

# flotex® 플로텍스 자재승인서





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# 사업자등록증

( 법인사업자 )

등록번호 : 211-85-65288

법인명 ( 단체명 ) : 포보코리아 주식회사

대표자 : 정경연

개업연월일 : 2012년 01월 12일      법인등록번호 : 110111-4765470

사업장소재지 : 서울특별시 송파구 송파대로 167, B동 1511호(문정동, 문정역 테라타워)

본점소재지 : 경기도 안양시 동안구 시민대로 361, B-107호(관양동, 에이스 평촌타워)

사업의종류 : 업태 도소매 서비스      종목 산업용벨트및바닥커버링제품 엔지니어링

발급사유 : 정정



사업자 단위 과세 적용사업자 여부 : 여( ) 부(✓)

전자세금계산서 전용 전자우편주소 : forbo01@hometax.go.kr

2020년 05월 20일

송파세무서장





# Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

Forbo Flooring UK Limited  
High Holborn Road  
Ripley  
DE5 3NT  
United Kingdom

Holds Certificate Number:

FM 00632

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

**The design, development and manufacture of textile floor coverings.**

For and on behalf of BSI:

Matt Page, Managing Director Assurance - UK & Ireland

Original Registration Date: 1988-12-09

Effective Date: 2023-08-31

Latest Revision Date: 2023-07-03

Expiry Date: 2026-08-30

Page: 1 of 1



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This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract.  
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Printed copies can be validated at [www.bsigroup.com/ClientDirectory](http://www.bsigroup.com/ClientDirectory)

Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000  
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.  
A Member of the BSI Group of Companies.



# Certificate of Registration

ENVIRONMENTAL MANAGEMENT SYSTEM - ISO 14001:2015

This is to certify that:

Forbo Flooring UK Limited  
High Holborn Road  
Ripley  
DE5 3NT  
United Kingdom

Holds Certificate Number:

EMS 32833

and operates an Environmental Management System which complies with the requirements of ISO 14001:2015 for the following scope:

**The design, development and manufacture of textile floor coverings.**

For and on behalf of BSI:

\_\_\_\_\_  
Matt Page, Managing Director Assurance - UK & Ireland

Original Registration Date: 1995-11-24

Latest Revision Date: 2022-11-22

Effective Date: 2022-12-30

Expiry Date: 2025-12-29



Page: 1 of 1

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Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: +44 345 080 9000  
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.  
A Member of the BSI Group of Companies.





This certificate is the property of:  
**International Associates Limited**  
 Centrum House  
 38 Queen Street, Glasgow, G1 3DX  
 Scotland, United Kingdom

**SA8000 MANAGEMENT SYSTEM CERTIFICATION CERTIFICATE**

This is to certify that:

**FORBO FLOORING UK LIMITED**

Ripley: High Holborn Road, Ripley, Derbyshire, DE5 3NT, United Kingdom  
 (See page 2 for full list of locations)

has been found to conform with an appropriate and effective management system that meets the requirements of

**SA8000:2014**

International Standard

**Scope: Manufacture, Installation and Maintenance of Flooring Systems.**

The scope of the certification described by this certificate relates to the empowerment and protection of all personnel who provide products or services for that organisation at the above address(es) including, where applicable, personnel employed by the organisation itself and by its suppliers, sub-contractors, sub-suppliers and home workers for the following activities:

**Manufacture, Installation and Maintenance of Flooring system with the primary process of Design, Foam Lining, Linoleum Engineering, Mixing, Production, Maintenance, Slabbing, Tile Cutting, Sales, Customer Service, Design, Inspection, Warehousing, Quality Control & Maintenance Service and No Outsourced process Exist.**

<b>Certification Date:</b>	20-Dec-2023	<b>Certificate Number:</b>	01-0011-4-SA8
<b>Recertification Due By:</b>	09-Dec-2026	<b>Category:</b>	Manufacturing
<b>Last Amended Date:</b>	10-Dec-2023	<b>Initial Certification:</b>	(Construction) 09-Dec-2014

This Certification Audit was Performed and Supervised by: Martin Coles  
 For and on behalf of FORBO FLOORING UK LIMITED: Mark Bauer

Certification Approved By:

**Senthil Kumar**  
 Scheme Manager



Social Accountability International and other stakeholders in the SA8000 process only recognise SA8000 certificates issued by qualified CBs granted accreditation by SAAS and do not recognise the validity of SA8000 certificates issued by unaccredited organisations or organisations accredited by an entity other than SAAS. Stakeholders can confirm the validity of an accredited SA8000 certificate from the SAAS website [www.saasaccreditation.org/certification](http://www.saasaccreditation.org/certification) Registration is subject to the management system being continually maintained to the above standard under regular surveillance. Should surveillance not take place when required, registration shall be removed.

To verify the authenticity of this certificate, please send an email to: [certificate-verification@ia-uk.com](mailto:certificate-verification@ia-uk.com) or use the QR Code.  
**Certificate Validation Code:** 86961dcc-7d66-40c8-94f2-ffd9db168fc1 - Validate via: <https://inet.ia-uk.com/Certificate>





수입신고필증

(간지)

※ 처리기간 : 3일

① 신고번호 43842-24-200829M	② 신고일 2024/05/22	③ 세관과 030-C6	④ 입항일 2024/05/21	⑦ 전자인보이스 제출연호	
④ B/L(AWB)번호 KE44990	⑤ 화물관리번호 24ONEY0619F-3111-0008	⑧ 변입일	⑨ 징수형태 14		
⑩ 신고인 한동관세법인 김상현		⑪ 통관계획 C 보세구역도착전	⑫ 협산지증명서 유무 Y	⑬ 총중량 1,596 KG	
⑪ 수입자 포보코리아 주식회사(포보코리아-1-12-1-02-2 A) (주소) 서울특별시 용마루 송파대로 157, 8층 1511호(잠실동, 잠실역(지하철) 05670) (상호) 포보코리아 주식회사 (성명) 정경연		⑭ 신고구분 A 일반P/L신고[사후제출]	⑮ 가격신고서 유무 Y	⑯ 총포장갯수 2 GT	
⑫ 납세거주자 (주소) 서울특별시 용마루 송파대로 157, 8층 1511호(잠실동, 잠실역(지하철) 05670) (상호) 포보코리아 주식회사 (성명) 정경연		⑰ 거래구분 11 일반형태수입	⑱ 국내도착항 KRBNP 부산신항	⑲ 운송형태 10-LC	
⑭ 운송주선인 (주)그린글로벌브라이언(GGLL)		⑳ 종류 21 일반수입(내수용)	㉑ 격출국 GB U.K		
⑮ 무역거래처 FORBO FLOORING UK LIMITED (GB) / GBFORBOF0001W		㉒ 선기명 ZEUS LUMOS LR	㉓ MASTER B/L번호 HDMUBHMA90233100	㉔ 운수기관부호	
⑯ 검사(법입)장소 03077099-2400(페이허브물류(주))					
⑰ 품명·규격 (란번호/총란수 : 001/001 )					
⑱ 품명 OTHER CARPET		⑳ 상표 NO			
㉑ 거래품명 FLOTEX					
㉒ 모델·규격		㉓ 성분	㉔ 수량	㉕ 단가(KRW)    ㉖ 금액(KRW)	
(NO. 01) 545027 FLOTEX 50*50 CANYONKELP 3M2, REFER NO:FP09-545027,DIMS:50X50 CM- 3 M2, PS:NONWOVEN		100%PVC	M2		
(NO. 02) 382013 FLOTEX 50*50 PENANG SAPPHIRE 3M2,REFER NO:FP09-382013,DIMS:50X50 CM- 3 M2, PS:NONWOVEN		100%PVC	M2		
㉗ 세면부호	5705.00-0000	㉘ 순중량	KG	㉙ C/S검사 S 생략	㉚ 사후확인기관
㉛ 과세가격(CF)	\$	㉜ 수량	M2	㉝ 검사변경	
	W	㉞ 함유물량	M2	㉟ 원산지 GB-4-B-G	㊱ 특수세액 0.00
㊲ 수입요건확인 (발급서류명)					
㊳ 세종	㊴ 세율(구분)	㊵ 감면율	㊶ 세액	㊷ 감면분납부호	㊸ 감면액    *내국세종부호
관	0.00 (FGBI영가)	0.00	0		0
부	10.00 (A)	0.00			0
㊹ 결제금액(인도조건-통화종류-금액-결제방법)		CIP-KRW- -TT		㊺ 환율	1.0000
㊻ 총과세가격	\$	㊼ 운임	0	㊽ 가산금액	㊾ 납부번호 030-11-24-00480564
	W	㊿ 보험료	0	㊽ 공제금액	㊾ 부가기차세과표
㊿ 세종	㊿ 세액	*신고인기재관		㊿ 세관기재관	
관세	0			- 수입통관 후 단순가공(MIS, 49종) 등 재포장 판매하거나 사용할 경우 원산지 표시를 하여야 하는 등 (재임도 포함) 시에는 임수인이기 SW 의무를 서면으로 통보하여야 하며, 이를 위반 시 관련법령에 따라 처벌될 수 있음.	
개별소비세	0			- 사후심사결과에 따라 적용세율 변경될 수 있음. 20.7.1일부터 중소기업의 잔액이나 수출회율에 대해 세면조사비용을 지원하고 있으니, 지원 대상 기업에 확인하여 신청하시기 바랍니다. (unipass.customs.go.kr)	
과세차액	0				
주세	0				
교육세	0				
농어촌특별세	0				
부가가치세	0				
신고기증가산세	0				
미신고가산세	0				
㊿ 총세액합계		㊿ 담당자 00000	㊿ 전수일시 2024/05/22	㊿ 수리일자 2024/05/22	

발행번호 : 2024084937694(2024.06.12)      세관과 : 030-C6    신고번호 : 43842-24-200829M    Page : 1/1

- \* 본 신고필증은 발행 후 세관심사 등에 따라 정정·수정될 수 있으므로 정확한 내용은 발행번호 등을 이용하여 관세청 인터넷포털(http://unipass.customs.go.kr)에서 확인하시기 바랍니다.
- \* 본 수입신고필증은 세관에서 형식적 요건만을 심사한 것이므로 신고내용이 사실과 다른 때에는 신고인 또는 수입회주가 책임을 지어야 합니다.
- \* 본 신고필증은 전자문서(PDF파일)로 발급된 신고필증입니다.
- \* 출력된 신고필증의 진본여부 확인은 전자문서의 '시정확인필' 스탬프로 출력하여 확인할 수 있습니다.



제 26314 호

# 환경표지 인증서

1. 상 호 : 포보코리아(주)
2. 사업자등록번호 : 211-85-65288
3. 소재지 : 서울특별시 송파구 송파대로 167, B동 1511호(문정동, 문정역테라타워)
4. 공장·사업장소재지 : Forbo Flooring UK Ltd. High Holborn Road, Ripley DES 3NT, United Kingdom
5. 대표자성명 : 정경연
6. 대상제품 : EL246.실내용 바닥 장식재
7. 상표명/용도·제공서비스 : 별첨이기
8. 인증기간 : 2022.02.22 부터 2025.02.21 까지
9. 인증사유 : "유해물질 감소, 생활 환경오염 감소"

「환경기술 및 환경산업 지원법」 제17조제3항, 같은 법 시행령 제23조제2항 및 같은 법 시행규칙 제34조제2항에 따라 환경표지대상제품의 인증기준에 적합하므로 환경표지의 사용을 인증합니다.

※ 최초교부 : 2022.02.22

2022년 02월 22일

## 한국환경산업기술원장



※ 한국환경산업기술원은 「환경기술 및 환경산업 지원법」 제33조제2항 및 같은 법 시행령 제33조제8항에 따라 환경부장관으로부터 환경표지 인증에 관한 업무를 위탁받은 기관입니다.

사실확인 : 1577-7360



[별첨]1 / 1

제 26314 호

기본상표명	파생상표명	용도 · 제공서비스
Flotex Colour		실내용 바닥재(설유제, 타일 카펫, 컷파일 2종, 비주거용)
Flotex Cityscape		실내용 바닥재(설유제, 타일 카펫, 컷파일 2종, 비주거용)
Flotex Cirrus & Stratus		실내용 바닥재(설유제, 타일 카펫, 컷파일 2종, 비주거용)





(28115) 충북 정주시 청원구 오창읍 양정 3길 21  
Tel : 043-711-8875 Fax : 043-711-8804

# TEST REPORT



의뢰자 : 포보코리아 주식회사  
주소 : 서울특별시 송파구 송파대로 167(문정동) B 동 1511 호

접수번호 : M255-24-00605

접수일자 : 2024-02-15

발급일자 : 2024-03-06

용도 : 품질관리용

쪽번호 : 1/6

의뢰자제시시료명 : 플로텍스 (Flotex)

의뢰하신 시료에 대한 시험결과는 아래와 같습니다.

## ■ 시험결과 ■

### 01. 섬유 혼용율 ( KS K 0210 : 2023 ) : %

	#1
나일론	100

주) 파일만 시험하였음

### 02. 폭 및 길이 ( KS K 1417 : 2023 ) : mm

	#1
길이	500.0
폭	500.0

\*\* 다음페이지 계속 \*\*

FITI 시험연구원



※ 문서 확인 번호 : GRXL-9HTP-9ZTG ※

(홈페이지에 접속 후 "성적서확인"메뉴에서 문서 확인 번호를 통해 위 번호 여부를 확인할 수 있습니다.)

### e-DOCUMENT SERVICE

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이 성적서는 FITI와 사전 서면 동의 없이 홍보, 선전, 광고 및 소송용으로 사용될 수 없으며, 용도 이외의 사용을 금합니다.  
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(20115) 충북 청주시 청원구 오창읍 양정 3길 21  
Tel : 043-711-8875 Fax : 043-711-8804

접수번호 : M255-24-00605  
쪽 번호 : 2/6

03. 직각정도 ( KS K 2618 : 2022 ) : mm

	#1
	0.05

04. 캐스터 제어에 의한 폭 및 길이의 변화율 ( KS K 2618 : 2022 ) : %

	#1
길이	0.03
폭	0.03

05. 열 및 물에 의한 폭 및 길이 변화율 ( KS K 2618 : 2022 ) : %

	#1
길이	-0.01
폭	-0.02

주) (+) 신장, (-) 수축

06. 열 및 물에 의한 말림 ( KS K 2618 : 2022 ) : mm

	#1
	0.6

07. 대전성 ( KS K 2618 : 2022 ) : kV

	#1
	0.2

주) 시험방법 : 보행 시험법, 방법 A  
시험조건 : (23 ± 2) °C, (25 ± 2) % R.H.

08. 파일사의 용제 추출분 ( KS K 1417 : 2023 ) : %

	#1
	0.44

주) 에틸에테르 추출법 항에 따라 시험하였음

**e-DOCUMENT SERVICE**

이 성적서는 제시된 시료에 대한 시험결과로서 전체제품에 대한 품질을 보증하지 않으며, 시료명은 의뢰자가 제시한 명칭입니다.  
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접수번호 : M255-24-00605

쪽 번호 : 3/6

09. 결모양 ( KS K 0818 : 2022 )

	#1
구멍, 파열의 결점	없음
오염의 결점	눈에 띄지 않음
보수 흔적의 결점	눈에 띄지 않음
모서리의 결점	고르고 적절함
그 밖의 결점	세로줄, 가로단 등이 눈에 띄지 않음

10. 불투수성 ( KS K 1417 : 2023 ) : 외관판정

	#1
1	물의 침투 흔적이 보이지 않음
2	물의 침투 흔적이 보이지 않음
3	물의 침투 흔적이 보이지 않음
4	물의 침투 흔적이 보이지 않음
5	물의 침투 흔적이 보이지 않음
평균	물의 침투 흔적이 보이지 않음

11. 연소성( KS K 0818 : 2022 )

	#1
잔염시간(s)	
- 경사	0
- 위사	0
탄화길이(mm)	
- 경사	28
- 위사	29

주) 제시상태 : (50 ± 2) °C 항온건조기 안에서 24 시간 건조 후 실리카겔을 넣은 데시케이터안에 2 시간 방치  
시험방법 : 45°법

12. 폼알데하이드 함량 ( KS K ISO 14184-1 : 2011 ) : mg/kg

	#1	검출한계
	검출안됨	16

주) 검출안됨 = 검출한계 미만  
의뢰자 요청에 의해 파일부분만 시험하였음

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13. 아릴아민 함량 ( KS K 0147 : 2021 ) : mg/kg

	#1	정량한계
NAME	-	-
4-AMINOBIIPHENYL	5 미만	5
BENZIDINE	5 미만	5
4-CHLORO-o-TOLUIDINE	5 미만	5
2-NAPHTHYLAMINE	5 미만	5
o-AMINOAZOTOLUENE	5 미만	5
2-AMINO-4-NITROTOLUENE	5 미만	5
4-CHLOROANILINE	5 미만	5
2,4-DIAMINOANISOLE	5 미만	5
4,4'-DIAMINO-DIPHENYLMETHANE	5 미만	5
3,3'-DICHLOROBENZIDINE	5 미만	5
3,3'-DIMETHOXYBENZIDINE	5 미만	5
3,3'-DIMETHYLBENZIDINE	5 미만	5
4,4'-METHYLENEDI-o-TOLUIDINE	5 미만	5
p-CRESIDINE	5 미만	5
4,4'-METHYLENE-BIS-(2-CHLOROANILINE)	5 미만	5
4,4'-OXYDIANILINE	5 미만	5
4,4'-THIODIANILINE	5 미만	5
o-TOLUIDINE	5 미만	5
2,4-TOLUYLENEDIAMINE	5 미만	5
2,4,5-TRIMETHYLANILINE	5 미만	5
o-ANISIDINE	5 미만	5
2,4-XYLIDINE	5 미만	5
2,6-XYLIDINE	5 미만	5
4-AMINOAZOBENZENE	5 미만	5

주) 4-AMINOAZOBENZENE (CAS NO. 60-09-3)을 형성할 수 있는 아조 염료는 ANILINE (CAS. NO. 62-53-3)과 1,4-PHENYLENEDIAMINE (CAS NO. 106-50-3)을 발생시킴. ANILINE 또는 1,4-PHENYLENEDIAMINE 이 1 mg/kg 미만이면 4-AMINOAZOBENZENE 을 "정량한계 이하(< 5 mg/kg)"라고 간주하며, ANILINE 또는 1,4-PHENYLENEDIAMINE 이 1 mg/kg 이상이면 KS K 0739 : 2014 로 4-AMINOAZOBENZENE 검출여부를 확인함  
 불검출 = 정량한계 미만  
 의뢰자 요청에 의해 파일부분만 시험하였음

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14. PCP, TeCP 함량 ( KS K 0733 : 2022 ) : mg/kg

	#1	정량한계
PCP(PENTACHLOROPHENOL)	0.1 미만	0.1
TeCP(TETRACHLOROPHENOL)	0.1 미만	0.1

주) 의뢰자 요청에 의해 파일부분만 시험하였음

15. 일광견뢰도 ( KS K 1417 : 2023 ) : 급

	#1
표준정색염포 5	5 이상

주) KS K ISO 105-B02 : 2014

16. 물견뢰도 ( KS K 1417 : 2023 ) : 급

	#1
변퇴색	4-5
오 염	
- 면	4-5
- 플리아마이드	4-5

주) KS K ISO 105-E01 : 2013

17. 마찰견뢰도 ( KS K 1417 : 2023 ) : 급

	#1
길이	
- 건	4-5
- 습	4-5
폭	
- 건	4-5
- 습	4-5

주) KS K ISO 105-X12 : 2016  
 마찰자 : 크로크 블록  
 하중 : (9 ± 0.2) N  
 마찰포 습윤율 : 95 % ~ 100 %  
 시험편 및 마찰포의 컨디셔닝 시간 : 4 시간 이상

\*\* 시험 결과 기록 완료 \*\*

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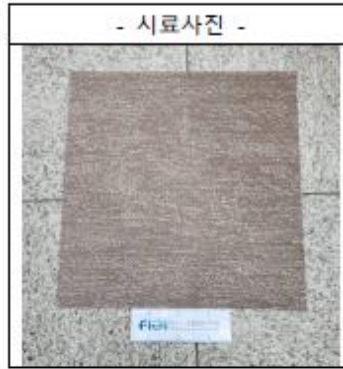




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Test Report – Products  
Testrapport - Producten



<b>Test report no.:</b> <i>Testrapport nr.:</i>	89219827 001	<b>Order No.:</b> <i>Opdracht nr.:</i>	219827	Page 1 of 8 Pagina 1 van 8
<b>Client Reference No.:</b> <i>Klantreferentie nr.:</i>	081021-SL-SHY-156141618	<b>Order date:</b> <i>Opdrachtdatum:</i>	08.10.2021	
<b>Client:</b> <i>Klant:</i>	Forbo Korea Ltd., #1511, Tera Tower B, 167, Songpa-daero, Songpa-gu, Seoul, 05855, Rep. of Korea			
<b>Test item:</b> <i>Testvoorwerp:</i>	Textile floor covering tile			
<b>Identification/ Type No.:</b> <i>Benaming / Type nr.:</i>	Flotex			
<b>Order content:</b> <i>Inhoud opdracht:</i>	Determination of the selected parameter.			
<b>Test specification:</b> <i>Testomschrijving:</i>	Testing according EN 1307:2014+A3:2018 Basic requirements			
<b>Date of sample receipt:</b> <i>Ontvangstdatum monster:</i>	04.10.2021			
<b>Test sample No.:</b> <i>Testproefstuk nr.:</i>	MT21-219827.01			
<b>Testing period:</b> <i>Testperiode:</i>	04.10.2021 - 11.11.2021			
<b>Place of testing:</b> <i>Testlocatie:</i>	Westervoortsedijk 73, 6827 AV Arnhem			
<b>Testing laboratory:</b> <i>Testlaboratorium:</i>	TÜV Rheinland Nederland B.V.			
<b>Test result*:</b> <i>Testresultaat*:</i>	See Other			
<b>tested by:</b> <i>getest door:</i>	X 	<b>authorized by:</b> <i>geautoriseerd door:</i>	X 	
<b>Date:</b> 11.11.2021 <i>Datum:</i>	Ondertekend door: Michiel van de Vliet	<b>Issue Date:</b> 11.11.2021 <i>Datum uitgave:</i>	Ondertekend door: Jantje de Wolff	
<b>Position / functie:</b>	jr. Engineer	<b>Position / functie:</b>	LFM	
<b>Others /</b> <i>Andere:</i>	See individual test results.			
<b>Condition of the test item at delivery:</b> <i>Toestand van het test voorwerp bij ontvangst:</i>	Test item complete and undamaged			
* Legend: P(ass) = passed a.m. test specification(s)    F(all) = failed a.m. test specification(s)    N/A = not applicable    N/T = not tested * Legenda: P(ass) = voldoet aan test omschrijving    F(all) = voldoet niet aan test omschrijving    N/A = niet van toepassing    N/T = niet getest				
This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark. Dit testrapport heeft alleen betrekking op het voornoemde test voorwerp. Zonder toestemming van het testcentrum mag dit testrapport niet in delen worden vernenigvuldigd. Dit keuringsrapport geeft geen recht op het dragen van enig keurmerk.				

TÜV Rheinland Nederland B.V., Westervoortsedijk 73, 6827 AV Arnhem, The Netherlands  
Mail: info@nl.tuv.com - Web: www.tuv.com/nl



Test Report - Products  
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**Product description**  
*Product omschrijving*

<b>1</b>	<b>Product details:</b> <i>Product details:</i>	Product name: Flotex Product type: Textile floor covering tile Carpet type: Flocked Type of colouring/patterning: Patterned
<b>2</b>	<b>Other:</b> <i>Andere:</i>	Test sample(s), as well sample information, description, product details and intended usage was provided by customer.
<b>3</b>	<b>Test sample obtaining:</b> <i>Selectie van het proefstuk:</i>	<input checked="" type="checkbox"/> Sending by customer <input type="checkbox"/> Sampling by TÜV Rheinland Group <input type="checkbox"/> others:

Figure 1: Picture of the received sample (surface)	Figure 2: Picture of the received sample (back)
	

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Clause Deel	Requirements - Tests / Vereisten - Tests	Measuring results – Remarks Meetresultaten – Opmerkingen	Result Resultaat
1	<b>Colour fastness to artificial light: Xenon arc fading lamp test</b> ISO 105-B02:2014 <sup>a</sup>		
	Used apparatus	Q-Sun Xe-2Hs	
	Exposure conditions	A1	
	Irradiance	1.10 ± 0.02 W/(m <sup>2</sup> ·nm)	
	Black standard temperature	47 ± 3°C	
	Black panel temperature	45 ± 3°C	
	Effective humidity	± 40%	
	Flip-Flop mode used	No	
	Number of assessors	≥ 3	
	Measuring uncertainty	0.5 point. Uncertainty in accordance with the general accepted criteria.	
	Assessment scale	1- severe change, 8- no change	
	Measuring uncertainty	0.5 point. Uncertainty in accordance with the general accepted criteria.	
	Requirement according to EN 1307:2014+A3:2018	Man-made fibres: ≥ 5 Natural fibres: ≥ 4	
	<b>Test result(s)</b>		
Light fastness	5-6	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>	

2	<b>Colour fastness to rubbing</b> ISO 105-X12:2016 <sup>a</sup>		
	Test conditions	20 ± 2°C and 65 ± 4% relative humidity	
	Conditioning period	≥ 24 h	
	Used finger	Crock block (19 mm × 25.4 mm)	
	Applied force	9 ± 0.2 N	
	Number of assessors	≥ 3	
	Measuring uncertainty	0.5 point. Uncertainty in accordance with the general accepted criteria.	
	Assessment scale	1- severe change, 5- no change	
	Requirement according to EN 1307:2014+A3:2018	Wet: ≥ 3 Dry: ≥ 3-4	
	<b>Test result(s)</b>		
	Change in colour, Machine direction, dry	5	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>
Change in colour, Cross machine direction, dry	5		
Change in colour, Machine direction, wet	5		
Change in colour, Cross machine direction, wet	5		

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 Testrapport - Producten



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Clause Deel	Requirements - Tests / Vereisten - Tests	Measuring results – Remarks Meetresultaten – Opmerkingen	Result Resultaat
3	<b>Colour fastness to water</b> ISO 105-E01:2013 <sup>a</sup>		
	Number of assessors	≥ 3	
	Measuring uncertainty	0.5 point. Uncertainty in accordance with the general accepted criteria.	
	Assessment scale	1- severe change, 5- no change	
	Requirement according to EN 1307:2014+A3:2018	Change in colour Plain carpets: ≥ 3-4 Other carpets: ≥ 4 Staining All carpets: ≥ 2-3	
	<b>Test result(s)</b>		
	Change in colour	4-5	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>
	Staining on wool	5	
	Staining on acrylic	5	
	Staining on polyamid	4-5	
Staining on polyester	5		
Staining on cotton	5		
Staining on acetate	5		
4	<b>Determination of fibre bind of synthetic (&lt; 80 % natural fibres) cut pile carpets</b> EN 1963:2007 test A		
	Number of specimens	4	
	Type of underlay used	None	
	Requirement according to EN 1307:2014+A3:2018	Loss of mass, $m_v < 25\%$	
	<b>Test result(s)</b>		
	Mass loss per unit area, $m_v$ (g/m <sup>2</sup> )	0	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>
Relative fibre loss, $m_v$ (%)	0		



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Clause Deel	Requirements - Tests / Vereisten - Tests	Measuring results – Remarks Meetresultaten – Opmerkingen	Result Resultaat				
5	<b>Determination of total thickness</b> ISO 1785:1988						
	Test conditions	20 ± 2°C and 65 ± 4% relative humidity					
	Conditioning period	≥ 24 h					
	<b>Test result(s)</b>						
	<b>Total thickness (mm)</b>	Specimen	1	2	3	4	<b>Average</b>
		Measurement 1	5.2	5.2	5.3	5.3	5.3
		Measurement 2	5.2	5.2	5.3	5.3	
	Measurement 3	5.2	5.2	5.3	5.3		
	Measurement 4	5.2	5.3	5.3	5.4		
	Measurement 5	5.2	5.3	5.3	5.3		

6	<b>Determination of total mass per unit area</b> ISO 8543:1998, clause 6				
	Test conditions	20 ± 2°C and 65 ± 4% relative humidity			
	Conditioning period	≥ 24 h			
	<b>Test result(s)</b>				
	<b>Total mass per unit area (g/m<sup>2</sup>)</b>			<b>Average</b>	
		Specimen 1	5029		5096
		Specimen 2	5092		
	Specimen 3	5152			
	Specimen 4	5110			
	Coefficient of variation (%)	1.0			
	Luxury rating class (in case of flocked carpets, conformity without testing)	LC1			

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Clause Deel	Requirements - Tests / Vereisten - Tests	Measuring results – Remarks Meetresultaten – Opmerkingen	Result Resultaat			
7	<b>Determination of dimensional changes due the effects of varied water and heat conditions</b> ISO 2551:1981 / EN 986:2005					
	Number of specimens	3				
	Test conditions prior testing	20 ± 2°C and 65 ± 4% relative humidity				
	Conditioning period	≥ 48 h				
	Type of measuring instrument used	Measuring table				
	Requirement according to EN 1307:2014+A3:2018	≤ 0.2 % shrinkage & extension ≤ 2 mm deviation of any part of the sample from its plane				
	<b>Test result(s) dimensional stability</b>					
		Sample Nr.			Avg.	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>
	Change in dimensions after 2 hrs. in air of 60°C	1	2	3		
	Longitudinal direction (%)	-0.02	-0.02	-0.04	-0.03	
	Cross direction (%)	-0.04	-0.02	-0.02	-0.03	
	Change in dimensions after 2 hrs. in water of 20°C					
	Longitudinal direction (%)	-0.04	-0.04	-0.02	-0.03	
	Cross direction (%)	-0.04	-0.03	-0.02	-0.03	
	Change in dimensions after 24 hrs. in air of 60°C					
	Longitudinal direction (%)	-0.05	-0.05	-0.07	-0.06	
	Cross direction (%)	-0.05	-0.03	-0.04	-0.04	
Change in dimensions after 48 hrs. at 20°C and 65% RH						
Longitudinal direction (%)	-0.02	-0.03	-0.04	-0.03		
Cross direction (%)	-0.04	-0.01	-0.02	-0.02		
<b>Test result(s) distortion out of plane</b>						
Max deviation from its plane (mm)	0.0			P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>		
Description of the final appearance	Flatt					
8	<b>Peel resistance of the backing</b> EN ISO 24345:2012					
	Test conditions	23 ± 2°C and 50 ± 5% relative humidity				
	Conditioning period	≥ 24 h				
	Requirement according to EN 1307:2014+A3:2018	Average: ≥ 40 N/50 mm				
	<b>Test result(s)</b>					
	<i>Length direction</i>				P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>	
	Mean value (N/50mm)	67				
Minimum value (N/50mm)	64					
<i>Width direction</i>						
Mean value (N/50mm)	64					
Minimum value (N/50mm)	62					

Test Report - Products  
 Testrapport - Producten



Test report no.: 89219827 001 Testrapport nr.:		Page 8 of 8 Pagina 8 van 8	
Clause Deel	Requirements - Tests / Vereisten - Tests	Measuring results – Remarks Meetresultaten – Opmerkingen	Result Resultaat
9	<b>Water impermeability</b> EN 1307:2014+A3:2018: Annex G		
	Test and conditioning conditions	20 ± 2°C and 65 ± 4% relative humidity	
	Conditioning period	≥ 24 h	
	Requirement according to EN 1307:2014+A3:2018	No water penetration through the backing and no penetration of the dye into the secondary backing.	
	<b>Test result(s)</b> No water penetration and no penetration of the dye. The sample is impermeable.	P	<input checked="" type="checkbox"/>
	F	<input type="checkbox"/>	
	N/A	<input type="checkbox"/>	
	N/T	<input type="checkbox"/>	
10	<b>Assessment against the minimum requirements for textile floorcoverings</b> EN 1307:2014+A3:2018 table 3 (+ table A.1 in case of carpet tiles)		
	The tested flocked carpet meets all the tested basic requirements	P	<input checked="" type="checkbox"/>
		F	<input type="checkbox"/>
		N/A	<input type="checkbox"/>
		N/T	<input type="checkbox"/>





(28115) 충북 청주시 청원구 오창읍 임청 3길 21  
Tel : 043-711-8875 Fax : 043-711-8804

# 복사본... TEST REPORT

의뢰자 : 한국환경산업기술원-포보코리아 주식회사

접수번호 : M255-21-03220

접수일자 : 2021-10-05

발급일자 : 2021-11-02

용도 : 환경표지인증제출용

쪽번호 : 1/3

의뢰자제시시료명 : Flotex

의뢰하신 시료에 대한 시험결과는 아래와 같습니다.

## ■ 시험 결과 ■

### 01. 중금속 함량 ( 환경유해인자 공정시험기준(국립환경과학원고시 제 2020-45 호(2020.10.20) ) : mg/kg

성분	함량 #1	정량한계
카드뮴 (Cd)	불검출	30
납 (Pb)	불검출	60
크롬VI (Cr VI )	불검출	45
수은 (Hg)	불검출	45

주) 불검출 = 정량한계 미만

### 02. 염화비닐 단량체 함량(VCM) ( KS K 0730 : 2017 ) : mg/kg

	#1	정량한계
	불검출	0.1

주) 불검출 = 정량한계 미만

\*\* 다음페이지 계속 \*\*

FITI 시험연구원장



※ 문서 확인 번호 : 7TKI-G5W4-XXJM ※

(홈페이지에, 접속 후 "성적서확인"메뉴에서 문서 확인 번호를 통해 위 변조 여부를 확인할 수 있습니다.)

이 성적서는 제시된 시료에 대한 시험결과로서 전체제품에 대한 품질을 보증하지 않으며, 시료명은 의뢰자가 제시한 명칭입니다.  
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이 성적서는 KS Q ISO/IEC 17025 및 KOLAS 인정과 무관함을 알려 드립니다.  
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접수번호 : M255-21-03220  
쪽 번호 : 2/3

03. 프탈레이트 함량 ( KS M 1991 : 2016 ) : %

	#1		정량한계
	상부	하부	
DEHP(2-DI(ETHYLHEXYL)PHTHALATE)	불검출	불검출	0.005
DBP(DI-BUTYLPHTHALATE)	불검출	불검출	0.005
BBP(BENZYL BUTYLPHTHALATE)	불검출	불검출	0.005
DIDP(DI-ISO-DECYLPHTHALATE)	불검출	불검출	0.005
DNOP(DI-N-OCTYLPHTHALATE)	불검출	불검출	0.005
DINP(DI-ISO-NONYLPHTHALATE)	불검출	불검출	0.005

주) 불검출 = 정량한계 미만

04. 건축자재 방출 휘발성유기화합물 및 폼알데하이드 시험 - 소형챔버법  
(국립환경과학원고시제 2020-23 호(2020.07.31)실내공기질공정시험기준 ES 02131.1d ) : mg/m<sup>3</sup> · h

총 휘발성 유기화합물 (TVOC)	#1	
	톨루엔 (TOLUENE)	폼알데하이드 (FORMALDEHYDE)
0.058	0.001	불검출

주) mg/m<sup>3</sup> · h : 단위면적당 방출량(EFa)  
정량한계 : 0.001 mg/m<sup>3</sup> · h  
불검출 = 정량한계 미만

- 시험 세부 사항

항목	세부사항
방출 시험 챔버의 조건	온도(°C) : (25 ± 1) 상대습도(%) : (50 ± 5) 환기횟수(회/h) : (0.5 ± 0.05)
시험편의 면적과 시료부하율	시험편의 표면적(m <sup>2</sup> ) : 0.042 6 시료부하율(m <sup>2</sup> /m <sup>3</sup> ) : 2.0
공기채취	채취관 : TVOC : TENAX-TA 흡착관 HCHO : DNPH CATRIDGE 공기채취량(L) : TVOC : 4.0 HCHO : 6.0
분석기기	챔버방출시간(h) : (168 ± 2) 방출시험 챔버 크기(L) : 20 온도 · 습도 조절장치, 적산유량계, 공기채취 장비 : ADPAC SYSTEM(JAPAN) TVOC : ATD(PERKIN ELMER TUBOMATRIX ATD, USA) GC/MSD(PERKINELMER CLARUS 680/SQ 8 T) HCHO : HPLC(AGILENT 1290 SERIES, USA)

\*\* 시험 결과 기록 완료 \*\*

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Tel : 043-711-8875 Fax : 043-711-8804

접수번호 : M255-21-03220  
쪽 번호 : 3/3



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G4B(www.g4b.go.kr)진위확인코드 : CC/VI AEY/Xo=

# 시험성적서



<b>한국환경산업기술원</b> 서울특별시 은평구 진흥로 215 전화 : 02-2284-1660 팩스 : 02-2284-1661	성적서번호 : 22-10-00505 페이지 { 1 } / { 총 2 }	 한국환경산업기술원
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1. 의뢰자  
회 사 명 : 포보코리아 주식회사  
주 소 : (05855) 서울특별시 송파구 송파대로 167, B동 1511호(문정동, 문정역테라타워)  
의뢰일자 : 2022. 06. 10.
2. 용 도 : 품질관리용
3. 시 료 명 : Flotex (플로텍스)
4. 시험기간 : 2022. 06. 10. ~ 2022. 06. 20.
5. 시험장소 : 서울특별시 은평구 진흥로 215 별관 3층 (■고정시험실 □현장시험)
6. 시험결과

시험항목	단위	시험결과	검출한계	시험방법
DIBP(Diisobutylphthalate)	무게%	N.D.	0.005	KS M 1991 : 2016



† 정량한계(Limit of quantitation)  
 † N.D. [Not detected(불검출 또는 검출한계 이하)]

- 비고 1. 상기 내용은 의뢰자가 제공한 시료에 대한 결과이고 용도의 사용을 금합니다.  
 2. 시험성적서의 일부분이 복사되어 사용되는 것을 금합니다.  
 3. KS Q ISO/IEC 17025와 KOLAS 인정과 관련이 없습니다.

확 인	작성자 <b>박 태 하</b> 성 명 : 박태하	기술책임자 <i>이현희</i> 성 명 : 이현희
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2022. 06. 20.

**한국환경산업기술원**  
 Korea Environmental Industry Technology Institute



KEITI-QPF-16-03(01)






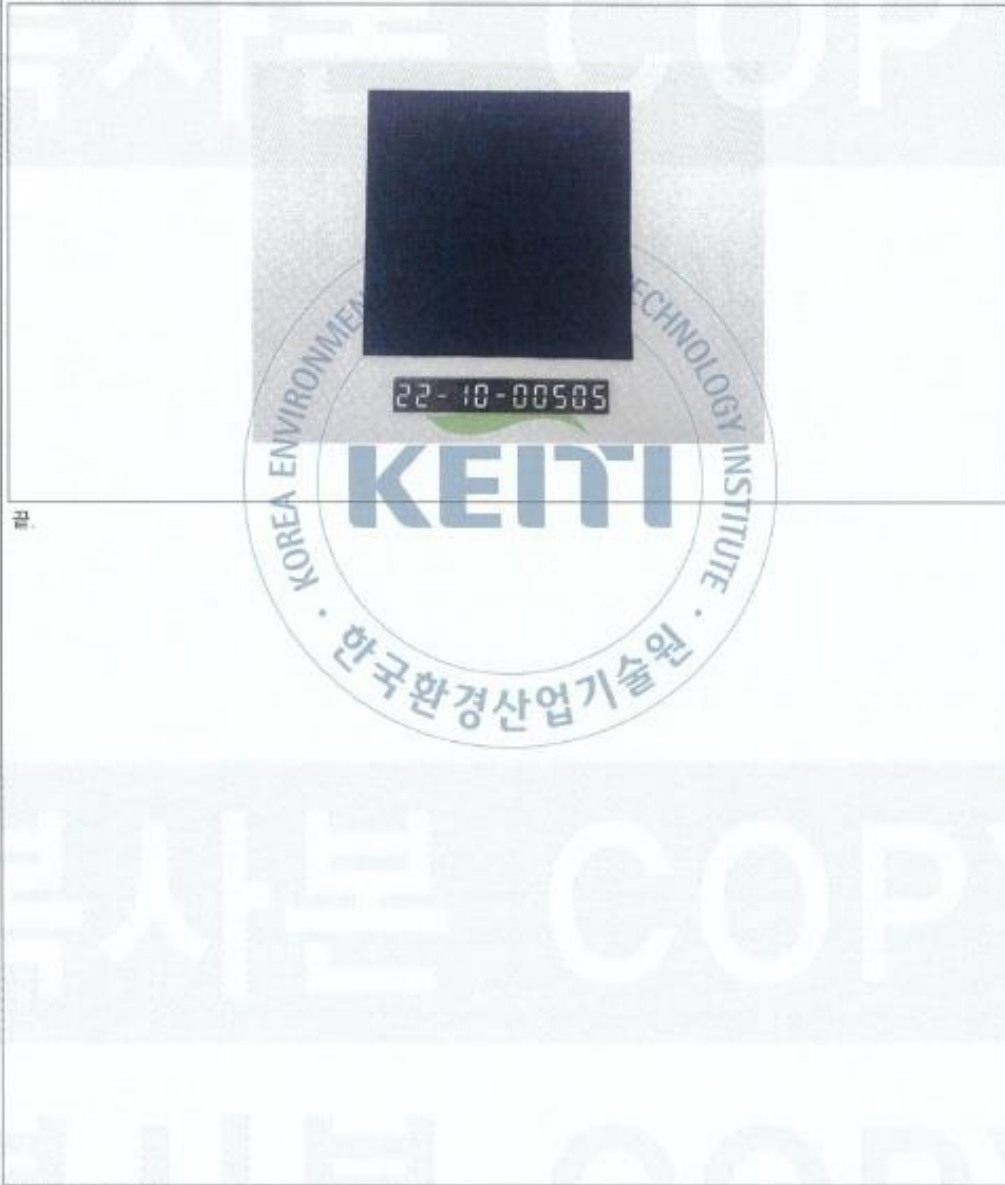


G4B(www.g4b.go.kr)진위확인코드 : CC/V1AEY/Xo=

## 시험성적서

<p><b>한국환경산업기술원</b>                  서울특별시 은평구 진흥로 215                  전화 : 02-2284-1660 팩스 : 02-2284-1661</p>	<p>성적서번호 : 22-10-00505                  페이지 ( 2 ) / ( 총 2 )</p>	 한국환경산업기술원
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시료사진



KEITI-QPF-16-03(01)



ENVIRONMENTAL PRODUCT DECLARATION

FLOTEX TILE & PLANK

FORBO FLOORING SYSTEMS  
FLOCKED FLOOR COVERING

Flotex Tile: metro pebble 546011 & metro concrete 546014



FLOORING SYSTEMS

Flotex is a unique, textile, flocked floor covering, combining the cleaning properties and durability of a resilient flooring with the comfort, slip resistance and acoustic properties usually associated with textiles. It is made by electrostatically flocking 80 million nylon fibres into a watertight backing, resulting in a floor covering that is strong, hygienic, and completely waterproof. Flotex can be rotary or digitally printed, the latter allowing for high-definition quality. It has been proven to contribute towards better indoor air quality and is the only textile floorcovering that carries the Allergy UK seal or approval.

Forbo was the first flooring manufacturer to publish a complete Life Cycle Assessment (LCA) report verified by CML in 2000 to create full transparency that is independently evaluated. To offer further transparency this EPD is also including additional information to show the impacts on human health and eco-toxicity. For more information visit: [www.forbo-flooring.com](http://www.forbo-flooring.com)



Global 공인 UL기관 EPD 취득  
(LEED, 친환경건축물인증 시 가산점 획득가능)

ENVIRONMENTAL PRODUCT DECLARATION



FLOORING SYSTEMS

Flotex AcousticPlus Tile / Plank  
Flocked Floor Covering

According to ISO 14025 and EN 15804

This declaration is an environmental product declaration (EPD) in accordance with ISO 14025. EPD's rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. Exclusions: EPD's do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCA's do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPD's can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPD's regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPD's are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPD's from different programs may not be comparable.



PROGRAM OPERATOR	UL Environment 333 Pfingsten Road Northbrook, IL 60611	
DECLARATION HOLDER	Forbo Flooring B.V. Industrieweg 12 P.O. Box 13 NL-1560 AA Krommenie	
DECLARATION NUMBER	4790857560.108.1	
DECLARED PRODUCT	Flotex Tile & Plank Flocked Floor Covering	
REFERENCE PCR	EN 15804+A2: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products EN 16810:2017 Resilient, textile and laminate floor coverings – Environmental product declarations – Product category rules	
DATE OF ISSUE	October 1, 2023	
PERIOD OF VALIDITY	5 Years	
CONTENTS OF THE DECLARATION	Product definition and information about building physics Information about basic material and the material's origin Description of the product's manufacture Indication of product processing Information about the in-use conditions Life cycle assessment results Testing results and verifications	
The PCR review was conducted by:	European Standards	
	CEN/TC 134	
	<a href="https://www.en-standard.eu/">https://www.en-standard.eu/</a>	
This declaration was independently verified in accordance with ISO 14025 by Underwriters Laboratories <input type="checkbox"/> INTERNAL <input checked="" type="checkbox"/> EXTERNAL	<i>Cooper McC</i> Cooper McCollum, UL Environment	
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	<i>Thomas P. Gloria</i> Thomas P. Gloria, Industrial Ecology Consultants	

This EPD conforms with EN 15804



ENVIRONMENTAL PRODUCT DECLARATION

FLOTEX SHEET

FORBO FLOORING SYSTEMS  
FLOCKED FLOOR COVERING

Flotex Sheet: Calgary grey 290002



FLOORING SYSTEMS

Flotex is a unique, textile, flocked floor covering, combining the cleaning properties and durability of a resilient flooring with the comfort, slip resistance and acoustic properties usually associated with textiles. It is made by electrostatically flocking 80 million nylon fibres into a watertight backing, resulting in a floor covering that is strong, hygienic, and completely waterproof. Flotex can be rotary or digitally printed, the latter allowing for high-definition quality. It has been proven to contribute towards better indoor air quality and is the only textile floorcovering that carries the Allergy UK seal of approval.

Forbo was the first flooring manufacturer to publish a complete Life Cycle Assessment (LCA) report verified by CML in 2000 to create full transparency that is independently evaluated. To offer further transparency this EPD is also including additional information to show the impacts on human health and eco-toxicity. For more information visit: [www.forbo-flooring.com](http://www.forbo-flooring.com)



Global 공인 UL기관 EPD 취득  
(LEED, 친환경건축물인증 시 가산점 획득가능)



ENVIRONMENTAL PRODUCT DECLARATION



Flotex Sheet Tile / Plank  
Flocked Floor Covering

According to ISO 14025 and EN 15804

This declaration is an environmental product declaration (EPD) in accordance with ISO 14025. EPD's rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. Exclusions: EPD's do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCA's do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPD's can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPD's regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPD's are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPD's from different programs may not be comparable.



PROGRAM OPERATOR	UL Environment 333 Pfingsten Road Northbrook, IL 60611
DECLARATION HOLDER	Forbo Flooring B.V. Industrieweg 12 P.O. Box 13 NL-1560 AA Krommenie
DECLARATION NUMBER	4790857560.104.1
DECLARED PRODUCT	Flotex Sheet Flocked Floor Covering
REFERENCE PCR	EN 15804+A2: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products EN 16810:2017 Resilient, textile and laminate floor coverings – Environmental product declarations – Product category rules
DATE OF ISSUE	September 1, 2023
PERIOD OF VALIDITY	5 Years
CONTENTS OF THE DECLARATION	Product definition and information about building physics Information about basic material and the material's origin Description of the product's manufacture Indication of product processing Information about the in-use conditions Life cycle assessment results Testing results and verifications
The PCR review was conducted by:	European Standards CEN/TC 134 <a href="https://www.en-standard.eu/">https://www.en-standard.eu/</a>



# Certificate

## Indoor Air Comfort Gold

Flotex

*Certified Product*

Forbo Flooring

*Applicant*

The product complies with Indoor Air Comfort Gold requirements for product type, version 7.0 (2020). These include both inspections of factory production according to DIN 18200 and VOC testing according to EN 16516 by an ISO 17025 accredited laboratory, at regular interval.

Indoor Air Comfort Gold certification ensures that low product emission requirements are fulfilled and is a sign of the applicant's focus on quality and contribution to a healthy indoor environment.

Product type: Textile flooring

Certificate number: IACG-21-05-07-2022

Issue date: 16 February 2022

Validity date: 16 February 2027

This certificate is valid as specified if regular surveillance and testing is done.

Compliance with Indoor Air Comfort Gold means compliance with VOC requirements on low emitting products of:

BREEAM international, BREEAM NL, BREEAM NOR, BVB (Sweden), Cradle to Cradle (Gold/Platinum), Danish Indoor Climate Label (Emission Class 1), DGNB, Eco Product Norway, France VOC class A+, French HQE certification, Germany (AgBB/ABC), GreenTag Australia, GUT, Italian CAM Edilizia, LEED (ACP), M1, Nordic Swan, Singapore Green Label, SKA Rating, very low emitting products according to EN 16798-1, WELL Building

Thomas Neuhaus  
Head of Certification Body



Product Testing



## Appendix to Certificate IACG-21-05-07-2022

### Forbo Flooring

receives the Indoor Air Comfort Gold certificate with validity 16 February 2027

for below product group, including subgroups and individual products as listed:

Product group: Flotex

---

Product type: Textile flooring

---

#### Products included:

Flotex Bahnenware  
Flotex Colour  
Flotex Designerkollektion  
Flotex Linear  
Flotex Naturals Bahnenware  
Flotex Tiles & Planks

The products in this group are based on identical or similar recipe and are produced under equivalent conditions. Grouping of the products and inspection of the production process is part of the Indoor Air Comfort Gold certification. A worst-case product, which is representative for the whole group, is being tested frequently.

 eurofins | Product Testing



## Renewable Energy Guarantee of Origin allocated to

**Forbo Flooring - Ripley**

### Consumption Period

Oct-23

Mar-25

Generation Type	Amount	Certificate No.
Wind/Solar/Hydro	7,368 MWh	To be Confirmed



Scan here to view our data store

*Nick Campbell*

Nick Campbell - Managing Director:  
Environmental Certificates, Inspired PLC







**TEST REPORT**

DATE: 01-04-2024 Page 1 of 1 TEST NUMBER: 0303991

<b>CLIENT</b>	Forbo Flooring
---------------	----------------

<b>TEST METHOD CONDUCTED</b>	AATCC 129 Colorfastness to Ozone in the Atmosphere Under High Humidities
------------------------------	--

DESCRIPTION OF TEST SAMPLE	
<b>IDENTIFICATION</b>	Flotex Tile 546005

**GENERAL PRINCIPLE**

This test is designed to determine the resistance of colored textiles to the action of ozone in the atmosphere at elevated temperatures and relative humidity. The specimens are exposed to a predetermined number of test cycles and then assessed a numerical rating for their change in color. Ratings are made in accordance with the AATCC Gray Scale for Evaluating Color Change.

**TEST RESULTS**

<b>EXPOSURE</b>	2 Cycles
-----------------	----------

COLOR	RATING
Flotex Tile 546005	5.0

COLOR	RATING

COLOR	RATING

AATCC RATING KEY	
5	No change
4	Slight change
3	Noticeable change
2	Considerable change
1	Severe change

APPROVED BY:

This report is provided for the exclusive use of the client to whom it is addressed. It may be used in its entirety to gain product acceptance from duly constituted authorities. This report applies only to those samples tested and is not necessarily indicative of apparently identical or similar products. This report, or the name of Professional Testing Laboratory, LLC, shall not be used under any circumstance in advertising to the general public.

714 Glenwood Place      Dalton, GA 30721      Phone: 706-226-3283      Fax: 706-226-6787      email: protest@optilink.us





**TEST REPORT**

DATE: 01-04-2024 Page 1 of 1 TEST NUMBER: 0303992

<b>CLIENT</b>	Forbo Flooring
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<b>TEST METHOD CONDUCTED</b>	AATCC 129 Colorfastness to Ozone in the Atmosphere Under High Humidities
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DESCRIPTION OF TEST SAMPLE	
<b>IDENTIFICATION</b>	Flotex Sheet 482018

**GENERAL PRINCIPLE**

This test is designed to determine the resistance of colored textiles to the action of ozone in the atmosphere at elevated temperatures and relative humidity. The specimens are exposed to a predetermined number of test cycles and then assessed a numerical rating for their change in color. Ratings are made in accordance with the AATCC Gray Scale for Evaluating Color Change.

**TEST RESULTS**

<b>EXPOSURE</b>	2 Cycles
-----------------	----------

COLOR	RATING
Flotex Sheet 482018	5.0

COLOR	RATING

COLOR	RATING

AATCC RATING KEY	
5	No change
4	Slight change
3	Noticeable change
2	Considerable change
1	Severe change

APPROVED BY:

This report is provided for the exclusive use of the client to whom it is addressed. It may be used in its entirety to gain product acceptance from duly constituted authorities. This report applies only to those samples tested and is not necessarily indicative of apparently identical or similar products. This report, or the name of Professional Testing Laboratory, LLC, shall not be used under any circumstance in advertising to the general public.

714 Glenwood Place      Dalton, GA 30721      Phone: 706-226-3283      Fax: 706-226-6787      email: protest@oprlink.us



## COMPLIANCE TESTED by berkeley analytical

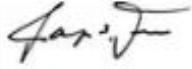
### VOC Emission Test Certificate

**Product Name:** Flotex Tile/Modular - 546008

#### Product Sample Information

Company:	Forbo Flooring Systems
Company Website:	www.forbo.com
Product Type:	Flooring (all types)
Date Produced:	11/15/2018

#### Certificate Information

Certificate No:	181220-01
Certified By:	 Raja S. Tannous, Laboratory Director
Date:	December 20, 2018

**Reference Standard:** California Department of Public Health CDPH/EHLB/Standard Method Version 1.2, 2017 (Emission testing method for CA Specification 01350)

#### Acceptance Criteria and Results Demonstrating Compliance of Product Sample to Referenced Standard:

Exposure Scenario <sup>1</sup>	Individual VOCs of Concern <sup>2</sup>		Formaldehyde <sup>3</sup>		TVOC <sup>4</sup>
	Criterion	Compliant?	Criterion	Compliant?	Range
School Classroom	≤½ Chronic REL	YES	≤9.0 µg/m <sup>3</sup>	YES	≤ 0.5 mg/m <sup>3</sup>
Private Office	≤½ Chronic REL	YES	≤9.0 µg/m <sup>3</sup>	YES	≤ 0.5 mg/m <sup>3</sup>

**Product Coverage<sup>5</sup>:** Not applicable

- Exposure scenarios & product quantities for classroom & office are defined in Tables 4-2 – 4-5 (CDPH Std. Mtd. V1.2-2017)
- Maximum allowable concentrations of individual target VOCs are specified in Table 4-1 (*ibid.*)
- Maximum allowable formaldehyde concentration is ≤9 µg/m<sup>3</sup>, effective Jan 1, 2012; previous limit was ≤16.5 µg/m<sup>3</sup> (*ibid.*)
- Informative only; predicted TVOC Range in three categories, i.e., ≤0.5 mg/m<sup>3</sup>, >0.5 – 4.9 mg/m<sup>3</sup>, and ≥5.0 mg/m<sup>3</sup>
- Informative and applicable only to tests of wet-applied products; grams of sample applied per square meter of substrate

#### Standards & Codes Recognizing CDPH Standard Method V1.2 (partial list)

- USGBC LEED Version 4, BD&C, ID&C
- The WELL Building Standard
- ANSI/GBI 01, Green Building Assessment Protocol
- Green Guide for Healthcare V2.2

**Narrative:** Forbo Flooring Systems selected a sample representative of its Flotex Tile/Modular - 546008 product and submitted it on 11/26/2018 for testing. Berkeley Analytical measured and evaluated the emissions of VOCs from this sample following CDPH/EHLB/Standard Method V1.2-2017. The results of the test are presented in Berkeley Analytical report, 135-077-01A-Dec2018.

**Berkeley Analytical** is an independent, third-party laboratory specializing in the analysis of organic chemicals emitted by and contained in building products, finishes, furniture, and consumer products. We are an ISO/IEC 17025 accredited laboratory (IAS, [TL-383](#)); all standards used in performing this test are in Berkeley Analytical's scope of accreditation.

**DISCLAIMER:** THIS CERTIFICATE OF COMPLIANCE AFFIRMS THAT: 1) A SAMPLE OF THE LISTED PRODUCT WAS TESTED ACCORDING TO THE REFERENCED STANDARD; 2) THE MEASURED VOC EMISSIONS FROM THE SAMPLE WERE EVALUATED FOR THE DEFINED EXPOSURE SCENARIO(S); AND 3) THE RESULTS MEET THE ACCEPTANCE CRITERIA OF THE REFERENCED STANDARD(S). BERKELEY ANALYTICAL IS NOT RESPONSIBLE FOR ANY CLAIMS REGARDING A PRODUCT OR PRODUCTS ENTERED INTO COMMERCE THAT MAY BE BASED ON THIS TEST. BERKELEY ANALYTICAL PROVIDES THIS CERTIFICATE OF COMPLIANCE "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.

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FC17B.2



# SCOTTISH POWER RENEWABLE ENERGY CERTIFICATE

Forbo Flooring UK Ltd

High Holborn Road, Ripley, Derbyshire, DE5 3NT

has demonstrated its commitment to the environment by choosing to be supplied with 100% renewable wind energy from ScottishPower matched to Renewable Energy Guarantees of origin (REGOs) enabling zero emission reporting

01 April 2022 – 31 August 2022



Independent Assurance Statement by Deloitte LLP:  
"The Certified Green Energy Product (CGEP) meets the quality criterion to support customer reporting of zero carbon electricity intensity under the market based method as defined in GHG scope 2 guidance published by the World Resource Institute and is backed by assurance statement ISAE 3000"



Internal Use






**SEAL OF APPROVAL  
CERTIFICATE**

**This is to certify that.**

**Forbo Flooring UK Ltd**

**Have been awarded the British Allergy Foundation  
Seal of Approval for the removal of House Dust Mite for their  
product**

**Flotex Flooring**

Signed:   
**Carla Jones, Chief Executive**  
**Licence No: 200011**  
**Valid until: 5<sup>th</sup> October 2024**



Allergy UK is the operational name of The British Allergy Foundation, a charitable company limited by guarantee and registered in England and Wales. Company No: 4509293. Charity No: 1094231  
Registered in Scotland - Charity No: SC039257



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 Northamptonshire, NN16 8SD United Kingdom  
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 www.satra.com



## TECHNICAL REPORT

Forbo Flooring UK Limited High Holborn Road RIPLEY Derbyshire DE5 3NT United Kingdom	SATRA reference:	FLO9359L8X5	
		241	1
	Report ID/Issue number:	35739/1	
	Your reference:	4501326032	
	Date samples received:	02/01/2024	
	Date(s) work carried out:	02/01/2024 to 11/01/2024	
	Date of report:	15/01/2024	

### Testing Requirements

Testing of one product, described by the customer as "Flotex Tile" to  
 DIN 51130:2014 excluding paragraph 6, measurement of displacement space.

For SATRA's full terms and conditions see our website: [https://www.satra.com/terms\\_of\\_business.php](https://www.satra.com/terms_of_business.php)

For SATRA's statements regarding the confidentiality, publication and dissemination of this report, decision  
 rules and UKAS accreditation please see the final page of this technical report.

Report Signed by:

Reece Johnson

  
 Report Signatory

SATRA Technology Centre Ltd Wyndham Way, Telford Way, Kettering,  
 Northamptonshire, NN16 8SD United Kingdom  
 Tel: +44 (0) 1536 410000 Email: [info@satra.com](mailto:info@satra.com) Website: [www.satra.com](http://www.satra.com)



# Technical Report



## TESTING OF ONE SAMPLE DESCRIBED BY THE CUSTOMER AS "FLOTEX TILE" TO DIN 51130:2014 <sup>(3)</sup> EXCLUDING PARAGRAPH 6 MEASUREMENT OF DISPLACEMENT SPACE <sup>(2)</sup>.

As requested by Forbo Flooring UK Ltd, an assessment has been conducted to determine the slip potential of the sample submitted referenced "Flotex Tile" using the ramp method, as detailed below.

### SUMMARY

With regards to the requirements laid out in DIN 51130:2014 <sup>(3)</sup>, the floor sample submitted under the reference "Flotex Tile" has demonstrated an average angle of  $\geq 38.8^\circ$ , hence being classified as R13.

### SAMPLE SUBMITTED

Sample reference: "Flotex Tile" <sup>(1)</sup>  
 Appearance:



Date received: 02 January 2024  
 Date into conditioning: 02 January 2024  
 Testing completed: 11 January 2024  
 Testing conducted by: Phil Weal & Tom Notley

### TESTS CARRIED OUT

- DIN 51130:2014 Testing of floor coverings - Determination of the anti-slip property - Workrooms and fields of activities with slip danger - Walking method - Ramp test

### Notes:

- (1) The information supplied by the customer. Not verified by SATRA.
- (2) Displacement space – Is not relevant to this test reference. Only required with floor coverings which have an open structure, with large surface gaps, e.g. grates.
- (3) This standard is withdrawn and has been specifically requested by the customer.

SATRA Report Reference: FLO9359L8X5 241  
 Report ID/Issue number: 35739/1





# Technical Report



**RESULTS:**

Test No.	Operator A Inclined platform shod Corrected angle result (°)	Operator B Inclined platform shod Corrected angle result (°)
1	≥ 39.1	≥ 38.7
2	≥ 38.8	≥ 38.4
3	≥ 39.3	≥ 38.4
Corrected Operator Mean	≥ 39.1	≥ 38.5
Corrected Total Mean	≥ 38.8	
Rating	R 13	

**R rating category**

R Value	Category Static Friction is:	Angle of Inclination
R9	Low	6° to 10°
R10	Normal	>10° to 19°
R11	Above Average	>19° to 27°
R12	High	>27° to 35°
R13	Very High	>35°

*Note to end use applications:*

R9 Floors in work rooms and work areas without a high risk of slipping. General and private areas.

R10 to R13 Floors in workrooms and work areas where there is an increased risk of slipping due to grease, oil, water, foods, left-overs, dust, flour, plant clippings, etc.

SATRA Report Reference: FLO9359L8X5 241  
 Report ID/Issue number: 35739/1





# Technical Report



## Annex 1.0

Operator Verification results for DIN 51130:2014 <sup>(9)</sup>

Operator A

Verification Board	Operator A Verification				
	Test Run			Average	Difference
	1	2	3		
ST - I (8.7 ± 3.0)	7.5	7.9	8.0	7.8	0.9
ST - II (17.3 ± 3.0)	20.3	20.1	19.9	20.1	2.8
ST - III A (27.3 ± 3.0)	26.5	26.6	26.1	26.4	0.9

Operator B

Verification Board	Operator B Verification				
	Test Run			Average	Difference
	1	2	3		
ST - I (8.7 ± 3.0)	8.2	8.1	8.2	8.2	0.5
ST - II (17.3 ± 3.0)	19.5	19.7	19.2	19.5	2.2
ST - III A (27.3 ± 3.0)	27.0	26.9	27.2	27.0	0.3

SATRA Report Reference: FLO9359L8X5 241  
 Report ID/Issue number: 35739/1



# Technical Report



## Annex 1.0

Operator Verification results for DIN 51130:2014 <sup>(9)</sup>

### Operator A

Verification Board	Operator A Verification				
	Test Run			Average	Difference
	1	2	3		
ST - I (8.7 ± 3.0)	7.5	7.9	8.0	7.8	0.9
ST - II (17.3 ± 3.0)	20.3	20.1	19.9	20.1	2.8
ST - III A (27.3 ± 3.0)	26.5	26.6	26.1	26.4	0.9

### Operator B

Verification Board	Operator B Verification				
	Test Run			Average	Difference
	1	2	3		
ST - I (8.7 ± 3.0)	8.2	8.1	8.2	8.2	0.5
ST - II (17.3 ± 3.0)	19.5	19.7	19.2	19.5	2.2
ST - III A (27.3 ± 3.0)	27.0	26.9	27.2	27.0	0.3

SATRA Report Reference: FLO9359L8X5 241  
 Report ID/Issue number: 35739/1



Assessment of the Performance of Three Carpet Disinfectants Applied through a Sprayer onto a Carpet.

Client Details: Forbo Flooring UK Ltd  
High Holborn Road,  
Ripley. DE5 3NT

Contact Name: John Lewin  
Contact Email: John.lewin@forbo.com  
Telephone Number: 01773744121

Purchase Order Number: -

Date Of Report: 30<sup>th</sup> October 2017

**MelBec Reference Number:** 3963  
**No. of samples:** 3

	Product and Test Criteria	Product and Test Details
Carpet Details	Lab reference	3963
	Name of Product(s)	Flotex Metro Ash Lot No: 3557
	Manufacturer	Forbo Flooring Ltd
	Storage Conditions	Ambient
	Active Substance	None
Disinfectant Details	M2 Ultra	Diluted 1:10
	Prochem Microsan	Diluted 1:20
	Chemspec Formula 429	Ready to Use.
Experimental Conditions	Method	Bespoke
	Neutraliser / Diluent	BU Broth
	Plating Method	Pour plate using TSA
	Test Product Dilutions	Not Relevant
	Identification of the bacterial strains	<i>Staphylococcus aureus</i> ATCC 6538 <i>Klebsiella pneumoniae</i> ATCC 4352
	Test Temperature	20°C ± 1°C
	Interfering Substance	Not Required
	Incubation Temperature	36°C for bacteria

Unit 1, Envair House, York Avenue, Haslingden, Rossendale, BB4 4HX  
info@melbecmicrobiology.co.uk Tel – 01706 214 492 melbecmicrobiology.co.uk

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**Results:**

M2 Care Ultra M Concentrate.

Test Organism	Count cfu/carpet disc					
	Untreated			Treated		
	Vc1	Vc2	Vc3	Vc1	Vc2	Vc3
<i>Kl pneumoniae</i>	298 -3 27 -4	319 -3 31 -4	289-3 31 -4	12 -1	7 -1	107 -1
<i>St. aureus</i>	249 -3 16 -4	194 -3 17 -4	221 -3 18 -4	6 -1	13 -1	7 -1

Mean Counts

Test Organism	Mean Count cfu/carpet disc	
	Untreated	Treated
<i>Kl pneumoniae</i>	3.02 x 10 <sup>5</sup>	4.2 x 10 <sup>2</sup>
<i>St. aureus</i>	2.17 x 10 <sup>5</sup>	8.7 x 10 <sup>0</sup>

Mean Log Counts

Test Organism	Mean Log/carpet disc	
	Untreated	Treated
<i>Kl pneumoniae</i>	5.48	2.62
<i>St. aureus</i>	5.34	0.94

Organism Reductions

Test Organism	Reduction	
	Percentage	Log
<i>Kl pneumoniae</i>	99.86%	2.86
<i>St. aureus</i>	99.996%	4.40

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Prochem Microsan

Test Organism	Count cfu/carpet disc					
	Untreated			Treated		
	Vc1	Vc2	Vc3	Vc1	Vc2	Vc3
<i>Kl pneumoniae</i>	298 -3 27 -4	319 -3 31 -4	289-3 31 -4	41 -1	32-1	85-1
<i>St. aureus</i>	249 -3 16 -4	194 -3 17 -4	221 -3 18 -4	35 -1	29 -1	41 -1

Mean Counts

Test Organism	Mean Count cfu/carpet disc	
	Untreated	Treated
<i>Kl pneumoniae</i>	3.02 x 10 <sup>5</sup>	5.27 x 10 <sup>2</sup>
<i>St. aureus</i>	2.17 x 10 <sup>5</sup>	3.5 x 10 <sup>2</sup>

Mean Log Counts

Test Organism	Mean Log/carpet disc	
	Untreated	Treated
<i>Kl pneumoniae</i>	5.48	2.72
<i>St. aureus</i>	5.34	2.54

Organism Reductions

Test Organism	Reduction	
	Percentage	Log
<i>Kl pneumoniae</i>	99.83%	2.76
<i>St. aureus</i>	99.84%	2.80

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Chemspec Formula 429.

Test Organism	Count cfu/carpet disc					
	Untreated			Treated		
	Vc1	Vc2	Vc3	Vc1	Vc2	Vc3
<i>Kl pneumoniae</i>	298 -3 27 -4	319 -3 31 -4	289-3 31 -4	29 -1	27-1	44-1
<i>St. aureus</i>	249 -3 16 -4	194 -3 17 -4	221 -3 18 -4	180 -1	68 -1	33 -2

Mean Counts

Test Organism	Mean Count cfu/carpet disc	
	Untreated	Treated
<i>Kl pneumoniae</i>	3.02 x 10 <sup>5</sup>	3.33 x 10 <sup>2</sup>
<i>St. aureus</i>	2.17 x 10 <sup>5</sup>	1.93 x 10 <sup>3</sup>

Mean Log Counts

Test Organism	Mean Log/carpet disc	
	Untreated	Treated
<i>Kl pneumoniae</i>	5.48	2.52
<i>St. aureus</i>	5.34	3.29

Organism Reductions

Test Organism	Reduction	
	Percentage	Log
<i>Kl pneumoniae</i>	99.89%	2.96
<i>St. aureus</i>	99.11%	2.05

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**Conclusion:**

After treatment with disinfectant the numbers of both *Staphylococcus aureus* and *Klebsiella pneumoniae* remaining on the carpet were reduced by >99% or by > 2 log compared to the untreated controls.

Report Authorised By:

A handwritten signature in blue ink, appearing to read "D Mellors".

Dawn Mellors

-----  
Technical Director

Unit 1, Envair House, York Avenue, Haslingden, Rossendale, BB4 4HX  
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 Email: [info@bttg.co.uk](mailto:info@bttg.co.uk)  
 Website: [www.bttg.co.uk](http://www.bttg.co.uk)

Date: 4 May 2018

Our Ref: 25/086808/03/18

Your Ref:

Page: 1 of 2

Client: Forbo Flooring UK Limited  
 High Holborn Road  
 Ripley  
 Derbyshire  
 DE5 3NT

Job Title: Impermeability Testing on One Sample of Flocked Tiles

Client's Order No: 4500972216

Date of Receipt: 20 March 2018

Description of Sample(s): One sample of flocked tiles, reference Flotex Acoustic Plus Tile

Work Requested: We were asked to make the following test(s):

Determination of Impermeability

Note: This report relates only to the samples submitted and as described in the report.

- \* subcontracted test, UKAS accredited
- \*\* subcontracted test, EN ISO/IEC 17025 accredited
- \*\*\* not UKAS accredited



1066

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 Website: [www.bttg.co.uk](http://www.bttg.co.uk)

Date: 4 May 2018

Our Ref: 25/08680B/03/18  
 Your Ref:

Page: 2 of 2

Client: Forbo Flooring UK Ltd

### Determination of Impermeability

Five specimens from the sample were tested in accordance with BS EN 1307:Annex G:2014. 100ml of Methylene Blue solution dyed water solution was poured onto a 15cm diameter concentrated area of the sample, from a height of 1 metre. This was repeated over five specimens.

#### Analysis

The specimens from each test were visually examined after 24 hours for evidence of water penetration through the backing onto the white tissue.

#### Results

Water penetration was not visible on any specimen. Dye was not visible in the secondary backing on the specimens but there was found to be penetration into the primary backing.

The sample was found to be impermeable.

Reported by: D Feltham ..... D Feltham, Laboratory Technician

Countersigned by: [Signature] ..... P Doherty, Operational Head

Enquiries concerning this report should be addressed to Customer Services.



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**BUREAU VERITAS**  
Certification



## Certificate of Compliance

Awarded to

### **Forbo Flooring Systems**

**23 Ormsby Place, Wetherill Park, NSW 2164**

Bureau Veritas grants the above organization the Certificate of Compliance (CoC) only in respect of the products described below and valid until the expiry date or until material change occurs to the supply chain, cable production process or end of life management. The scope of the assessment and certification against the requirements of the PVC Best Practice Guidelines detailed as part of the 'Green Star PVC credit - Auditor Verification Guidance (issued 20 November 2013) using Compliance Pathway 2, 'Manufacturers Declaration'.

The CoC is granted subject to the 'Bureau Veritas Conditions of Service'.

Product Certification

### **Green Building Council of Australia PVC Best Practice Guidelines**

for the following product(s)

**See attached list**

**CoC No: 2840**

**Date Granted: 14/11/2022**

**Expiry Date: 14/11/2024**

Signed on behalf of Bureau Veritas

Sam Guindi  
Product Certification Manager

This CoC remain the property of Bureau Veritas and must be returned if certification is terminated.

In the case of serious non-compliance the certification will be withdrawn.

To check the validity of this certificate, please contact **Bureau Veritas Australia Pty Ltd**

Issuing office: Bureau Veritas Pty Ltd, 3/435 Williamstown Road, Port Melbourne, Victoria, 3207



년도	플로텍스 프로젝트명
2024	현대모비스 마북 UX랩
2024	동경플라텍 사옥
2024	광안리 에어비앤비
2024	창원 유토피아 골프 리모델링
2024	화순 전남대병원
2024	자연드림 괴산 요양병원
2024	이화여대산부인과
2024	에버랜드 캐빈호텔
2024	광양 황금지구 더샵
2024	의정부 더샵리듬시티
2024	더샵 디어엘로
2024	더샵 아르테
2024	더샵 하남에피스
2024	완산행정복지센터
2024	들꽃학습원
2024	경찰청 어울마당
2024	울산 외솔초교 도서관
2024	내성고
2024	제주수원초
2024	중등고
2024	대동대학교
2024	연세대 송도캠퍼스
2023	삼성전자 평택 주차타워 (5~7F)
2023	삼성전자 충남교육센터
2023	삼성 DS 동탄 교육장
2022	한국은행 본점 리모델링
2022	마곡 대상연구소
2022	삼성 바이오로직스
2021	판교 알파돔 (카카오 네이버 사옥)
2021	판교 아이스퀘어 (휴온스 사옥)
2021	마곡 크리스탈노믹스 R&D센터
2020	한국거래소 사옥
2020	을지로 국제금융센터 사옥
2020	송도 GFC 사무동
2020	우리은행 본점 리모델링
2020	삼성전자 평택 프로젝트
2019	국회 스마트워크센터 및 프레스센터
2019	건강보험 심사평가원 제2사옥
2019	국회 스마트워크센터 및 프레스센터
2018	세일정기 마곡 사옥
2019	삼성전자 E-project
2017	삼성화재 아산사옥
2016	삼성전자 DSR
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