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中国认可
国际互认
检测
TESTING
CNAS L0811

检 验 检 测 报 告
TEST REPORT

No. IAQ-2022-067-FS

样品名称 Product	Stone Plastic Composite Flooring
委托单位 Customer	北京绿奥诺技术服务有限公司 Green Panel Corporation (GPC)
检验类别 Type of Test	Commission

北京市产品质量监督检验研究院
国家家具及室内环境质量检验检测中心
Beijing Products Quality Supervision and Inspection Institute
National Center for Quality Inspection and Testing of Furniture & Indoor Environment

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No. IAQ-2022-067-FS

产品信息 Product Sample information	产品名称 Product name	Stone Plastic Composite Flooring
	产品类别 Product category	Vinyl Tile Flooring
	规格及数量 The size(L×W×T) mm/Quantity（piece）	1520×230×8（mm）/4 (piece)
	生产日期 Date sample manufactured	2022.7.18
	产品识别码 Sample Tracking ID	SPC07595
	抽样日期 Date sample collected	2022/7/22 15:30
	到样日期 Date sample received by lab	2022.07.25
	收样状态 Condition of received sample	完好 intact
	样品编号 Lab sample tracking number	IAQ-2022-067-FS
	调质日期 Conditioning start Date & duration	240±5小时（2022年7月29日9时至2022年8月8日9时）
	舱内测试日期 Chamber test start Date & duratio	2022年8月8日9时至2022年8月12日12时
	检验日期 Total test start Date & duration	2022年07月29日至2022年08月30日
委托单位信息 Customer information	名称 Manufacturer or organization	北京绿奥诺技术服务有限公司 Green Panel Corporation（GPC）
	地址 Address	Room 914, Office Tower 3, Henderson Center, 18 Jianguomen Inner Street, Dongcheng District, Beijing, China
	联系人/职位 Contact name/ Title	乌恩 Wu En/Auditor
	联系电话 Phone Number	010-64200118
生产单位信息 Manufacturer Information	名称 Manufacturer	Benxi Flooring Factory(General Partnership)
	地址 Manufacturing Location	Dongfeng Road,Xihu District Benxi City,Liaoning,China
	联系人及电话 Contact name/ Phone Number	葛庆军/18641499978
包装运输 Shipping Information	包装人 Packed By	葛庆军
	封样方式 Sealed type	Plastic film塑料膜、Alumunum foil铝箔
	运输日期 Shipping date	2022.7.22 - 2022.7.25
	承运单位 Carrier	顺丰快递
	运单号吗 Air Number	SF1133294324751
检验依据 Standards	检验项目 Test Projects	VOC Emission
	测试方法 Test method	CDPH/EHLB Standard Method V1.2
	评价标准 Acceptance criteria	CDPH/EHLB Standard Method V1.2
	模拟场景 Modeling scenario	Office & Classroom
	产品类型 Product type	Vinyl Tile Flooring
检验结果 Test results	检验结果详见附页。 Test results see attachment.	检验检测专用章(Test stamp) 签发日期：2022年09月01日 Date of issue: 2022.09.01
备注 Remarks	/	

批准：孙书冬 Approved by　　审核：赵静 Inspected by　　编制：王亚辉 Compiled by

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测试方法 Test Methods

The product sample was tested for emissions of VOCs following California Department of Public Health Services "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chamber Version 1.2-California Specification 01350".The chamber test method is conducted following the guidance of ASTM Standard D 5116-06 and ISO 16000-9:2011

测试条件 Test conditions

The sample was conditioned for 10 days in the same test chamber where the analysis was performed during 96h.The same conditions during conditioning and test were kept and described as below:

参数parameter	符号Symbol	单位Units	数值Value
面积Test specimen expose area	A_c	m^2	0.085
舱体积Chamber Volume	V_c	m^3	0.120
承载率Loading ratio	L_c	m^2/m^3	0.706
换气率Air change rate	a_c	h^{-1}	(1.0±0.1)
进气流量Inlet flow rate	Q	m^3/h	0.120
表面风速Area specific flow rate	q_A	m/h	1.417
温度Temperature	T	℃	(23±0.5)
相对湿度Relative humidity	RH	%	(50±5)

试件制备 Test Specimen Preparation

Assembled several flooring planks, cut a 289 mm by 293 mm specimen from the assembly, and used aluminum tape to tape the specimen to a stainless steel plate,sealing all of the edges and the bottom surface.The test results presented herein are specific to this item.

样品采集方法 Sampling conditions

The product specimen was prepared from the supplied product sample and was placed directly into the chamber,and maintained at controlled conditions of air flow rate,temperature and relative humidity for ten days, in the same test chamber where the analysis was performed during 96h,so at 24h,48h and 96h after initiating the chamber test(without counting the previous 10 days conditioning).Sampling conditions are represented as below:

采样条件Sampling condition	VOC	Aldehydes (C_1-C_6)
数量 Number of sampled tubes	2	2
采样管类型Sorbent type	Tenax TA (backed by a carbonaceous sorbent)	DNPH
采集时间Sampling duration	30min	60min
采集速率Sampling air flow rate	200mL/min	1.5L/min
采样体积Sampled air volume	6.00L	90L

分析设备 equipment

Aldehydes（C_1-C_6）:HPLC-SPD-M20A ZX-151
VOC :TD-GC/MS ZX-390 ZX-Z-29

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释放因子的计算 Emission Factors

Emission factors were calculated from chamber concentrations then by using the emission factors the estimated building concentrations were calculated.
Emission factor (EF) in $\mu g\ m^{-2}h^{-1}$ for a chemical substance in a chamber test is calculated using the equation below:
$EF=(Q(C-C_0))/A_c$
Where C is the chamber concentration of the substance ($\mu g/m^3$) and C_0 is the corresponding substrate or chamber blank concentration ($\mu g/m^3$).The other parameters are defined in test conditions.

估算浓度 Estimated Building Concentrations

建立模型的参数 Modeling Parameters for building Products:

CDPH/EHLB/Standard Method Version 1.2 describes the modeling procedures and parameters for estimating the impact of VOC emissions from a building product on indoor air concentrations in a standard classroom and a standard office space.The dimensions and ventilation of the spaces and the exposed surface areas of major materials are prescribed.The modeling scenario(s) and parameters applicable to this test are list below:

参数 Parameter	符号 Symbol	单位 Units	数值 Value	
			Classroom	Office
Product exposed area	A_B	m^2	89.2	11.1
Outdoor air (OA) flow rate	Q_B	m^3/h	191	20.7
Area-specific air flow rate	q_{IA}	m/h	2.14	1.86

The estimated building concentration,$C_{Bi}(\mu g/m^3)$,of a target VOC is calculated using the equation below:
$C_{Bi}=(EF\times A_B)/Q_B=EF/(Q_B/A_B)=EF/q_A$

VOC 测试结果 VOC Emission Test Results

表1 24h和48h环境舱内有害物质浓度和释放因子

Table 1 Chamber concentrations and emission factors(24h and 48h)

参数名称 Compound Name	CAS号 CAS No.	浓度（μg/m³） Chamber Concentration		释放因子（μg m⁻²h⁻¹） Emission Factor	
		24h	48h	24h	48h
TVOC	/	41.07	40.08	58.21	56.80
甲醛 Formaldehyde	50-00-0	LQ	LQ	/	/

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VOC 测试结果 VOC Emission Test Results Continued

表2.1 96h舱内目标化合物浓度及释放因子
Table 2.1 Chamber concentrations of target VOC and emission factors (96h)

化合物名称 Compound Name	CAS号 CAS No.	浓度（μg/m³） Chamber Concentration	释放因子（μg $m^{-2}h^{-1}$） Emission Factor	备注 Remark
甲醛Formaldehyde	50-00-0	LQ	/	/
四氯化碳Carbon tetrachloride	56-23-5	LQ	/	/
异丙醇Isopropanol	67-63-0	LQ	/	/
三氯甲烷Chloroform	67-66-3	LQ	/	/
N,N-二甲基甲酰胺 Dimethylformamide(N,N-)	68-12-2	LQ	/	/
苯Benzene	71-43-2	LQ	/	/
三氯乙烷Methyl chloroform	71-55-6	LQ	/	/
乙醛Acetaldehyde	75-07-0	LQ	/	/
二氯甲烷Methylene chloride	75-09-2	LQ	/	/
二硫化碳Carbon disulfide	75-15-0	LQ	/	/
1,1-二氯乙烯Dichloroethylene(1,1)	75-35-4	LQ	/	/
异佛尔酮Isophorone	78-59-1	LQ	/	/
三氯乙烯Trichloroethylene	79-01-6	LQ	/	/
萘Naphthalene	91-20-3	LQ	/	/
乙苯Ethylbenzene	100-41-4	LQ	/	/
苯乙烯Styrene	100-42-5	LQ	/	/
1,4-二氯苯Dichlorobenzene(1,4-)	106-46-7	LQ	/	/
环氧氯丙烷Epichlorohydrin	106-89-8	LQ	/	/
乙二醇Ethylene glycol	107-21-1	LQ	/	/
丙二醇甲醚Propylene glycol monomethyl ether	107-98-2	LQ	/	/
乙酸乙烯酯 Vinyl acetate	108-05-4	LQ	/	/
甲苯Toluene	108-88-3	LQ	/	/
氯苯Chlorobenzene	108-90-7	LQ	/	/
苯酚Phenol	108-95-2	LQ	/	/
乙二醇单甲醚Ethylene glycol monomethyl ether	109-86-4	LQ	/	/
乙二醇甲醚乙酸酯Ethylene glycol monomethyl ether acetate	110-49-6	LQ	/	/
正己烷Hexane(n-)	110-54-3	LQ	/	/

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VOC 测试结果 VOC Emission Test Results Continued

表2.1 96h舱内目标化合物浓度及释放因子
Table 2.1 Chamber concentrations of target VOC and emission factors (96h)

化合物名称 Compound Name	CAS号 CAS No.	浓度（μg/m³） Chamber Concentration	释放因子（μg $m^{-2}h^{-1}$） Emission Factor	备注 Remark
乙二醇单乙醚Ethylene glycol monoethyl ether	110-80-5	LQ	/	/
乙二醇乙醚乙酸酯Ethylene glycol monoethyl ether acetate	111-15-9	LQ	/	/
二噁烷Dioxane(1,4-)	123-91-1	LQ	/	/
四氯乙烯Tetrachloroethylene	127-18-4	LQ	/	/
甲基叔丁基醚Methyl t-butyl ether	1634-04-4	LQ	/	/
二甲苯（间，邻，对二甲苯混合）(m-,o-,p-xylene combined)	(108-38-3,95-47-6,106-42-3)	LQ	/	/

表2.2 96h舱内其他化合物浓度及释放因子
Table 2.2 Chamber concentrations of others VOC and emission factors (96h)

化合物名称 Compound Name	CAS号 CAS No.	浓度（μg/m³） Chamber Concentration	释放因子（μg $m^{-2}h^{-1}$） Emission Factor	备注 Remark
不确定组分Unidentified Compound	/	38.35	54.34	/
总挥发性有机化合物TVOC	/	38.35	54.34	/
备注remarks:	单个VOC检出限为2μg /m³，"LQ"表示该项目测试结果小于检出限。 Lower limit of quantitation (LQ) or reporting limit for individual VOCs is 2 μg/m³, LQ indicates test result is below its lower limit of quantitation.			

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VOC 测试结果 VOC Emission Test Results Continued

表3.1 目标化合物估算浓度结果评价
Table 3.1 Concentration estimation and results evaluation of target VOC

化合物名称 Compound Name	CAS号 CAS No.	允许浓度 Allowable Value (μg/m³)	教室估算结果 Standard classroom Estimated Value (μg/m³)	教室估算结果判定 Conclusions of Standard classroom Estimated Value (Pass/Fail)	私人办公室估算结果 Standard office Estimated Value (μg/m³)	私人办公室估算结果判定 Conclusions of Standard office Estimated Value (Pass/Fail)
甲醛Formaldehyde	50-00-0	9	/	/	/	/
四氯化碳Carbon tetrachloride	56-23-5	20	/	/	/	/
异丙醇Isopropanol	67-63-0	3500	/	/	/	/
三氯甲烷Chloroform	67-66-3	150	/	/	/	/
N,N-二甲基甲酰胺 Dimethylformamide(N,N-)	68-12-2	40	/	/	/	/
苯Benzene	71-43-2	1.5	/	/	/	/
三氯乙烷Methyl chloroform	71-55-6	500	/	/	/	/
乙醛Acetaldehyde	75-07-0	70	/	/	/	/
二氯甲烷Methylene chloride	75-09-2	200	/	/	/	/
二硫化碳Carbon disulfide	75-15-0	400	/	/	/	/
1,1-二氯乙烯 Dichloroethylene(1,1)	75-35-4	35	/	/	/	/
异佛尔酮Isophorone	78-59-1	1000	/	/	/	/
三氯乙烯 Trichloroethylene	79-01-6	300	/	/	/	/
萘Naphthalene	91-20-3	4.5	/	/	/	/
乙苯Ethylbenzene	100-41-4	1000	/	/	/	/
苯乙烯Styrene	100-42-5	450	/	/	/	/
1,4-二氯苯 Dichlorobenzene(1,4-)	106-46-7	400	/	/	/	/

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VOC 测试结果 VOC Emission Test Results Continued

表3.1 目标化合物估算浓度结果评价
Table 3.1 Concentration estimation and results evaluation of target VOC

化合物名称 Compound Name	CAS号 CAS No.	允许浓度 Allowable Value (μg/m³)	教室估算结果 Standard classroom Estimated Value (μg/m³)	教室估算结果判定 Conclusions of Standard classroom Estimated Value (Pass/Fail)	私人办公室估算结果 Standard office Estimated Value (μg/m³)	私人办公室估算结果判定 Conclusions of Standard office Estimated Value (Pass/Fail)
环氧氯丙烷 Epichlorohydrin	106-89-8	1.5	/	/	/	/
乙二醇Ethylene glycol	107-21-1	200	/	/	/	/
丙二醇甲醚Propylene glycol monomethyl ether	107-98-2	3500	/	/	/	/
乙酸乙烯酯 Vinyl acetate	108-05-4	100	/	/	/	/
甲苯Toluene	108-88-3	150	/	/	/	/
氯苯Chlorobenzene	108-90-7	500	/	/	/	/
苯酚Phenol	108-95-2	100	/	/	/	/
乙二醇单甲醚Ethylene glycol monomethyl ether	109-86-4	30	/	/	/	/
乙二醇甲醚乙酸酯 Ethylene glycol monomethyl ether acetate	110-49-6	45	/	/	/	/
正己烷Hexane(n-)	110-54-3	3500	/	/	/	/
乙二醇单乙醚Ethylene glycol monoethyl ether	110-80-5	35	/	/	/	/
乙二醇乙醚乙酸酯 Ethylene glycol monoethyl ether acetate	111-15-9	150	/	/	/	/
二噁烷Dioxane(1,4-)	123-91-1	1500	/	/	/	/
四氯乙烯 Tetrachloroethylene	127-18-4	17.5	/	/	/	/
甲基叔丁基醚Methyl t-butyl ether	1634-04-4	4000	/	/	/	/
二甲苯（间，邻，对二甲苯混合）(m-,o-,p-xylene combined)	(108-38-3,95-47-6,106-42-3)	350	/	/	/	/

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VOC 测试结果 VOC Emission Test Results Continued

表3.2 其他化合物估算浓度结果评价
Table 3.2 Concentration estimation and results evaluation of others VOC

化合物名称 Compound Name	CAS号 CAS No.	允许浓度 Allowable Value (μg/m³)	教室估算结果 Standard classroom Estimated Value (μg/m³)	教室估算结果判定 Conclusions of Standard classroom Estimated Value (Pass/Fail)	私人办公室估算结果 Standard office Estimated Value (μg/m³)	私人办公室估算结果判定 Conclusions of Standard office Estimated Value (Pass/Fail)
不确定组分Unidentified Compound	/	/	25.4	/	29.2	/
总挥发性有机化合物TVOC	/	/	25.4	/	29.2	/

北京市产品质量监督检验研究院
国家家具及室内环境质量检验检测中心
Beijing Products Quality Supervision and Inspection Institute
National Center for Quality Inspection and Testing of Furniture & Indoor Environment

检验检测报告附图附照专用表

Specific Chart Of Test Report figure or photo

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Sample COC forms has three copies, one copy for company, one copy for auditor, one copy for the testing lab

FLOORSCORE Samples COC Form
（抽样单）

Green Panel Corporation

1、测试要求 Testing Information （委托单位填写）

单号 Form No.	BFF-FS-2022-Renewal-0722-01		
委托单位名称（英文） Client English Name	GREEN PANEL CORPORATION		
地址（英文） Company English Address	Room 914, Office Tower 3, Henderson Center, 18 Jianguomen Inner Street, Dongcheng District, Beijing, China.	邮编 Zip Code	100005
联系人 Contact Person	乌恩 Wu En	联系电话 Tel. Number	010-64200118
产品名称 Product Name/ Product Line	Stone Plastic Composite/SPC Flooring (Maximum thickness: 8.0mm)		
测试项目 Testing Item	VOC Emission		
测试标准 Standard	☑ CDPH/EHLB Standard Method V1.2 ☐ ANSI/BIFMA M7.1-2011		
模拟场景 Modeling scenario	Office & Classroom		

2、生产单位信息 Company Information（生产单位填写）

单位名称（英文） Company English Name	Benxi Flooring Factory (General Partnership)		
联系人 Contact Person	葛庆军	职位 Title	Minister of Marketing
联系电话 Tel. Number	18641499978	邮箱 Email	benxiflooring@china.com
地址（英文） Company English Address	Dongfeng Road, Xihu District, Benxi City, Liaoning, China	邮编 Zip Code	/

3、样品信息 Samples Information（生产单位填写）

产品名称 Product Name/ Product Line	Stone Plastic Composite Flooring	规格 The size(L×W×T) mm	1520x230x8
产品类别 Product Category	Vinyl Tile Flooring	商标 Brand	/
生产时间 Manufactured Date	2022.7.18	数量 Quantity（piece）	4
抽样日期和时间 Sampling date & time	2022/7/22 15:30	产品识别码 Sample Tracking ID	SPC07595
抽样地点 Collection Location within Plant	Warehouse	抽样基数 Sampling Base（piece）	5300
备注 （Remarks）	A minimum of four representative tiles, strips or planks shall be collected. The tiles, strips or planks shall be stacked tightly together for packaging (normally face to back).		

Sample COC forms has three copies, one copy for company, one copy for auditor, one copy for the testing lab

4、包装运输 Shipping Information （抽样人员填写）

包装人 Packed By	葛庆军	封样方式 Sealed type	☒Plastic film 塑料膜 ☒Aluminum foil 铝箔
承运单位 Carrier	顺丰快递	运单号码 Air bill Number	SF1133294324751
交付日期 Shipping Date	2022/7/22	到样日期 Arrival Date	2022、7、25
备注 （Remarks）	包装运输要求：采用两层耐用的纸铝箔密封样品，保证包装内的空气空间最小化和间隙最小化。使用透明打包带纸包装样品，以确保气密性。将标签贴在铝箔包装上，然后将样品用聚乙烯或聚酯薄膜袋包装，抽样单放入包装内。采集和包装之间间隔不应超过一个小时，并确保样品采集后24小时内寄出。 **Packing & Shipping Requirements:** Seal the samples with two layers of heavy-duty aluminum foil so the air space within the package is minimized and the seams are crimped to create an airtight seal. Use clear packaging tape to assure that the package is airtight. Label the foil package and place in a clear polyethylene or Mylar bag. No more than one hour shall elapse between collection and packaging. within 24 hours of sample collection. This COC form should be put into the samples.		

5、SCS 认证人员信息 SCS Auditor Contact Information

联系人 Contact Person	乌恩 Wu En	职位 Title	Auditor	
联系电话 Tel.	010-64200118	传真 Fax.	010-64200122	
地址 Address	Room 912, Office Tower 3, Henderson Center, 18 Jianguomen Inner Street, Dongcheng District, Beijing, China.		邮编 Zip Code	100005

Person in charge of enterprise（Signature）：葛庆军　The auditor（Signature）：乌恩

6、实验室信息 Laboratory Receiving Information（实验室填写）

收样人 Received By	马翔	收样日期 Received Date	2022、7、25
样品包装状态 Condition of Shipping Package	☑完好 Intact ☐损坏 Damaged	样品状态 Condition of Sample	☑完好 Intact ☐损坏 Damaged
样品编号 Lab sample tracking number	IAQ-2022-067-FS	封样形式和材料 Types of Air-tight Containers or Seals	☑塑料膜 Plastic film ☑铝箔 Aluminum foil
备注（Remarks）	The lab Name：国家家具及室内环境质量检验检测中心 National Center for Quality Inspection and Testing of Furniture & Indoor Environment The address：中国·北京市亦庄经济技术开发区科创三街7号 No.7 Kechuangsan Road, Beijing Economic and Technological Development Area, Beijing, China Zip Code：100176　Tel.：010-67832820-101，010-67809800 Contact Person：张蕊 Zhang Rui　13718194762		