

WELCOME *to my home*

EDITION 2013



{ 6. Suitable for underfloor heating

All laminate flooring produced by Balterio is suitable for underfloor heating in case the aspects underneath are followed:

Beforehand

- The heating elements of the (warm water) underfloor heating must be embedded in the basic floor.
- the tubes must be min. 3 cm underneath the surface.
- the heating system must be tested according to the directions of the installer before the laminate flooring is laid.
- the moisture content in the concrete floor must not exceed 1.5% (CM method).

{ 6. Suitable for underfloor heating

Installation

- Before you start, switch of the underfloor heating as the floor should not be higher than 18°C before , during and 24 hours after installation of the laminate.
- install the dampscreen, the underlayment and the laminate as described in the installation instructions. In case another type of underlayment is used, check its suitability to use in combination with underfloor heating.
- leave an expansion gap of 8 to 10 mm on all wall sides and around obstacles. For larger surfaces a connecting profile should be used for each ten metres and between every room so there is an expansion gap of 8 to 10 mm.

The heating

- After the installation of the floor wait at least 24 hours before you switch on the underfloor heating again and increase the temperature gradually.
- always change the temperature gradually (max. 5° C/day) - also at the start and the end of the heating period
- the contact temperature must not exceed 28°C; the maximum warm water temperature is 50° C.

{ 6. Suitable for underfloor heating

Values (according to norm ISO 8302 - 1991)

The highest acceptable heat conduction (R) of floor covering is 0.15 K*m²/W.
In case of electrical floor heating, the value of 60 W/m² must not be exceeded

Thickness	Heat conduction R
7mm	0,056 m ² .K/W
8mm	0,054 m ² .K/W
8mm (Confidence)	0,046 m ² .K/W
9mm	0,057 m ² .K/W
ComfortSound PRO (2,6mm)	0,010 m ² .K/W
ComfortSound PLUS (2,5 mm)	0,081 m ² .K/W
ComfortSound BASE (2,2 mm)	0,060 m ² .K/W

{ 7. Suitable for underfloor cooling

What?

Floor cooling is a system that prevents the floor construction from warming up during hot periods and/or even cools it a little so the room temperature stays comfortable indoors.

How does it work?

Floor cooling works the other way around to underfloor heating. The piping system in the floor construction is filled with water with a minimum temperature of 18 °C or higher to always guarantee a minimum temperature difference between the room and the water in the floor cooling system. The floor can then be cooled during warm periods throughout the year. The cooler water gives the floor a cooling effect. The room will feel more comfortable because the floor is cooler than the room temperature. It is important to remember that the temperature of the cooling water in the floor construction does not have to be particularly cold to lower the room temperature by a few degrees; a few degrees lower than room temperature is sufficient.

{ 7. Suitable for underfloor cooling

Which floor cooling systems can be used in combination with Balterio laminate floors?

Only one type of floor cooling is compatible with Balterio laminate floors: floor cooling in which relatively cold water flows through synthetic pipes contained in the floor construction. In most cases floor cooling is combined with a floor heating system.

What must be borne in mind with floor cooling systems or a combination of a floor heating system with floor cooling?

Balterio laminate floors can be laid in combination with any type of Balterio subfloor in spaces with floor heating and/or floor cooling systems. If a Balterio laminate floor is used in combination with a non-Balterio subfloor, you must ensure that **the total (laminate + subfloor) thermal resistance (R) is lower than 0.15m²K/W**. For this consult your subfloor supplier and/or your installer.

{ 7. Suitable for underfloor cooling

R values (according to the ISO 8302 – 1991 standard)

The maximum permitted thermal resistance (R) in the floor covering amounts to 0.15 m²K/W.

Thickness	Thermal resistance R
7mm	0,056 m ² .K/W
8mm	0,054 m ² .K/W
9mm	0,057 m ² .K/W
ComfortSound BASE (2,2 mm)	0,060 m ² .K/W
ComfortSound PLUS (2,5 mm)	0,081 m ² .K/W
ComfortSound PRO (2,6mm)	0,010 m ² .K/W

{ 7. Suitable for underfloor cooling

a. Floor construction:

- the cooling elements (cold water in synthetic pipes) are cast in the floor construction;
- test the floor cooling system according to the instructions of the installer before laying the floor covering;
- the moisture level in the screed/covering floor may nowhere be higher than 1.5 % (according to the CM method).

b. Laying:

- Switch the floor cooling fully off before you start; the floor may not be colder than 18 °C before, during and for the first 24 hours after laying the laminate;
- provide an expansion joint of 8 to 10 mm on all sides of the floor and at other obstacles. For larger surface areas a transition profile must be provided every 10 metres and between different rooms to ensure the same expansion joint.

c. Cooling:

- After laying the floor wait at least 24 hours before (gradually) starting the floor cooling again;
- avoid too great temperature differences, and always switch your cooling higher or lower in stages (max. 5 °C/day); also do this at the start and end of a cooling period, and make sure that there are no large temperature differences between the room and floor.

{ 7. Suitable for underfloor cooling

d. When cooling takes place with a floor cooling system or combined underfloor heating and cooling system special attention must be paid to preventing condensation. A condensation monitoring system must be installed for this. Condensation originates when the temperature falls below the dew point. The dew point is the point at which the air is saturated and can no longer take up the moisture. The dew point depends on the temperature and relative air humidity. The danger of condensation means that too cold water may not be used. The water temperature may only be a few degrees lower than the room temperature, and must be monitored by suitable protection against condensation. Choosing the correct control appliance is very important. A suitable condensation monitoring system works as follows: a high quality control appliance calculates the dew point (100 % moisture level) and switches the installation off before the dew point is reached (for example with 95 % relative air humidity; the ideal relative air humidity for laminate flooring is 55 %). This can be ensured by a system with a control appliance switching the installation off, or by shutting off the main supply of cooled water in the installation. A condensation monitoring system that only starts working with the start of condensation formation is not sufficient..

{ 7. Suitable for underfloor cooling

e. Always read the guarantee conditions when laying laminate on a floor cooling system or a floor heating system that can also cool.

The warranty conditions for Balterio laminate are only applicable when laying on floor cooling or combined underfloor heating and cooling systems that suffice with regard to all the following conditions:

- the cooling elements for the cold water are cast in the floor construction
- the thermal resistance of the Balterio laminate in combination with the subfloor used is lower than $0.15 \text{ m}^2\text{K/W}$
- a high quality control appliance is used that switches the installation off or shuts off the main supply of cooled water in the installation before the dew point is reached
- condensation cannot form at any time

{ 8. Certificates

a. CE-marking

Balterio has made 4 tests to fulfill to need of the CE marking of technical performance under laboratory conditions for:

- Reaction to fire
- Slip resistance
- Emission of formaldehyde
- Heat conduction



Balterio reaches the required norm by far and helps not only to make the world a safer place but cares for the consumers health and environment.

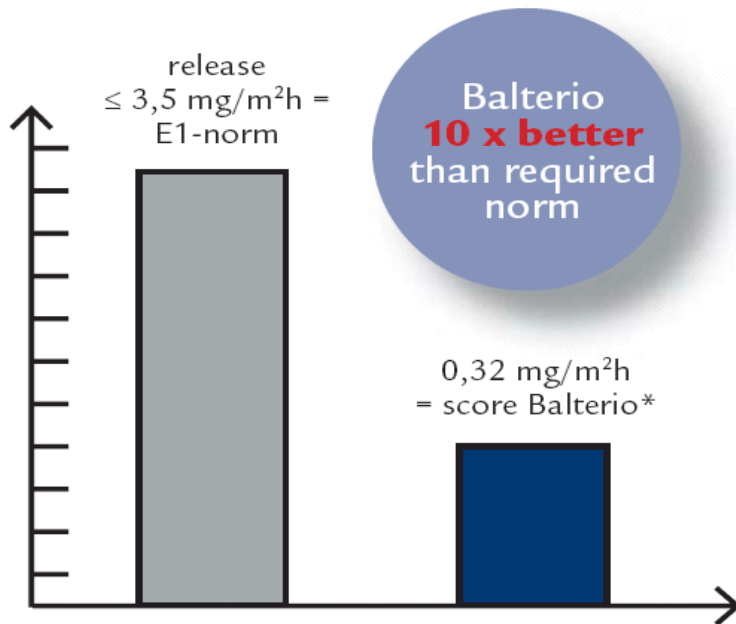


{ 8. Certificates

a. CE-marking

Emission of formaldehyde.

Laminate floor may contain a source of formaldehyde. But the HDF core of Balterio laminate flooring has the same formaldehyde content as natural wood. Balterio guarantees a low emission when the laminate is installed or sawed. The risk for health problems is therefore minimized.



- Tested according to EN 717-2
- Norm requirement: release $\leq 3,5$ mg/m²h → E1 classification

(Products of class E1 can be used without causing an indoor air concentration greater than 0,1 ppm.)

- Depends on thickness and type of HDF

Results: 0,32 → 0,41 mg/m²*h = all E1

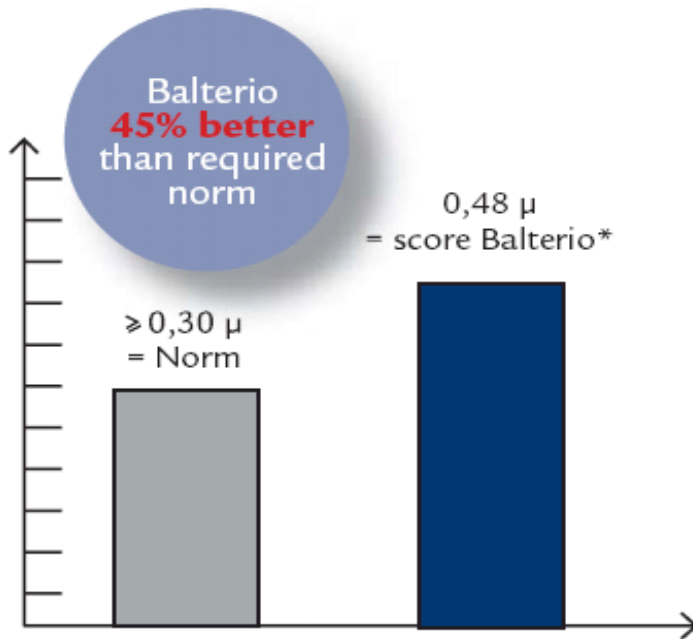
(emission according to standard = E1; more emission = E2; no emission = E0)

{ 8. Certificates

a. CE-marking

Slip resistance.

A good result means we deliver a safe product for your customer. However following the maintenance instructions assures you the best results in keeping up the score of slip resistance.



- Tested according to EN13893 – 2002
- Norm requirement: $\geq 0,30 \mu$ in dry & non-contaminated conditions (→ no guarantee in wet conditions!!)
- Depends on surface structure

Results: 0,36 → 0,48 μ

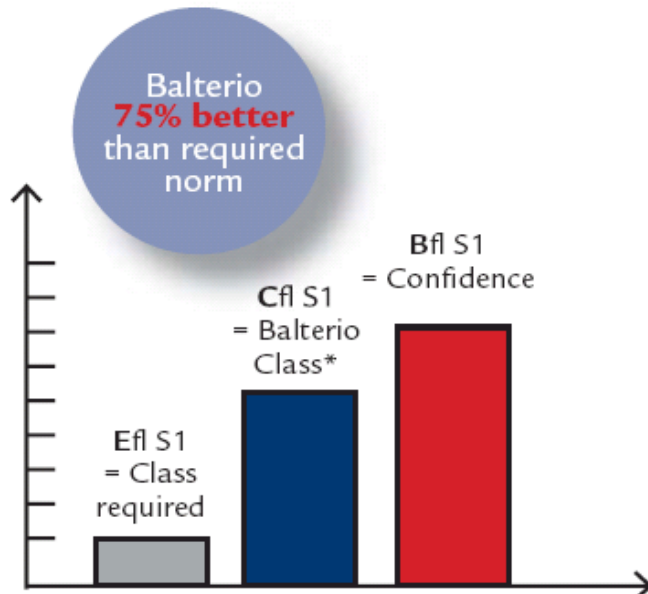
{ 8. Certificates

a. CE-marking

Reaction to fire.

When a fire breaks out, every second counts...

With Balterio laminate flooring we can assess the extent and propagation of the fire. Our laminate flooring gives you precious extra evacuation time in case of fire. If you are looking for fire-retardant laminate, choose Confidence. Confidence is the world's first fire-retardant laminate flooring of Balterio and is certified fire-retardant worldwide.



- Tested according to EN 13501-1 (2002)

Class required: EflS1

Xfl = Heat flux (Ffl = worst; Afl = best)

Sx = Smoke production (S2 = worst; S1 = best)

- Depends on thickness, type of HDF and finishing

Results: BflS1 (Confidence, Tradition, Tradition Quattro)

CflS1 (other products)

To check the influence of the change in characteristics (thickness, finishing, ...), orientating tests were conducted on some products. Results of these prove to be in agreement with the results of the products tested entirely.

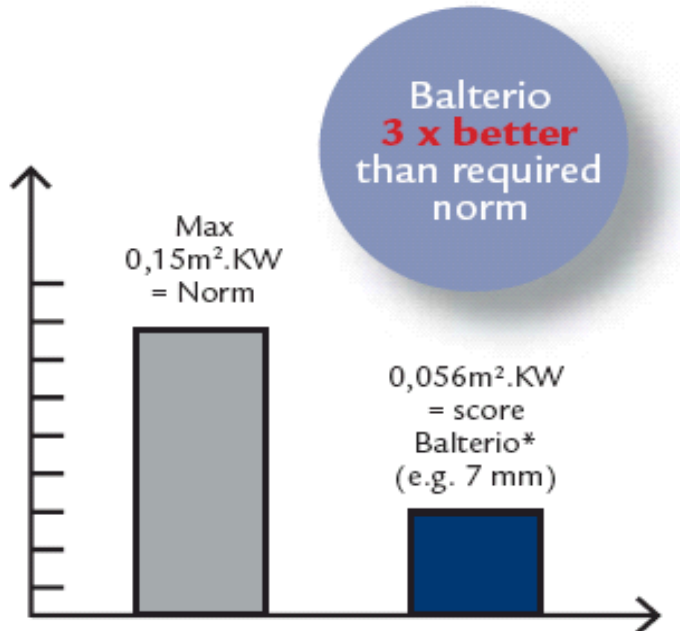


8. Certificates

a. CE-marking

Heat conduction.

Balterio enhances an environmental friendly use of energy. Balterio laminate floors can be used without difficulty in combination with water floor heating on condition that the warm water tubes are min. 3cm underneath the surface and the contact temperature of the floor doesn't exceed 28°C.



- Tested according to ISO 8302 – 1991
- Norm requirement: max. 0,15 m².K/W (laminate + underlay)
- Depends on thickness of plank

Results laminate: 0,046 → 0,057 m².K/W

Underlays: 0,036 → 0,056 m².K/W

(K = Kelvin; W = Watt)



8. Certificates

a. CE-marking

EC DECLARATION OF CONFORMITY

Spanolux nv – Division Balterio, Wakkensteenweg 37B, B-8710 Sint-Baafs-Vijve, Belgium, with manufacturing plant in ZI de Burtonville, B-6690 Vielsalm, Belgium, declares hereby that the laminate flooring product:

is in conformity with the requirements of:

- EU Construction Products Directive CPD 89/106, in accordance with CEN/TC134/EN 14041 "Resilient, textile and laminate floor coverings – Essential characteristics"
- CEN/TC134/EN 13329 "Standard on laminate floor coverings – Specifications, requirements & test methods"

Compliance with EN 14041 can be specified as:

Requirement	Standard	Classification	Notified Body
Reaction to fire	EN13501-1 (2002)	C _{fl} S ₁	TCHN-CTIB – Brussels
Formaldehyde	EN717-2	E1	
Slip resistance	EN13893 – 2002	DS	
Thermal conductivity	ISO 8302 – 1991	R = 0,056 m ² .K/W	

CE



EC DECLARATION OF CONFORMITY

Spanolux nv – Division Balterio, Wakkensteenweg 37B, B-8710 Sint-Baafs-Vijve, Belgium, with manufacturing plant in ZI de Burtonville, B-6690 Vielsalm, Belgium, declares hereby that the laminate flooring product:

Ambascador ACS/31

is in conformity with the requirements of:

- EU Construction Products Directive CPD 89/106, in accordance with CEN/TC134/EN 14041 "Resilient, textile and laminate floor coverings – Essential characteristics"
- CEN/TC134/EN 13329 "Standard on laminate floor coverings – Specifications, requirements & test methods"

Compliance with EN 14041 can be specified as:

Requirement	Standard	Classification	Notified Body
Reaction to fire	EN13501-1 (2002)	C _{fl} S ₁	TCHN-CTIB – Brussels
Formaldehyde	EN717-2	E1	
Slip resistance	EN13893 – 2002	DS	
Thermal conductivity	ISO 8302 – 1991	R = 0,056 m ² .K/W	

Sint-Baafs-Vijve, 17/7/2006

Bruno Vermeulen
Product & Development Director

Wakkensteenweg 37 B • B-8710 Sint-Baafs-Vijve
 Tel: +32 (0)66 62 80 81 • Fax: +32 (0)66 62 80 82
 E: info@balterio.com
 BE 406 573 466 • ING 393 094796 60
 KBC 479-2000010-06 • FORTIS 993 0046656 10



{ 8. Certificates

b. PEFC

Since 2008, we are proud carriers of the PEFC label. With this label we support the **Programme for the Endorsement of Forest Certification Schemes**. What do we hope to effectively achieve with this?

- Preservation and where possible improvement of our forests.
- Protection of the health and vitality of our forests' ecosystems.
- Preservation and promotion of our forests' productive functions
- Protection of the biological diversity of our ecosystems.
- Preservation and improvement of the protective role played by our forests for our water supply and our soil.
- Preservation of other social-economic benefits.



For more information visit www.balteriosustainability.com.

{ 8. Certificates

c. ISO

Our production facility has been ISO 14001 certified since 2005 and is OHSAS 18001 accredited for safety. In 2009 Balterio obtained the ISO 9001 certification.



{ 8. Certificates

d. Volatile Organic Compounds

The French "Etiquetage Sanitaire" is a quality label (law DEVL1104875A) and indicates the emission of Volatile Organic Compounds (VOC's) for building materials, floor and wall coverings as well as paints.

The following substances are measured :

1. Formaldehyde (CAS number: 50-00-0)
2. Acetaldehyde (CAS number: 75-07-0)
3. Toluene (CAS: 108-88-3)
4. Tetrachloroethylene (CAS: 127-18-4)
5. Xylene (CAS: 1330-20-7)
6. 1,2,4-Trimethylbenzene (CAS number: 95-63-6)
7. 1,4-Dichlorobenzene (CAS Number: 106-46-7)
8. Ethylbenzene (CAS Number: 100-41-4)
9. 2-Butoxyethanol (CAS Number: 111-76-2)
10. Styrene (CAS Number: 100-42-5)
11. Total volatile organic compounds (TVOC)



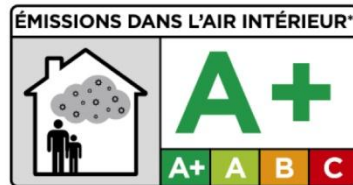
*Information sur le niveau d'émission de substances volatiles dans l'air intérieur, présentant un risque de toxicité par inhalation, sur une échelle de classe allant de A+ (très faibles émissions) à C (fortes émissions)

{ 8. Certificates

d. Volatile Organic Compounds

The results of the VOC emissions are globalised and expressed in a 4-class scale from A+ to C indicating: A+ = very low emissions, C = high level of emissions .

Balterio has successfully passed the test and has obtained an A+ score! All Balterio laminate flooring products will be labeled on the boxes in future with the following label:



*Information sur le niveau d'émission de substances volatiles dans l'air intérieur, présentant un risque de toxicité par inhalation, sur une échelle de classe allant de A+ (très faibles émissions) à C (fortes émissions)

{ 8. Certificates

e. Blaue Engel



The Blue Angel is the first and most well-known eco-label worldwide. Since 1978 it has set the standard for eco-friendly products and services selected by an independent jury in line with defined criteria. The Blue Angel is awarded to companies as kind of a reward for their commitment to environmental protection.

The Blue Angel is an ecological beacon showing the consumer the way to the ecologically superior product and promotes environmentally conscious consumption.

The Blue Angel stands for product control, transparency of product selection and safe purchasing.

Balterio is the first Belgian laminate producer that has achieved the Blue Angel certificate. Balterio shows again its commitment to build a future in which sustainability and ecology are central.

{ 9. EPLF

Balterio is a member of the EPLF (European Producers of Laminate Flooring) and respects the high standards and norms demanded.

Balterio respects the segments of the EPLF for category of use according to EN685 and EN13329.



{ 9. EPLF - classification

This box denotes your area of application. Viz. Residential or commercial use



This figure denotes punishment classes acc. To "Euro-Norm 685".



Residential area – moderate: e.g. hallway, living room, home office



Commercial area – moderate: e.g. hotel rooms, small office



Commercial area – general: e.g. office, boutique, café



Commercial area – heavy: e.g. open-plan offices, public buildings, department stores

 balterio

Style. Quality. Simplicity.



WELCOME
to my home