air Comfort).

6.3.3 Testing of VOC

The emissions of volatile organic compounds are tested by drawing sample air from the test chamber outlet through Tenax TA tubes after the specified duration of storage in the ventilated test chamber. Analysis is performed by ATD-GC/MS using HP-5 column (30 m, 0.25mm ID, 0.25µm film) (CEN/TS 16516, ISO 16000-6, internal methods no.: 71M549812 / 71M542808B).

All eight substances are identified if present. Quantification above 2 µg/m³ is done using the TIC signal and authentic response factors.

Total Volatile Organic Compounds (TVOC) is calculated by summation of all individual VOCs with a concentration ≥ 2 µg/m³. The TVOC is expressed in toluene equivalents as defined in CEN/TS 16516 and similar to ISO 16000-6.

6.3.4 Testing of Aldehydes

The presence of aldehydes after the specified duration of storage in the ventilated test chamber is tested by drawing air samples from the test chamber outlet through DNPH-coated silicagel tubes after the specified duration of storage in the ventilated test chamber. Analysis is performed by solvent desorption and subsequently by HPLC and UV-/diode array detection (CEN/TS 16516, ISO 16000-3, VDI 3862 Blatt 3, internal methods no.: 71M549812 / 71M548400).

The absence of formaldehyde and other aldehydes is stated if UV detector response at the specific wavelength is lacking at the specific retention time in the chromatogram. Otherwise it is checked whether the reporting limit is exceeded. In this case the identity is finally checked by comparing full scan sample UV spectra with full scan standard UV spectra.

6.4 Quality Assurance

Before loading the test chamber, a blank check of the empty chamber is performed and compliance with background concentrations in accordance with CEN/TS 16516 / ISO 16000-9 is determined.

Air sampling at the chamber outlet and subsequent analysis is performed in duplicate. Relative humidity, temperature and air change rate in the chambers is logged every 5 minutes and checked daily. A double determination is performed on random samples at a regular interval and results are registered in a control chart to ensure the uncertainty and reproducibility of the method.

The stability of the analytical system is checked by a general function test of device and column, and by use of control charts for monitoring the response of individual substances prior to each analytical sequence.

6.5 Accreditation

The testing methods described above are accredited on line with EN ISO/IEC 17025 by DANAK (no. 522).

The results are only valid for the tested sample(s).

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This accreditation is valid worldwide due to mutual approvals of the national accreditation bodies (ILAC/IAF, see also www.eurofins.com/galten.aspx#accreditation).

Not all parameters are covered by this accreditation. The accreditation does not cover parameters marked with an asterisk (*), however analysis of these parameters is conducted at the same level of quality as for the accredited parameters.

6.6 Uncertainty of the Test Method

The relative standard deviation of the overall analysis is 22.5%. The expanded uncertainty U_m equals 2 x RSD. For further information please visit www.eurofins.dk/uncertainty.



Sika Deutschland GmbH
Report No. SI 1709-952

Cleanroom[®] Suitable Materials

Sikafloor-264 N
Particle (vs. PA6): ISO 3

FLOORING & COATING

Particle Emission

Qualification Certificate

We hereby certify that the material stated above, provided by

Sika Deutschland GmbH
Stuttgart, Germany

has been awarded the Fraunhofer IPA, CSM Certificate of Qualification with the report number SI 1709-952.

The level of particulate contamination emitted during application of tribological stress on the material pairing specified lies within the permissible values of the corresponding Air Cleanliness Class in accordance with ISO 14644-1:

Material pairing and test		Suitable for Air Cleanliness Class (ISO 14644-1)
Sikafloor-264 N (gray)	vs. PA6	ISO Class: 3
Reel-on-disc test Normal force 300N		

This document only applies to the named product in its original state and is valid for a period of 5 years from the date the first document was issued. The document can be verified under www.tested-device.com.

Detailed information and parameters of the test environment can be found on the Fraunhofer IPA test report.

SI 1709-952
Report No. first document

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Report No. current document

Stuttgart, November 9, 2017
Place, date of first document issued

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Place, current date

on behalf of 
Dr.-Ing. Udo Gommel, Project manager Fraunhofer IPA

Zertifikat / Certificate



Zertifikatsnr. / Certificate No.: 228-9003481-1-8

Dreh- und Drehkippschläge für Fenster und Fenstertüren *Turn and tilt-turn hardware for windows and casement doors*

Produkt <i>product</i>	AXOR K3, AXOR S PLUS, AXOR Elite Plus
max. Flügelgewicht <i>max. casement weight</i>	130 kg
Einsatzbereich <i>field of application</i>	Systeme mit entsprechender Beschlagsaufnahme <i>Systems with suitable hardware groove</i>
Hersteller <i>manufacturer</i>	AXOR Industry 1, Sobinova Str., UA 49083 Dnepropetrovsk
Produktionsstandort <i>production site</i>	AXOR Industry 1, Sobinova Str., UA 49083 Dnepropetrovsk



Mit diesem Zertifikat wird bescheinigt, dass das benannte Bauprodukt den Anforderungen des zugrundeliegenden ift-Zertifizierungsprogramms in der aktuellen Fassung entspricht.

- Erstellung von Produktfamilien des aufgeführten Bauproduktes und Erstprüfung durch eine akkreditierte Prüfstelle nach EN 13126-8:2017 unter Berücksichtigung der Anwendungsdiagramme
- Einführung und Aufrechterhaltung einer werkseigenen Produktionskontrolle durch den Hersteller
- Erstinspektion des Werkes und der werkseigenen Produktionskontrolle durch ift-Q-Zert
- kontinuierliche Fremdüberwachung des Werkes und der werkseigenen Produktionskontrolle durch ift-Q-Zert

Dieses Zertifikat wurde erstmals am 21.05.2014 ausgestellt und gilt 5 Jahre, wenn sich zwischenzeitlich die Festlegungen in der oben angeführten technischen Spezifikation oder die Herstellbedingungen im Werk oder in der werkseigenen Produktionskontrolle selbst nicht wesentlich verändert haben.

Das Zertifikat darf nur unverändert vervielfältigt werden. Alle Änderungen der Voraussetzungen für die Zertifizierung sind dem ift-Q-Zert mit den erforderlichen Nachweisen unverzüglich schriftlich anzuzeigen.

Das Unternehmen ist berechtigt, das benannte Bauprodukt gemäß der ift-Zeichensatzung mit dem „ift-zertifiziert“-Zeichen zu kennzeichnen.

Dieses Zertifikat enthält 2 Anlage/n.

This certificate attests that the building product mentioned fulfils the requirements of the underlying ift-certification scheme in its current version.

- compilation of product families of the building product listed and initial type-testing by an accredited testing body as per EN 13126:8:2017 based on the application diagrams
- implementation and maintenance of a factory production control by the manufacturer
- initial inspection of the production site and the factory production control by ift-Q-Zert
- continuous third-party control of the production site and the factory production control by ift-Q-Zert

This certificate was first issued on 21.05.2014 and will remain valid for 5 years, as long as neither the conditions laid down in the technical specification listed above nor the manufacturing conditions in the production site nor the factory production control itself are modified significantly.

The reproduction of the certificate without any change from the original is permitted. Any changes to the prerequisites applicable to certification shall be immediately communicated in writing to ift-Q-Zert accompanied by the necessary evidence.

The company is authorized to affix the "ift-certified"-mark to the building product mentioned according to the ift-rules for use of the "ift-certified"-mark.

This certificate contains 2 annexes.

ift Rosenheim
04.10.2019

Christian Kehrer
Leiter der ift-Zertifizierungs- und Überwachungsstelle
Head of ift Certification and Surveillance

Prof. Ulrich Sieberath
Institutsleiter
Director of Institute

Gültig bis /
Valid until:

20.05.2024

228 9003481



Ulrich Sieberath

Grundlage(n) /
Basis:

ift-Zertifizierungsprogramm
für Beschläge
*ift-certification scheme
for hardware
(QM 328)*
Ausgabe/issue 2018

EN 1191
EN 12400
Klasse 2
class 2



Dauerfunktion
*resistance to repeated opening
and closing*

EN ISO
9227
EN 1670
Klasse 5
class 5



Korrosionsschutz
corrosion protection



www.ift-rosenheim.de