



Bay Zoltán Alkalmazott Kutatási Közhasznú Nonprofit Kft.,
Mérnöki Divízió, Anyagvizsgálati Osztály

MECHANIKAI ANYAGVIZSGÁLÓ LABORATÓRIUM

Miskolc, Iglói út. 2. Tel.: +36-46/560-110
E-mail: mechanika.labor@bayzoltan.hu, Web: www.bayzoltan.hu

Iktatási szám: **BLJ-014/2017**

Oldalszám: **1/7**

Kiadás dátuma: **2017. 03. 01.**

Példányszám: **1**

VIZSGÁLATI JEGYZŐKÖNYV

MSZ EN ISO/IEC 17025:2005

Megrendelő neve és címe: Graboplast zRt., 9023 Győr, Fehérvári út 16/b	
A minták beérk. időpontja: 2017. 02. 22.	Vizsgálati módszer: Megrendelő által definiált
A vizsgálat időpontja: 2017. 02. 27.	Próbadarab előkészítése: Megrendelő által
A vizsgálat típusa: Terhelésvizsgálat	Vizsgáló berendezés: Instron 8874
Minta leírása: 3 db sportparketta minta	Ber. pontossági osztálya: 1. osztály
Vizsgálati paraméterek: Vizsgálati hőmérséklet: 22°C Vizsgálati sebesség: 10 mm/perc Nyomólap átmérője: 100 mm Terhelési hely: megrendelő által bejelölve	Beérkezett mintadarabok: 

Vizsgálati eredmények:

BL Azonosító	Minta azonosító	Károsodáshoz tartozó erő, F_{max} [kN]	Károsodási erőhöz tartozó elmozdulás [mm]	Károsodás helye és módja
P6426	Grabo Smart-Fit	18,083	11,526	Hátlap és előlap törése.
P6427	Grabo Strongair Elite	23,026	23,578	Hátlapi lemez felszakadozott.
P6428	Grabo Springair Elite	17,229	13,095	Hátlapi lemez felszakadozott.





Bay Zoltán Alkalmazott Kutatási Közhasznú Nonprofit Kft.,
Mérnöki Divízió, Anyagvizsgálati Osztály

MECHANIKAI ANYAGVIZSGÁLÓ LABORATÓRIUM

Miskolc, Iglói út. 2. Tel.: +36-46/560-110
E-mail: mechanika.labor@bayzoltan.hu, Web: www.bayzoltan.hu

Iktatási szám: **BLJ-014/2017**

Oldalszám: **2/7**

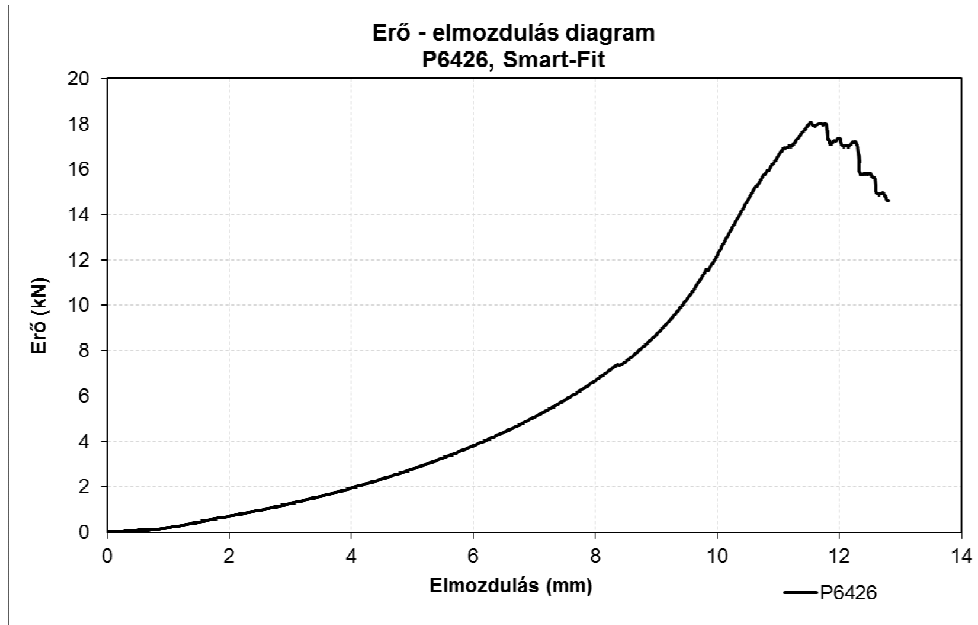
Kiadás dátuma: **2017. 03. 01.**

Példányszám: **1**

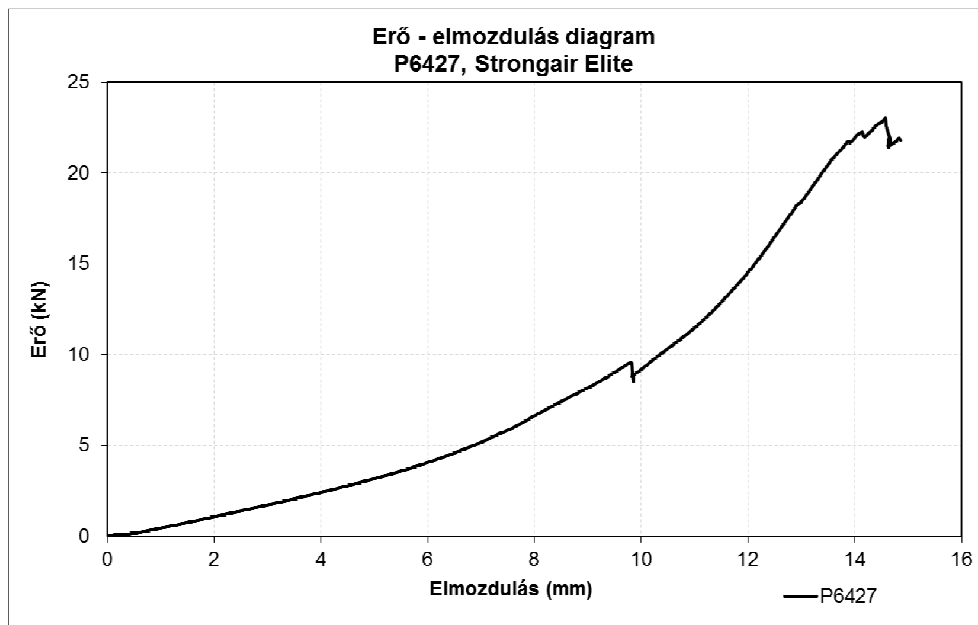
VIZSGÁLATI JEGYZŐKÖNYV

MSZ EN ISO/IEC 17025:2005

Diagramok, fényképfelvételek:



P6426, Smart-Fit erő – elmozdulás diagram



P6427 Strongair Elite erő – elmozdulás diagram





Bay Zoltán Alkalmazott Kutatási Közhasznú Nonprofit Kft.,
Mérnöki Divízió, Anyagvizsgálati Osztály

MECHANIKAI ANYAGVIZSGÁLÓ LABORATÓRIUM

Miskolc, Iglói út. 2. Tel.: +36-46/560-110
E-mail: mechanika.labor@bayzoltan.hu, Web: www.bayzoltan.hu

Iktatási szám: **BLJ-014/2017**

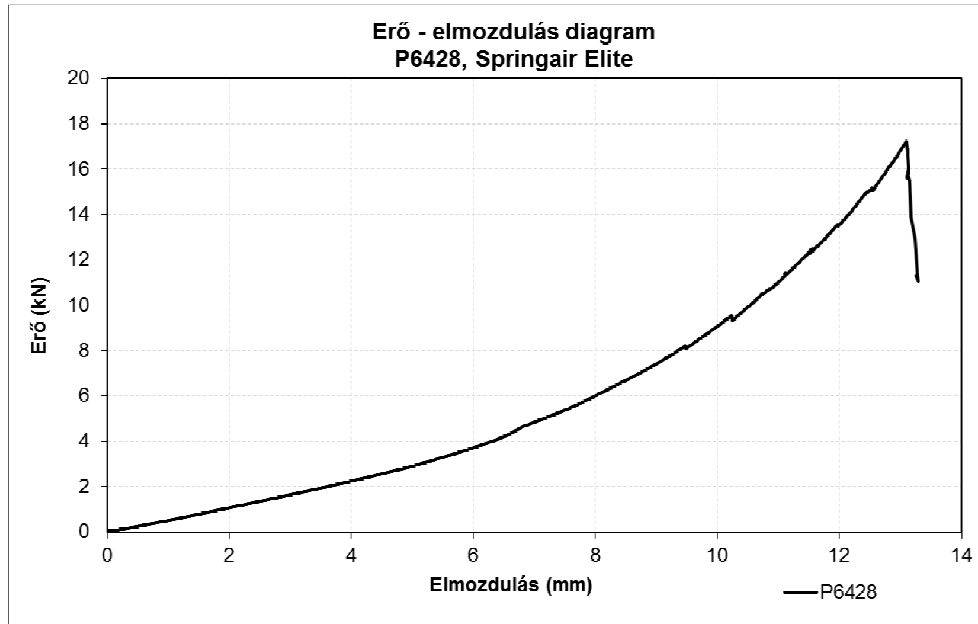
Oldalszám: **3/7**

Kiadás dátuma: **2017. 03. 01.**

Példányszám: **1**

VIZSGÁLATI JEGYZŐKÖNYV

MSZ EN ISO/IEC 17025:2005



P6428 Springair Elite erő – elmozdulás diagram





Bay Zoltán Alkalmazott Kutatási Közhasznú Nonprofit Kft.,
Mérnöki Divízió, Anyagvizsgálati Osztály

MECHANIKAI ANYAGVIZSGÁLÓ LABORATÓRIUM

Miskolc, Iglói út. 2. Tel.: +36-46/560-110
E-mail: mechanika.labor@bayzoltan.hu, Web: www.bayzoltan.hu

Iktatási szám: **BLJ-014/2017**

Oldalszám: **4/7**

Kiadás dátuma: **2017. 03. 01.**

Példányszám: **1**

VIZSGÁLATI JEGYZŐKÖNYV

MSZ EN ISO/IEC 17025:2005



P6426 vizsgálat előtt, előlap



P6426 vizsgálat előtt, hátlap



P6426 vizsgálat után, előlap



P6426 vizsgálat után, hátlap





Bay Zoltán Alkalmazott Kutatási Közhasznú Nonprofit Kft.,
Mérnöki Divízió, Anyagvizsgálati Osztály

MECHANIKAI ANYAGVIZSGÁLÓ LABORATÓRIUM

Miskolc, Iglói út. 2. Tel.: +36-46/560-110
E-mail: mechanika.labor@bayzoltan.hu, Web: www.bayzoltan.hu

Iktatási szám: **BLJ-014/2017**

Oldalszám: **5/7**

Kiadás dátuma: **2017. 03. 01.**

Példányszám: **1**

VIZSGÁLATI JEGYZŐKÖNYV

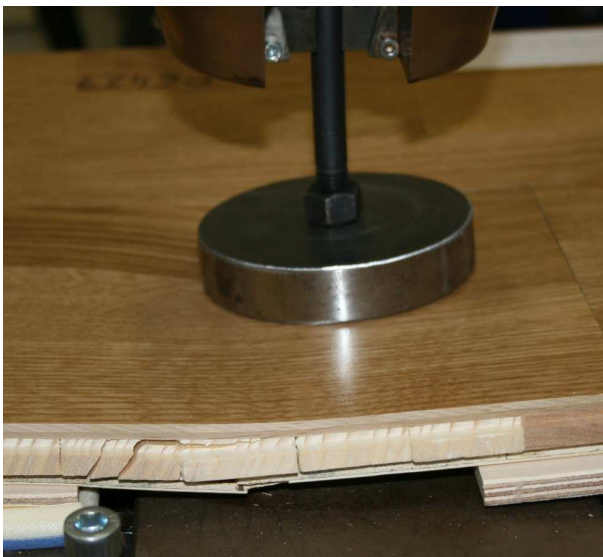
MSZ EN ISO/IEC 17025:2005



P6427 vizsgálat előtt, előlap



P6427 vizsgálat előtt, hátlap



P6427 vizsgálat után, előlap



P6427 vizsgálat után, hátlap





Bay Zoltán Alkalmazott Kutatási Közhasznú Nonprofit Kft.,
Mérnöki Divízió, Anyagvizsgálati Osztály

MECHANIKAI ANYAGVIZSGÁLÓ LABORATÓRIUM

Miskolc, Iglói út. 2. Tel.: +36-46/560-110
E-mail: mechanika.labor@bayzoltan.hu, Web: www.bayzoltan.hu

Iktatási szám: **BLJ-014/2017**

Oldalszám: **6/7**

Kiadás dátuma: **2017. 03. 01.**

Példányszám: **1**

VIZSGÁLATI JEGYZŐKÖNYV

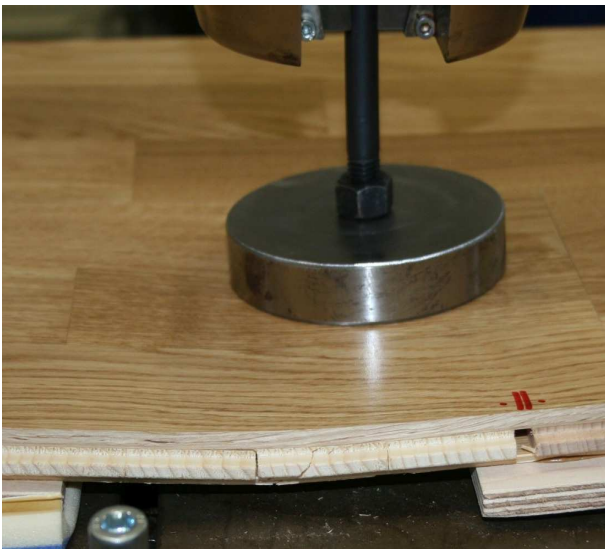
MSZ EN ISO/IEC 17025:2005



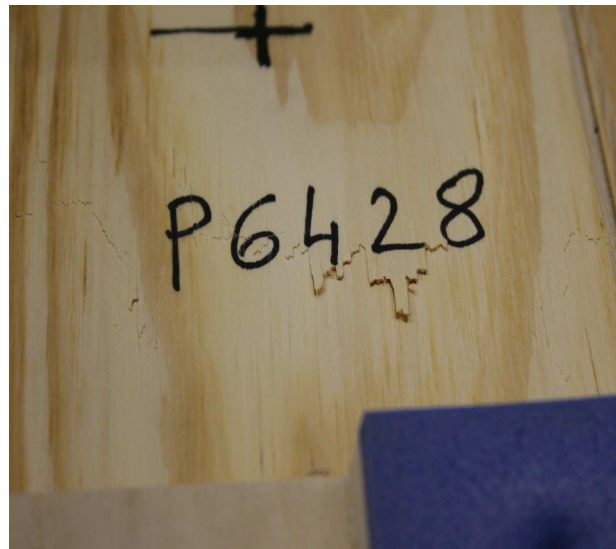
P6428 vizsgálat előtt, előlap



P6428 vizsgálat előtt, hátlap



P6428 vizsgálat után, előlap



P6428 vizsgálat után, hátlap





Bay Zoltán Alkalmazott Kutatási Közhasznú Nonprofit Kft.,
Mérnöki Divízió, Anyagvizsgálati Osztály

MECHANIKAI ANYAGVIZSGÁLÓ LABORATÓRIUM

Miskolc, Iglói út. 2. Tel.: +36-46/560-110
E-mail: mechanika.labor@bayzoltan.hu, Web: www.bayzoltan.hu

Iktatási szám: **BLJ-014/2017**

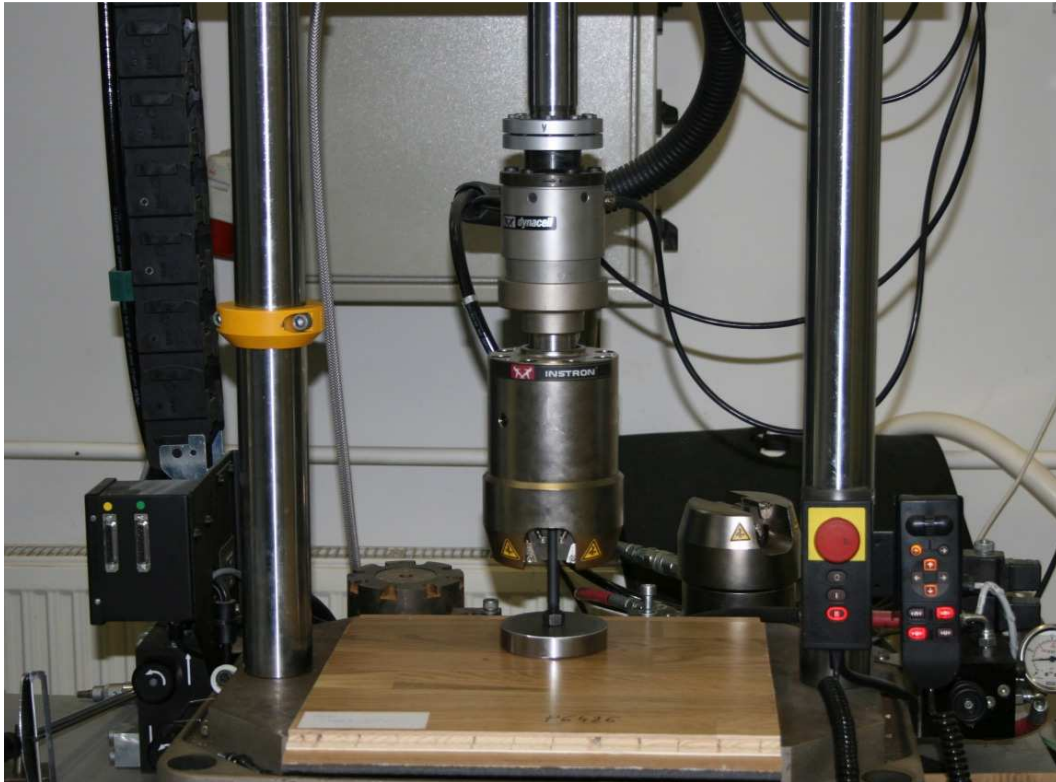
Oldalszám: **7/7**

Kiadás dátuma: **2017. 03. 01.**

Példányszám: **1**

VIZSGÁLATI JEGYZŐKÖNYV

MSZ EN ISO/IEC 17025:2005



Vizsgálati elrendezés

A vizsgálati előírástól való eltérések, kiegészítések: -

A vizsgálati eredmények csak a beküldött mintákra vonatkoznak. A jegyzőkönyvet a vizsgáló laboratórium engedélye nélkül csak teljes terjedelemben szabad másolni.



BLJF-002

.....
Ellenőrizte:
Rózsahegy Péter
laboratórium vezető

.....
Vizsgálatot végezte:
Kálmán Károly
anyagvizsgáló

Godkänn för publicering/komplettera

Grabo Sports Parquets /StrongAir , SpringAir

Version	i	1
Leverantör	i	Graboplast Ltd
BVB ID	i	112664
BSAB-kod	i	
Visa	▼	M - Skikt av beläggings- och beklädnadsvaror i hus
BK04	i	
Visa	▼	031 Golvaror
Kemisk produkt		Nej
Användningsområde		Inomhus

Bedömningsunderlag (avseende kemiskt innehåll och livscykel) (8 st) i

[Visa](#) ▾

Byggvarudeklaration

2018-10-01

2.41 MB

Emissionsrapport/Certifikat

2018-10-01

3.05 MB

Emissionsrapport/Certifikat

2018-10-01

3.08 MB

Övrigt bedömningsunderlag

2018-10-01

521.68 kB

Övrigt bedömningsunderlag

2018-10-01

2.22 MB

Övrigt bedömningsunderlag

2018-10-01

2.25 MB

Certifikat för hållbart skogsbruk

2018-10-01

93.98 kB

Övrigt bedömningsunderlag

2018-10-01

1.42 MB

Innehåll

Förklaring av tabellen i

– Visa information

Komponent/Ämne	Mängd i produkt	CAS	H-angivelse / Listning	Egenklassificering
Crosslinked Lacque layer				
Färg/Lack	0,006%	Övrigt, kemikalier		
Gran	50,12-50,14%	Övrigt, naturmaterial		
Trä	26,8-31,67%	Övrigt, naturmaterial		
Plywood	18,18-23,08%	Övrigt		

Bedömning

Totalt

Innehåll

Leverantörsintyg saknar information om produktbenämning, ort, datum och namnförtydligande och möjliggör ej bedömning mot nivå "Rekommenderas" på innehåll.

– Visa bedömning på innehåll

Leverantörsintyg som verifierar nivå rekommenderas finns, men ytterligare information krävs (se bedömningskommentar)

Produkten innehåller nanomaterial

– Visa bedömning på livscykelkriterier**1. Ingående material och råvaror**

≥50 % förnybara råvaror

Vara av träslag från dokumenterat hållbart skogsbruk

2. Tillverkning av varan

Uppgifter saknas om emissioner under produktion.

Uppgifter saknas om energianvändning.

3. Emballage

Emballaget kan material eller energi-återvinnas, men system för återanvändning saknas.

5. Avfall och rivning

Mindre än 70% av produkten är möjlig att återanvända.

Energiåtervinning är möjlig för ≥70 % av varan.

Varan ger inte upphov till farligt avfall vid användning / byggproduktion.

Uttjänt vara klassas inte som farligt avfall vid rivning / demontering.

6. Innemiljö (Enbart relevant för varor för inomhusbruk).

Uppgifter finns om emissioner. Maximal totalhalt VOC framgår men vilka enskilda ämnen som emitteras framgår inte.

Uppfyller krav för rekommenderas för emissioner till innemiljö.



International Handball Federation

Peter Merian-Strasse 23 – P.O.Box - CH - 4002 Basle - Switzerland

Tel. +41-61-228 90 40 – Fax +41-61-228 90 55 – ihf.office@ihf.info – www.ihf.info

Graboplast Floor Covering Manufacturers Ltd.

9023 Győr, Fehérvári út 16/b

Hungary

Basle, 8 July 2019

STATEMENT OF APPROVAL

VALID

from 1 July 2019 until 30 June 2020

Dear Sirs,

This is to certify that the permanent or portable handball flooring (floor type exclusively: Strong Air Elite and Spring Air Elite) for indoor use, Graboplast Floor Covering Manufacturers Ltd. is officially recognised and approved by the IHF and that Graboplast Floor Covering Manufacturers Ltd., to IHF's reasonable knowledge, is a company capable of manufacturing the above flooring at international level and according to the IHF standards.

Sincerely,

INTERNATIONAL HANDBALL FEDERATION

Dr Hassan Moustafa
President

DIRECTION SANTE CONFORT

Division Physico-Chimie : Sources et Transferts de
Polluants

Test report n° SC-18-098
concerning the SPRINGAIR 18/5,2 sport parquet
Characterization of TVOC emissions

Ce rapport d'essais atteste uniquement des caractéristiques de l'objet soumis aux essais et ne préjuge pas des caractéristiques de produits similaires. Il ne constitue pas une certification de produits au sens des articles L115-27 à L115-33 et R115-1 à R115-3 du code de la consommation.

En cas d'émission du présent rapport par voie électronique et/ou sur support physique électronique, seul le rapport sous forme de support papier signé par le CSTB fait foi en cas de litige. Ce rapport sous forme de support papier est conservé au CSTB pendant une durée minimale de 10 ans.

La reproduction de ce rapport d'essais n'est autorisée que sous sa forme intégrale.

Il comporte 6 pages.

**Applicant /
Manufacturer :**

**GRABOPLAST
Fehervari u. 16/b
H-9023 Györ
HUNGARY**

CENTRE SCIENTIFIQUE ET TECHNIQUE DU BÂTIMENT

24 rue Joseph Fourier – 38400 Saint-Martin-d'Hères

Tél. : +33 (0)4 76 76 25 25 – Siret 775 688 229 00050 – www.cstb.fr

Siège social ▶ 84 avenue Jean Jaurès – Champs-sur-Marne – 77447 Marne-la-Vallée cedex 2

Établissement public à caractère industriel et commercial – RCS Meaux 775 688 229 – TVA FR 70 775 688 229

MARNE-LA-VALLÉE / PARIS / GRENOBLE / NANTES / SOPHIA ANTIPOLIS

OBJECTIVE

The purpose of this test is to characterize TVOC emissions from a sport parquet.

According to CSTB quotation n° 26076499

REFERENCES

- EN ISO 16000-9 : Indoor air – Part 9 : Determination of the emission of volatile organic compounds from building products and furnishing – Emission test chamber method (ISO, 2006).
- EN ISO 16000-11 : Indoor air – Part 11 : Determination of the emission of volatile organic compounds from building products and furnishing – Sampling, storage of samples and preparation of test specimen (ISO, 2006).
- ISO 16000-6 : Indoor air – Part 6 : Determination of volatile organic compounds in indoor and test chamber air by active sampling on Tenax TA sorbent, thermal desorption and gas chromatography using MS or MS-FID (ISO, 2011).

Technicians in charge of testing: Jean-Charles FRANCONY, Priscilla THIRY

Issued at Saint-Martin d'Hères, France,
July 10, 2018

Head of Division



M. François MAUPETIT

1. Description of test samples

This test report is concerning the SPRINGAIR 18/5,2 sport parquet (batch 1st December 2017) from GRABOPLAST LTD.

Tested sample	Laboratory reference	Reception of sample	Start of testing		End of testing
			Test specimen preparation	Introduction in test chamber	
SPRINGAIR 18/5,2	Pol-18-31	29/05/2018	29/05/2018 ; 14:50	29/05/2018 ; 15:10	26/06/2018 ; 15:26

Table 1 : Description of test sample

2. Preparation of the test specimen

For this test, GRABOPLAST provided CSTB with several samples of the SPRINGAIR 18/5,2 sport parquet. CSTB selected one sample for the test (Figure 1) and prepared the test specimen (dimensions: 0.380 m x 0.165 m) covering edges and back using a low emission adhesive. The effective emitting surface is 0.063 m². Just after preparation, the test specimen was placed on a stainless steel stand and introduced in an emission test chamber.

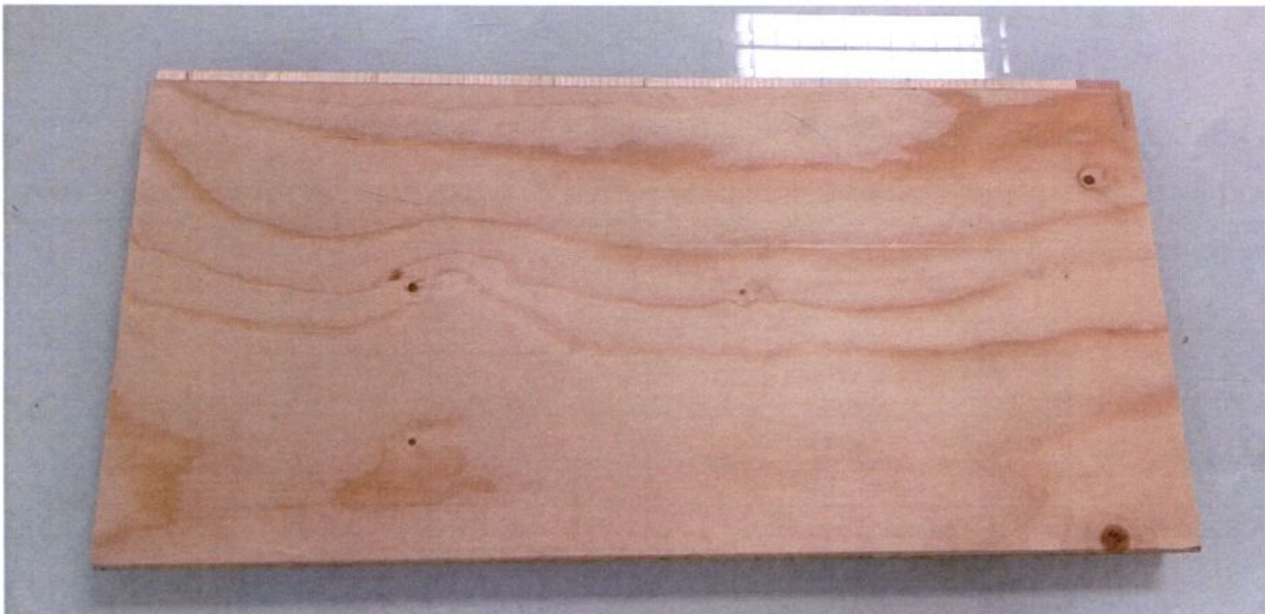


Figure 1 : Test specimen of the SPRINGAIR 18/5,2 sport parquet

3. Emission test chamber conditions

Just after preparation, test specimens were introduced in a glass emission test chamber. Testing parameters are presented in Table 2.

Test parameters	Test chamber conditions
Emission test chamber type	CLIMPAQ (glass)
Emission test chamber volume	0.0509 m ³
Temperature	22.7 ± 0.6 °C
Relative humidity	53.5 ± 0.4 %
Test specimen surface	0.063 m ²
Air flow rate	0.074 m ³ /h
Air exchange rate	1.45 h ⁻¹
Product loading factor	1.23 m ² /m ³
Area specific air flow rate (q _{test})	1.18 m ³ /m ² .h
Test duration	28 days

Table 2 : Testing conditions

4. VOC sampling conditions

VOC active sampling were performed in duplicate by pumping air through Tenax TA sorbent tubes just before beginning of the test (day 0) and 28 ± 2 days (day 28) after introduction of the test specimen in the emission test chamber. Sampling conditions are presented in Table 3.

Sampling conditions	VOC	VOC
Number of sampled tubes	1	1
Sorbent type	Tenax TA	Tenax TA
Sampling duration	60 min.	60 min.
Sampling air flow rate	100 mL/min	75 mL/min
Sampled air volume	6.0 L	4.5 L

Table 3 : Sampling conditions

5. TVOC measurement method

Sampling and measurements of VOC are performed according to ISO 16000-6. Parameters selected for VOC analyses at CSTB are presented in Table 4.

VOC are identified by mass spectrometry (MS) and quantified by flame ionization detector (FID) using their specific response factor when available (specific calibration) or using the toluene response factor (concentrations expressed in toluene equivalent).

The total VOC concentration (TVOC) is calculated as the sum of concentrations of all volatile organic compounds eluting between n-hexane and n-hexadecane (included) quantified using the toluene response factor. The TVOC concentration is expressed in toluene equivalent.

Parameters	Analytical conditions
Thermo desorber	Perkin Elmer ATD 400
Desorption temperature	280 °C
Nitrogen flow rate	50 mL/min
Desorption duration	20 min.
Secondary trap temperature	280 °C
Gas chromatograph / Mass spectrometer	VARIAN GC 3800 / MS Saturn 2000
Temperature cycle	40 °C during 5 min. 2.5 °C / min. up to 170 °C 7.5 °C / min. up to 300 °C 300 °C during 26 min.
Capillary column	DB-5 ms (length : 60 m, internal diameter : 0.25 mm, phase thickness : 1 µm)
FID temperature	270 °C
Mass spectrometer parameters	Trap (MS Saturn 2000) 70 eV 33-450 amu

Table 4 : Analytical conditions for VOC analyses

6. Test results

Test results presented in this report are the arithmetic means of the 2 sampled and analysed samples. Results are corrected from the chamber blank value measured before introduction of the test specimen in the emission test chamber.

Test results are expressed as area specific emission rates (SER_a, in µg/m².h), calculated according to EN ISO 16000-9 as:

$$SER_a = C_{meas} \cdot q_{test}$$

where C_{meas} are the measured concentrations (µg/m³) and q_{test} the area specific air flow rate during testing (Table 2).

SER _a = Area specific emission rates (µg/m ² .h)			
Compounds	CAS nb.	28 days	Calibration
VOC (ISO 16000-6)			
TVOC	-	27,7	toluene equivalent

Table 5 : TVOC area specific emission rates (µg/m².h) from the SPRINGAIR 18/5,2 sport parquet

For the evaluation of TVOC emissions from the tested product, TVOC exposure concentrations in the reference room described in EN 16516 (CEN, 2017) are calculated from area specific emission rates as:

$$C_{exp} = SER_a / q_{scenario}$$

where SER_a are the area specific emission rates (µg/m².h) and q_{scenario} the area specific air flow rate for the "floor" emission scenario in EN 16516 (CEN, 2017): q_{floor scenario} = 1.25 m³/m².h.

C _{exp} = Exposure concentrations (µg/m ³)			
Compounds	CAS nb.	28 days	Calibration
VOC (ISO 16000-6)			
TVOC	-	22,2	toluene equivalent

Table 6 : TVOC exposure concentrations (µg/m³) from the SPRINGAIR 18/5,2 sport parquet

END OF TEST REPORT



GRABOPLAST

Declaration for anti-termites treatment

Temperature inside the wood – where the drywood termites live – must reach 50-60C° for at least 35 minutes to kill the termites according to the professional literature.

A typical heat treatment is more convenient and environmentally-friendly alternative to gas fumigation.

Herewith Graboplast Ltd, as the manufacturer of sports parquet systems declares that the different layers of our products are treated on 65C° for long time, the hardwood top layer for 2 months and the soft wood layer for 17days, so our products have excellent anti-termites treatment.

12.07.2017.

Margit Jandó
Product support manager
Graboplast Ltd

GRABOPLAST | FLOOR COVERING MANUFACTURERS LTD.

Fehérvári St. 16/b, Győr, 9023

Phone: +36 96 506 100, Fax: +36 96 506 196 | E-mail: mail@graboplast.hu

Reg. number: 08-10-001859 | Tax number: 14986042-2-08

VAT number: HU14986042

WWW.GRABOPLAST.COM

Graboplast Floor Covering Manufacturers Ltd.
Dr. Andrea Fazekas-Márton
9023 Győr
Fehérvári út 16/b
HUNGARY

Dresden, 17th February, 2014

gec

Test Report Order No. 2614018

Client: Graboplast Floor Covering Manufacturers Ltd.
9023 Győr, Hungary
Fehérvári út 16/b

Date of Order: 29th January, 2014

Order: Determination of Thermal Resistance of Wooden Parquet
Systems

Contractor: Entwicklungs- und Prüflabor Holztechnologie GmbH (EPH)

Person in Charge: Dipl.-Ing. J. Gecks

A handwritten signature in blue ink, appearing to read 'i.H. Devantier', is written over a faint, larger version of the same signature.

Dr.-Ing. B. Devantier
Head of Laboratory
Material and product testing

The test report contains 3 pages. Every duplication in part requires a permit of EPH. The test results are related only to the tested material.

1 Terms of Reference

The Entwicklungs- und Prüflabor Holztechnologie GmbH (EPH) was ordered by Graboplast Floor Covering Manufacturers Ltd. company to determine the thermal resistance of 2 variants parquet based flooring systems used in sports. The tests are based on EN 12664:2001 (Thermal performance of building materials and products – Determination of thermal resistance by means of guarded hot plate and heat flow meter methods – Dry and moist products of medium and low thermal resistance).

2 Test Material

The test material was sent to the Contractor by the Client and got to the laboratory (EPH) on 31st January, 2014. The following material was delivered:

- Grabo Sport Flooring, SpringAir Elite+:
2 test pieces with a size of 500 mm x 500 mm x 42 mm;
- Grabo Sport Flooring, StrongAir Elite+:
2 test pieces with a size of 500 mm x 500 mm x 46 mm.

Both flooring systems were composed of multi-layer parquet, plywood strips and pads made from foam material.

The test material was conditioned at a temperature of 23 °C and a relative humidity of 50 %.

3 Realisation of the Test

The thermal resistance test was carried out according to EN 12664. The test material was categorised as a material, which is rectangular layered to the heat flow. For determination of the thermal resistance, a two-plate-device "TLP 900-H" was used. The average temperature for the test sample was 10 °C. Because of the composition of the test material, the measurement was carried out with fibreboards with known values of thermal conductivity. The thermal resistance was calculated as a difference of the measured thermal resistance and the thermal resistance of the fibreboards.

There is not requirement for thermal resistance; the single value of thermal resistance is given as result.

4 Test Results

Table 1 contains the measured values of thermal resistance of the flooring systems.

Table 1: Measured values of thermal resistance

Variant	R in m ² K/W
SpringAir Elite+	0.370
StrongAir Elite+	0.444

The results refer to the applied test method. Modifications in the method could result other thermal resistance values. A contingent air flow between the plywood strips and between the foam pads influences the test results.



Dipl.-Ing. Jens Gecks
Person in charge



CERTIFICATE OF APPROVAL

VALID UNTIL 31 DECEMBER 2020

FIBA (Fédération Internationale de Basketball) hereby declares, by means of this certificate, that the basketball equipment, indicated below, fulfils the standards specified in the latest edition of the FIBA Approval Programme for Basketball Equipment and therefore qualifies as

FIBA APPROVED EQUIPMENT

EQUIPMENT CATEGORY: WOODEN FLOORING

CONTRACT NO: M38-2020

COMPANY: GRABOPLAST FLOOR COVERING MANUFACTURERS LTD.

Approval Type	Model Name	FIBA Licence No.	Competition Level
Indoor/ Fixed	StrongAir Elite	WF38-01	1 & 2
Indoor/ Fixed	JumpAir Elite	WF38-02	1 & 2
Indoor/ Fixed	SpringAir Elite	WF38-03	1 & 2

Level 1: FIBA National Team and Club Competitions plus other elite level national and international club and national team competitions,

National club competitions may be subject to additional rules issued by national governing bodies. 'FIBA National Team and Club Competitions' are defined in Book 2 of the FIBA Internal Regulations governing the FIBA Competitions. All equipment at these competitions must be FIBA Approved Level 1 and may display the official FIBA Approved Equipment logo in a FIBA approved layout or make reference to FIBA approval in a FIBA approved form.

Level 2: Any other competition not included in Level 1,

For Level 2, all technical specifications of basketball equipment must be respected, and FIBA Approved Equipment is strongly recommended.

Andreas Zagklis
FIBA Secretary General



January 2020

**Materialprüfungsanstalt
Universität Stuttgart**
P.O. Box 80 11 40
70511 Stuttgart
Germany

MPA **MPA STUTT GART**
Otto-Graf-Institut
Materialprüfungsanstalt Universität Stuttgart



Investigation Report

Client: Graboplast Kft
Fehérvári u. 16/b
H-9023 Györ
Hungary

Order-No. (Client):

Order-No. (MPA): **902 7466 000-2Whr/Ma**

Test Item: **Sportparquet „SpringAir elite +“**

Specification Applied: EN ISO 2813, EN 13036-4, EN ISO 5470-1

Date of Receipt of Test Item 30.10.2013

Date of Test: Beginning 09.01.2013

Date of Report: 14.04.2014

Page 1 of 2 text pages

Enclosures :

Supplements:

Total Number of Pages: 3

Number of Reports: 1

The test results relate only to the items tested.

Publication of this report in full or partly is only allowed with written authorization by MPA University of Stuttgart.

In compliance with DIN EN ISO/IEC 17025 accredited Testing Laboratory recognized by DAkkS Deutsche Akkreditierungsstelle GmbH.
Accreditation valid for testing methods listed in the certificates (Reg. No. D-PL-11016-00).

1 Purpose of investigation

You commissioned us to test the parameters specular gloss, friction and resistance to wear of the sports floor parquet "**SpringAir elite +**" according to EN 13036-4). For the test we took samples of the parquet after the tests in Győr on the area elastic sports floors.

2 Testing procedure

The tests were carried out according to the specific EN standards mentioned in EN 14904 (specular gloss: EN ISO 2813, friction: EN 13036-4 and resistance to wear: EN ISO 5470-1). The procedures applied which are accredited according to DIN EN ISO/IEC 17025:2005 (DAkkS-registration-no. D-PL-11016-01-09) are marked with ■.

3 Test results

The following test results were obtained.

Table 1: Specuar gloss

Testing spot no.	Specular gloss (angle of incidence 85°)
1 (average of 6 measurements alongside)	30,5
2 (average of 6 measurements crosswise)	12,1
Average	21,3

Table 2: Friction[■]

testing spot no.	friction
1 alongside	109
2 crosswise	101
3 alongside	106
4 crosswise	103
Mean	105

Table 3: Resistance to wear

testing spot no.	loss of mass in mg
1	18,7
2	29,9
3	10,6
4	33,1
average	23,1

4 Evaluation

Basis for the evaluation are the requirements of EN 14904.

4.1 Specular gloss

According to EN 14904 the value of lacquered flooring systems shall have a specular gloss ≤ 45 . With an average value of 21,3 this requirement was fulfilled by the tested sports floor parquet "**SpringAir elite +**".

4.3 Friction

The requirements of EN 14904 for friction are: mean (80 – 110), range (+/- 4 units). With a mean value of 105 and a range of - 4 / + 4 units this requirement was fulfilled by the tested sports floor parquet "**SpringAir elite +**".

4.3 Resistance to wear

The requirement of EN 14904 for the resistance to wear is: loss of mass shall be ≤ 80 mg / 1000 cycles. With an average value of 23,1 mg this requirement was fulfilled by the tested sports floor parquet "**SpringAir elite +**".

Prepared by


Britt Manske
Tester



Approved and released by


Dipl.-Ing. Rainer Wellhäußer
Vice Section leader



Report 75407

Classification Report on Burning Behaviour



Applicant

Graboplast Floor Covering Manufacturing Ltd.
Fehérvári street 16/b
9023 Győr
UNGARN

Reference

Mrs. Dr. Andrea Fazekas-Márton

Application

Classification of burning behaviour according to EN 13501-1.

Test Material

"SpringAir Elite+"

Material used in testing was anonymized for laboratory purposes. A detailed sample list is contained in the report.

Issuing and Signatures

Number of pages contained: 6

Original Issue / Vienna 2015-03-11 / MM/KK 5621

Authorised for Institute
Ing. Hannes Vittek



Contents

1	Order.....	2
1.1	Chronology.....	2
2	Introduction	3
3	Details of classified building product.....	3
3.1	General	3
3.2	Description of the building product.....	3
4	Test reports and test results for the proof of the classification.....	4
4.1	Test report	4
4.2	Test results.....	4
5	Classification and field of application	5
5.1	Reference for classification.....	5
5.2	Classification.....	5
5.3	Field of application	5
6	Limitations	5
6.1	Notice	5
7	Remarks.....	6

1 Order

1.1 Chronology

<i>Date</i>	<i>Received</i>	<i>Order</i>
2014-12-22	2014-12-22	Classification of burning behaviour according to EN 13501-1.



2 Introduction

This classification report defines the classification assigned to the building product "**SpringAir Elite+**" in accordance with the test methods fixed in EN 13501-1 accr.).

3 Details of classified building product

3.1 General

The building product "**SpringAir Elite+**" is defined as flooring, the classification is valid for the end use application described under point 5.3.

3.2 Description of the building product

The tested sample is a multi-layered wooden parquet system according to EN 13489 with tongue and groove connection, build up as following:

Wear layer	Oak with flame retardant lacquering, thickness approx. 5.5 mm
Middle layer	spruce strips, thickness approx. 8.5 mm
Counteracting	veneer soft wood, thickness approx. 3.5 mm
Dimensions	2250 mm x 190 mm

	specification by ÖTI	specification by the applicant
Total mass	9980 g/m ²	11000 g/m ²
Total thickness	17.8 mm	18.0 mm

The applicant of this classification report guarantees the observance of the instructions of the product specification according to EN 13489.



4 Test reports and test results for the proof of the classification

4.1 Test report

Laboratory	ÖTI
Test report number	75406
Date of issue	2015-03-11
Applicant	Graboplast Floor Covering Manufacturing Ltd.
Test methods	EN ISO 11925-2 und EN ISO 9239-1

4.2 Test results

	Test results (Mean Value)	Number of tests
Ignitability, EN ISO 11925-2 Flame spread \leq 150 mm	yes	6
Burning behaviour, EN ISO 9239-1 Critical radiant flux	5.4 kW/m²	3
Integral of smoke obscuration	45 %·min	3



5 Classification and field of application

5.1 Reference for classification

This classification has been carried out in accordance with EN 13501-1 accr..

5.2 Classification

Due to the results of the tests carried out, the building product "**SpringAir Elite+**" can be classified as following.

Burning behaviour	Smoke emission
C _{fl}	s1
Classification C _{fl} -s1	

5.3 Field of application

The classification is valid for the building product described in point 3 under the following end use conditions.

Application	Horizontal laid floor covering in form of planks.
Subfloors	Not burnable subfloors of euroclass A1 _{fl} or A2 _{fl} with a density of at least 1350 kg/m ³ .
Installation	unglued and glued/adhered

6 Limitations

6.1 Notice

This classification document does not represent type permission or certifying the product.

If a building product should be CE marked according to system 3 of the attestation of conformity systems, the classification stated with this report is suitable as a basis for the declaration of the producer according to the attestation of conformity system 3, together with a CE marking in the context of the directive relating to construction products.

If the manufacturer plans a CE marking in connection with conformity system 3, he has to give an explanation, which has to be attached to the relevant documents. This explanation confirms, that there are no the specific materials, production processes or procedures (e.g. no additives of flame retarding materials, delimitation of organic components or additions of fillers), which are improving the burning behaviour to reach the obtained fire classification. As a consequence from this, the manufacturer drew the conclusion that the system 3 of the attestation of conformity systems is appropriate.

The testing laboratory therefore has played no role in the sampling procedure, although the testing laboratory keeps appropriate references from the manufacturer ready, in order to pursue the examined samples.



7 Remarks

Validity

There are no regulations concerning duration of validity in the individual test standards. As the results of the examinations refer only to the submitted and examined samples, the report is valid for these for an unlimited period. A period of validity specified as part of an expert evaluation is in the discretion of the consultant or the ÖTI.

The applicability of results and expert evaluations for materials not tested is in the responsibility of the applicant. Whereby an apportionment of results as well as any specified period of validity can only be done for identically constructed products and only as long as the product produced unchanged.

Possible national or international restrictions concerning the terms of usability of test and classification reports have to be considered; this is not the responsibility of the test laboratory.

Sample Material

Results of performed tests only refer to the sample material provided.

Without explicit written other agreement testing is destructive and the sample material is transferred to the property of ÖTI, which is entitled to freely decide on storage and disposal.

Issuance

The valid first issue is done in paper and has single-handed signatures. For reference purposes and filing an unsigned electronic duplicate can be delivered in pdf format. Duplicates and translations will be marked accordingly on the cover sheet.

Quality management, Accreditation and Notification

All tests and services are performed under a quality management system according to EN ISO/IEC 17025 respectively EN ISO/IEC 17065.



The ÖTI is accredited as Testing Laboratory and Certification Body for products. It also is a Notified Body for several directives with the registration number 0534 (see <http://ec.europa.eu/enterprise/newapproach/nando/>). Accreditation as Testing Laboratory was provided by Akkreditierung Austria (bmwfw). The scope of accreditation is listed on www.bmwfw.gv.at/akkreditierung.

In this report test conditions of individual accredited test procedures are marked with *accr.*)

According to the decree on the use of the accreditation mark ("AkkZV") the accreditation mark is only to be used by the accredited Conformity Assessment Body.

Application of the registration number of the Notified Body: As to personal protective equipment (PPE) the requirements of PSA-SV § 10, BGBl. Nr. 596/1994 as amended and article 13 of the Directive 89/686/EEC have to be kept. With construction products the application is only permitted within the declaration of performance for CE-marking.

Copyright und Usage Notes

It is pointed out, that any alterations, amendments or falsifications of reports not authorized by the issuer of the report will be prosecuted as civil and criminal offences; this especially to the appropriate requirements of ABGB, UrhG, UWG and criminal law and their respective international equivalents.

Reports are protected under international copyright laws. Written consent of the ÖTI is required for publications (also in excerpt) and reference to tests for public relation purposes. Reports may only be reproduced in full length.

Test report n° SC-18-098
concerning the SPRINGAIR 18/5,2 sport parquet
Characterization of TVOC emissions

Ce rapport d'essais atteste uniquement des caractéristiques de l'objet soumis aux essais et ne préjuge pas des caractéristiques de produits similaires. Il ne constitue pas une certification de produits au sens des articles L115-27 à L115-33 et R115-1 à R115-3 du code de la consommation.

En cas d'émission du présent rapport par voie électronique et/ou sur support physique électronique, seul le rapport sous forme de support papier signé par le CSTB fait foi en cas de litige. Ce rapport sous forme de support papier est conservé au CSTB pendant une durée minimale de 10 ans.

La reproduction de ce rapport d'essais n'est autorisée que sous sa forme intégrale.

Il comporte 6 pages.

**Applicant /
Manufacturer :**

GRABOPLAST
Fehervari u. 16/b
H-9023 Györ
HUNGARY

OBJECTIVE

The purpose of this test is to characterize TVOC emissions from a sport parquet.

According to CSTB quotation n° 26076499

REFERENCES

- EN ISO 16000-9 : Indoor air – Part 9 : Determination of the emission of volatile organic compounds from building products and furnishing – Emission test chamber method (ISO, 2006).
- EN ISO 16000-11 : Indoor air – Part 11 : Determination of the emission of volatile organic compounds from building products and furnishing – Sampling, storage of samples and preparation of test specimen (ISO, 2006).
- ISO 16000-6 : Indoor air – Part 6 : Determination of volatile organic compounds in indoor and test chamber air by active sampling on Tenax TA sorbent, thermal desorption and gas chromatography using MS or MS-FID (ISO, 2011).

Technicians in charge of testing: Jean-Charles FRANCONY, Priscilla THIRY

Issued at Saint-Martin d'Hères, France,
July 10, 2018

Head of Division



M. François MAUPETIT

1. Description of test samples

This test report is concerning the SPRINGAIR 18/5,2 sport parquet (batch 1st December 2017) from GRABOPLAST LTD.

Tested sample	Laboratory reference	Reception of sample	Start of testing		End of testing
			Test specimen preparation	Introduction in test chamber	
SPRINGAIR 18/5,2	Pol-18-31	29/05/2018	29/05/2018 ; 14:50	29/05/2018 ; 15:10	26/06/2018 ; 15:26

Table 1 : Description of test sample

2. Preparation of the test specimen

For this test, GRABOPLAST provided CSTB with several samples of the SPRINGAIR 18/5,2 sport parquet. CSTB selected one sample for the test (Figure 1) and prepared the test specimen (dimensions: 0.380 m x 0.165 m) covering edges and back using a low emission adhesive. The effective emitting surface is 0.063 m². Just after preparation, the test specimen was placed on a stainless steel stand and introduced in an emission test chamber.

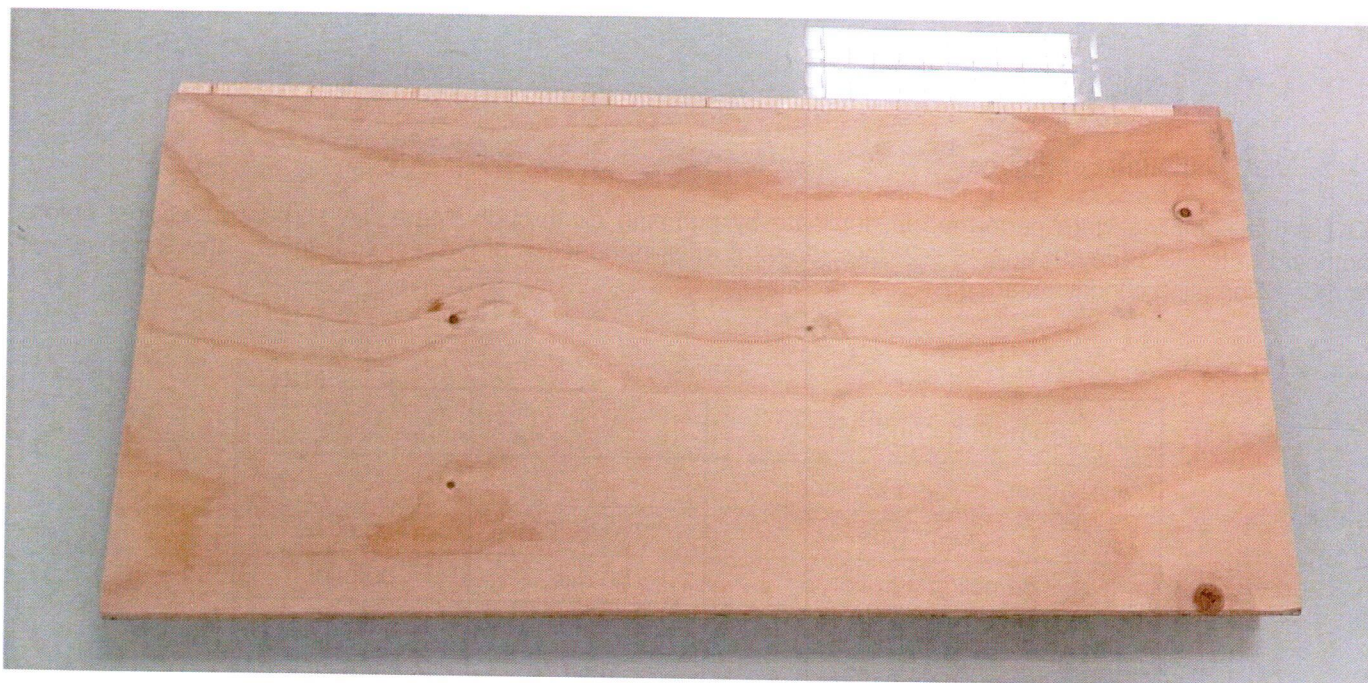


Figure 1 : Test specimen of the SPRINGAIR 18/5,2 sport parquet

3. Emission test chamber conditions

Just after preparation, test specimens were introduced in a glass emission test chamber. Testing parameters are presented in Table 2.

Test parameters	Test chamber conditions
Emission test chamber type	CLIMPAQ (glass)
Emission test chamber volume	0.0509 m ³
Temperature	22.7 ± 0.6 °C
Relative humidity	53.5 ± 0.4 %
Test specimen surface	0.063 m ²
Air flow rate	0.074 m ³ /h
Air exchange rate	1.45 h ⁻¹
Product loading factor	1.23 m ² /m ³
Area specific air flow rate (q _{test})	1.18 m ³ /m ² .h
Test duration	28 days

Table 2 : Testing conditions

4. VOC sampling conditions

VOC active sampling were performed in duplicate by pumping air through Tenax TA sorbent tubes just before beginning of the test (day 0) and 28 ± 2 days (day 28) after introduction of the test specimen in the emission test chamber. Sampling conditions are presented in Table 3.

Sampling conditions	VOC	VOC
Number of sampled tubes	1	1
Sorbent type	Tenax TA	Tenax TA
Sampling duration	60 min.	60 min.
Sampling air flow rate	100 mL/min	75 mL/min
Sampled air volume	6.0 L	4.5 L

Table 3 : Sampling conditions

5. TVOC measurement method

Sampling and measurements of VOC are performed according to ISO 16000-6. Parameters selected for VOC analyses at CSTB are presented in Table 4.

VOC are identified by mass spectrometry (MS) and quantified by flame ionization detector (FID) using their specific response factor when available (specific calibration) or using the toluene response factor (concentrations expressed in toluene equivalent).

The total VOC concentration (TVOC) is calculated as the sum of concentrations of all volatile organic compounds eluting between n-hexane and n-hexadecane (included) quantified using the toluene response factor. The TVOC concentration is expressed in toluene equivalent.

Parameters	Analytical conditions
Thermo desorber	Perkin Elmer ATD 400
Desorption temperature	280 °C
Nitrogen flow rate	50 mL/min
Desorption duration	20 min.
Secondary trap temperature	280 °C
Gas chromatograph / Mass spectrometer	VARIAN GC 3800 / MS Saturn 2000
Temperature cycle	40 °C during 5 min. 2.5 °C / min. up to 170 °C 7.5 °C / min. up to 300 °C 300 °C during 26 min.
Capillary column	DB-5 ms (length : 60 m, internal diameter : 0.25 mm, phase thickness : 1 µm)
FID temperature	270 °C
Mass spectrometer parameters	Trap (MS Saturn 2000) 70 eV 33-450 amu

Table 4 : Analytical conditions for VOC analyses

6. Test results

Test results presented in this report are the arithmetic means of the 2 sampled and analysed samples. Results are corrected from the chamber blank value measured before introduction of the test specimen in the emission test chamber.

Test results are expressed as area specific emission rates ($SERa_a$, in $\mu\text{g}/\text{m}^2\cdot\text{h}$), calculated according to EN ISO 16000-9 as:

$$SERa_a = C_{\text{meas}} \cdot q_{\text{test}}$$

where C_{meas} are the measured concentrations ($\mu\text{g}/\text{m}^3$) and q_{test} the area specific air flow rate during testing (Table 2).

SERa = Area specific emission rates ($\mu\text{g}/\text{m}^2\cdot\text{h}$)			
Compounds	CAS nb.	28 days	Calibration
VOC (ISO 16000-6)			
TVOC	-	27,7	toluene equivalent

Table 5 : TVOC area specific emission rates ($\mu\text{g}/\text{m}^2\cdot\text{h}$) from the SPRINGAIR 18/5,2 sport parquet

For the evaluation of TVOC emissions from the tested product, TVOC exposure concentrations in the reference room described in EN 16516 (CEN, 2017) are calculated from area specific emission rates as:

$$C_{\text{exp}} = SERa_a / q_{\text{scenario}}$$

where $SERa_a$ are the area specific emission rates ($\mu\text{g}/\text{m}^2\cdot\text{h}$) and q_{scenario} the area specific air flow rate for the "floor" emission scenario in EN 16516 (CEN, 2017): $q_{\text{floor scenario}} = 1.25 \text{ m}^3/\text{m}^2\cdot\text{h}$.

Cexp = Exposure concentrations ($\mu\text{g}/\text{m}^3$)			
Compounds	CAS nb.	28 days	Calibration
VOC (ISO 16000-6)			
TVOC	-	22,2	toluene equivalent

Table 6 : TVOC exposure concentrations ($\mu\text{g}/\text{m}^3$) from the SPRINGAIR 18/5,2 sport parquet

END OF TEST REPORT