

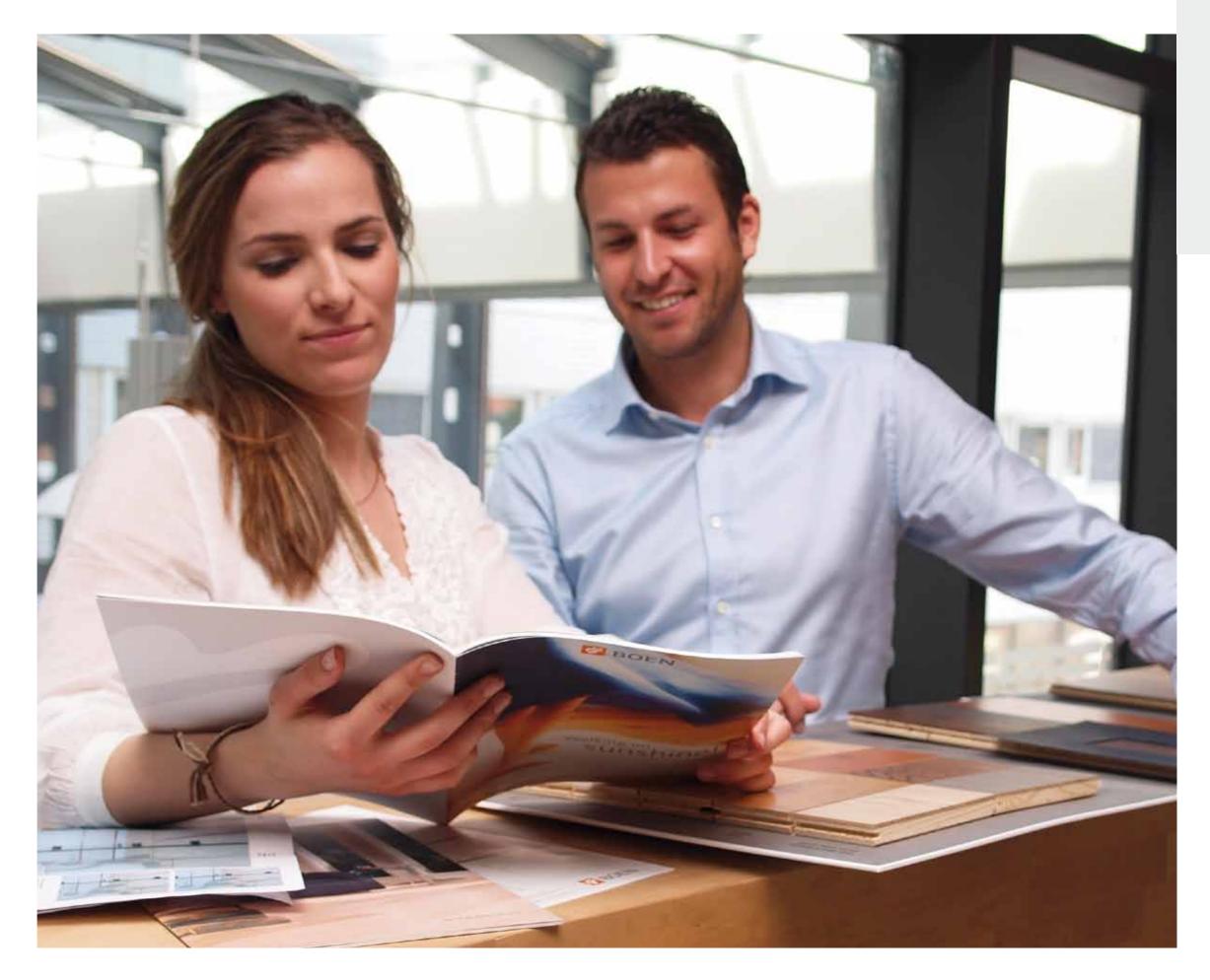
FROM CONCEPTS TO CONSTRUCTION

## The Crucial Choice of Flooring

The building industry is very demanding when it comes to flooring, as well it should. To meet the functional and aesthetic needs of the market, BOEN is constantly improving its manufacturing techniques and methods, always listening to its customers and always giving them the best possible service.

We trace our origins as manufacturers of wood and timber products as far back as 1641. The first shipment of solid wood flooring left BOEN in 1953, and in 1966 we began our internationally recognized collections of multi-layered hardwood floors. As the many examples in the brochure show, our product range has evolved steadily to include flooring for homes, offices, shops, public buildings and sports centres.

It should be taken for granted that BOEN always produces enduring and eye-catching floors, as well as complying with the strictest international safety and environmental standards. It is with great pride that we let the following pages present glimpses of some very exciting interiors from around the world, interiors in which our floorings have been found to be the most sensible choice.



### **CARING FOR NATURE AND THE ENVIRONMENT**

### THE NATURAL CHOICE

BOEN parquet is a natural product. Concern for natural resources and the environment are important to us. We are in constant dialogue with environmental protection authorities and organizations and have invested considerably in technologies that allow us to utilize more of the wood. We buy wood only from sustainable forests: as much as 95% of it comes from European suppliers who have extensive reforestation programmes.



### FOREST STEWARDSHIP COUNCIL – FSC

The majority of the raw materials processed at BOEN come from sustainable forests. The BOEN factories produce in accordance with the FSC<sup>™</sup> standards. The Forest Stewardship Council is a well known certification scheme. BOEN license numbers: BOEN Norway FSC<sup>™</sup> 051117, BOEN Germany FSCT C101713, BOENLithuania FSC<sup>®</sup> CO21510, BOEN UK FSC<sup>®</sup> C047288, BOEN US FSC<sup>®</sup> C095158. The mark of responsible forestry, www.fsc.org.



### **ENVIRONMENTAL LABEL – THE BLUE ANGEL**

BOEN has been awarded The Blue Angel – an internationally recognized environmental label awarded by the Department of the Environment in Germany. Products with the Blue Angel seal of approval contain very small amounts of Angel label, the product is examined at every stage from tree harvesting and

For more information see www.blauer-engel.de



### **REAL WOOD**

### - LET NATURE INTO YOUR OWN HOME

The environmental advantages of choosing genuine wood are indisputable. The manufacture, processing and storing of wood requires considerably less energy than other materials. Forests that are harvested for parquet manufacturing are continually replanted: more trees are planted than are cut down. In addition, wood replaces carbon-based alternatives and reduces greenhouse gas emissions. The Real Wood logo is used exclusively by authorized manufacturers in The European Federation of Parquet Industry (FEP). For more information see www.realwood.eu

www.greenguide.com

### **GREEN GUIDE**

BOEN guarantees that its floors are produced in factories that are A-listed in For more information see www.greenguide.com

### ALL BOEN PRODUCTS EMIT LESS THAN 0.75 PPM FORMALDEHYDE - WELL BELOW INTERNATIONAL MANDATORY LIMITS

# REFERENCES

BOEN HAS DELIVERED FLOORS TO INUMERAL HOMES, HOTELS, PUBLIC BUILDINGS, SHOPS, SPORTS CENTERS AND OTHER SMALL AND LARGE BUILDING PROJECTS AROUND THE WORLD.

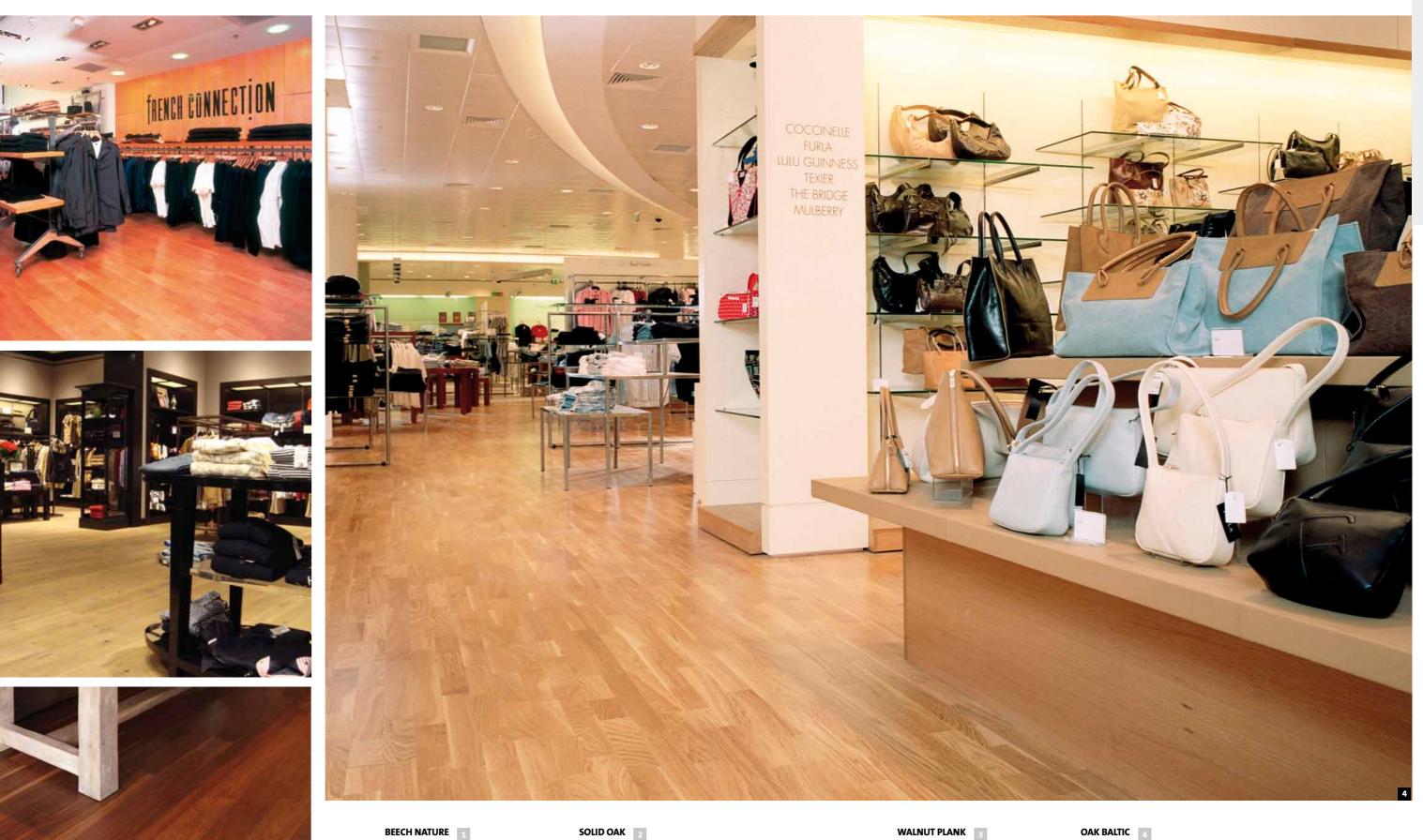
ON THE NEXT PAGES WE WILL SHOW YOU A SMALL SELECTION - TO INSPIRE AND PLEASE.

OAK ANTIQUE Ofenbauer AUSTRIA

Visit the virtual showroom for a presentation of our floors in different settings

www.boen.com

BOEN OFFERS A RANGE OF OILED FLOORS. AN OILED FLOOR IS ABSORBED INTO THE WOOD AND PROTECTS DEEP DOWN.



BEECH NATURE French Connection Store OXFORD, UNITED KINGDOM SOLID OAK Tommy Hilfigher Shops MACAU, HONG KONG

2

1

OAK BALTIC Fenwick Store UNITED KINGDOM

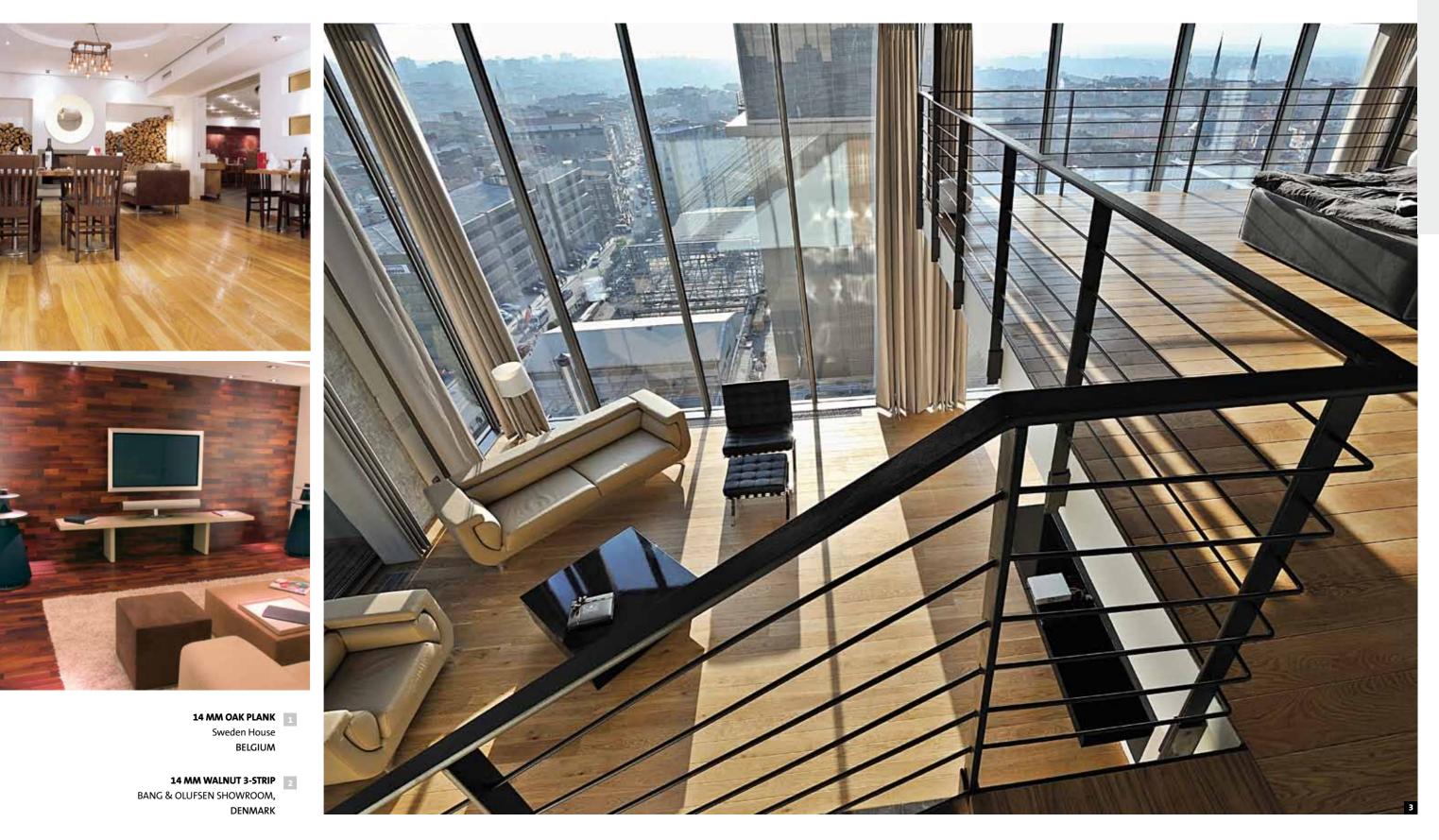
Gant Shops

WORLD WIDE

Shops

### OFFICE AND BUILDINGS

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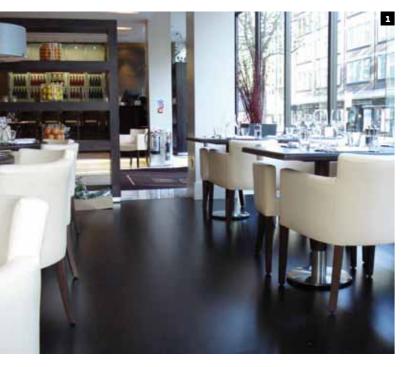


14 MM OAK PLANK WITH BEVEL 3 ISTANBUL

BOEN OFFERS A RANGE OF OILED FLOORS. AN OILED FLOOR IS ABSORBED INTO THE WOOD AND PROTECTS DEEP DOWN.

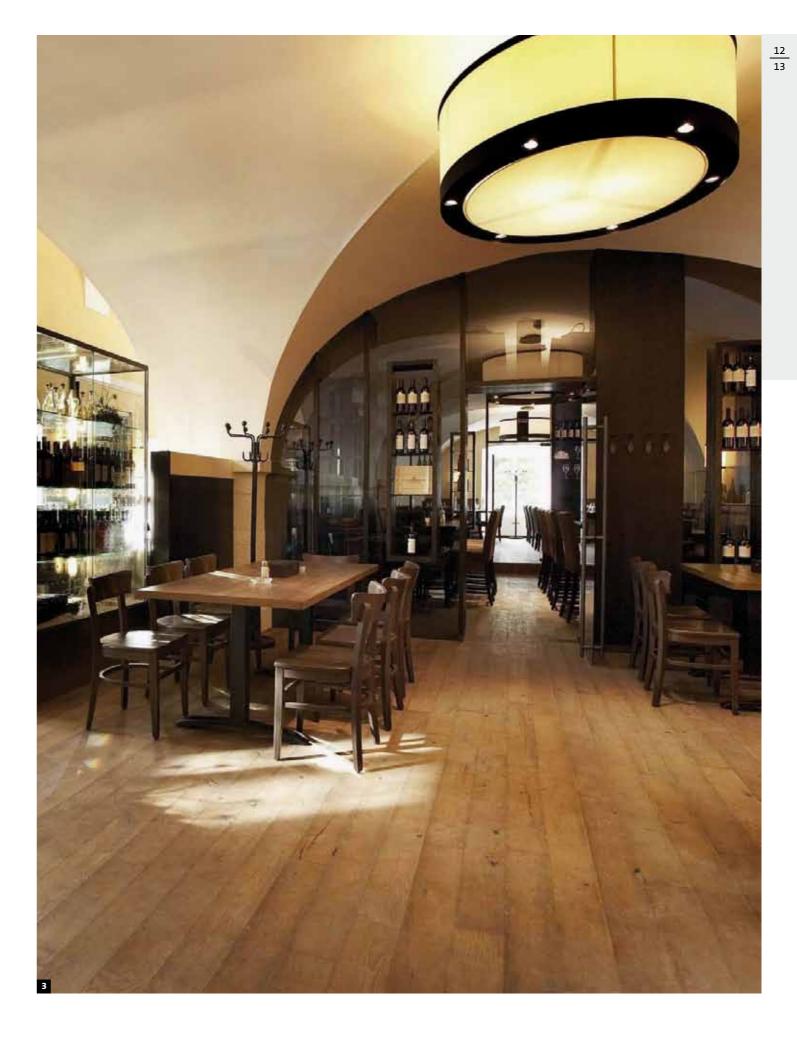
Shops

ANTIQUE LOOK IS ONE OF MANY BOEN SPECIAL MADE SURFACE TREATMENTS. THE ANTIQUE LOOK IS A MIX OF A SPECIAL AGING PROCESS, SANDING AND DISTRESSING COVERED WITH A COLOURED OIL.



- WENGE PLANK Restaurant Baker Street LONDON, UNITED KINGDOM
  - JATOBA SHIPS DECK 2 Casino Locarno SWITZERLAND
  - OAK ANTIQUE 3 Restaurant Schüttkasten AUSTRIA





Restaurants

### HOTELS & SPA'S

OAK 1 Kirchgemeindezentrum SPYCHER, SWITZERLAND ArchitecPHONE: Hubert Bischoff in Walzenhausen

> OAK ANTIQUE 2 Ofenbauer AUSTRIA







OAK PRESTIGE City inn Hotel MANCHESTER, UNITED KINGDOM

Hotels & Spa's

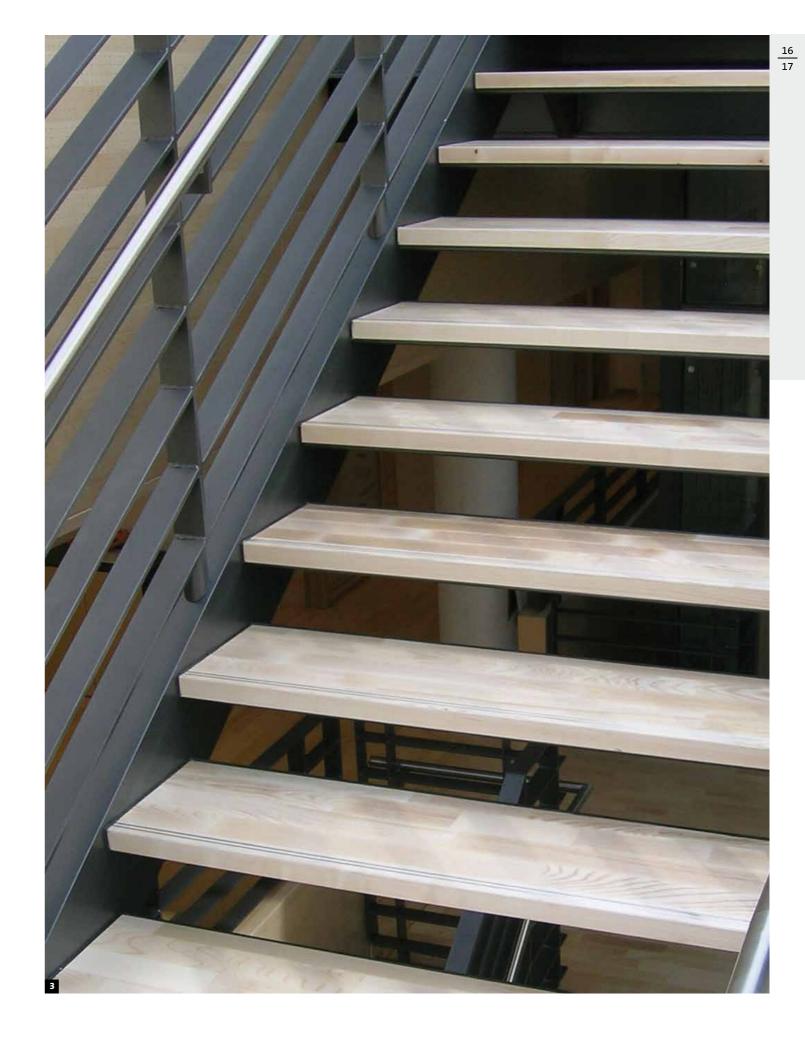
### OFFICES AND PUBLIC BUILDINGS

WHITE PIGMENTATION IS USED TO TONE DOWN THE COLOUR IN THE WOOD AND CREATE A MODERN LOOK.





- ASH PLANK 1 Birkerød Sognegård DENMARK Architect: Ole Gullits
- ASH 2 HK Copenhagen 3 COPENHAGEN, DENMARK Architect: NOBEL Arkitekter



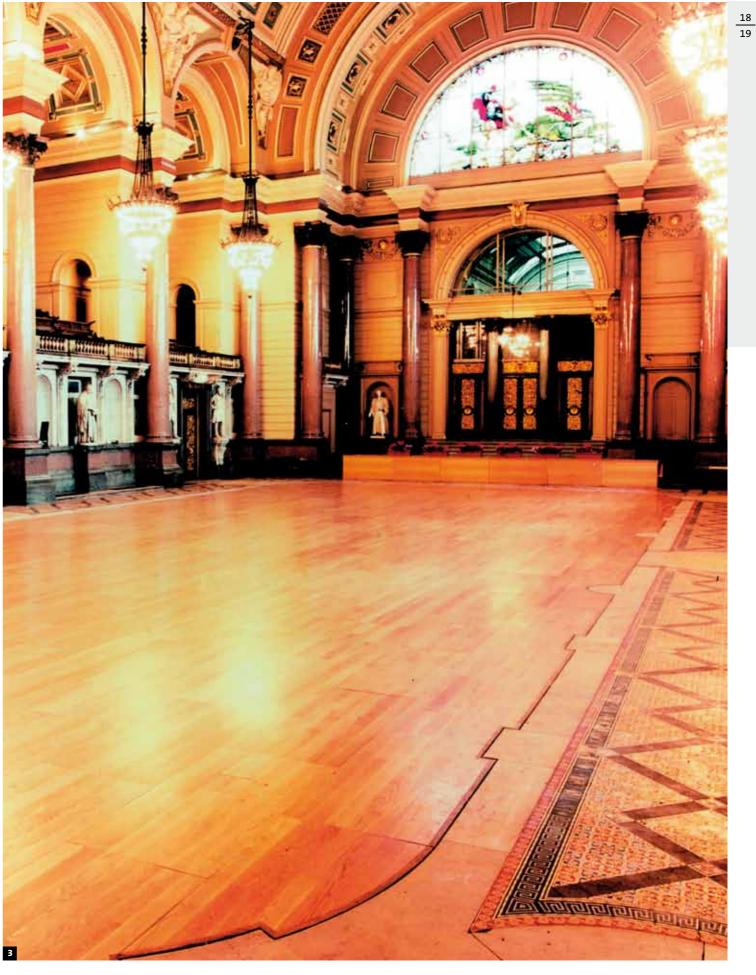
Offices and public buildings

CULTURE



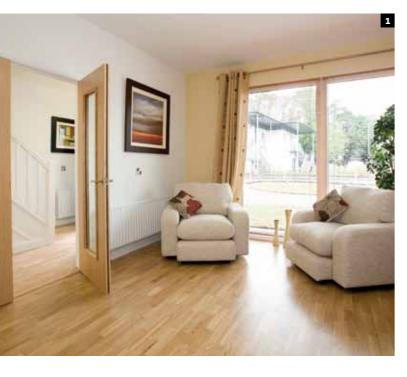
- MAPLE CANADIAN 1 Jockey Club Primary School ENGLAND
- MAPLE CANADIAN PLANK 2 Zürich University, Law Faculty SWITZERLAND Architect: Santiago Calatrava, Switzerland
  - BEECH 3 St. Georges Hall LIVERPOOL, UNITED KINGDOM





Culture





- OAK 1 Project Woodbrook IRELAND
- OAK SHIPSPLANK Inspirasjonshuset ARENDAL, NORWAY
- WALNUT PRESTIGE Private Home CHINA





Residence

### RESIDENCE



- OAK CHALET TRADITIONAL Private Home NORWAY
- ASH WHITE PIGMENTED Private Home DENMARK





SOLID OAK ANTIQUE Castle Stettenfield GERMANY

Residence



- SINGLEFLEX 1 Spenst LARVIK, NORWAY
- ARENAFLEX MAPLE CANADIAN Middleton Arena Middleton Arena MANCHESTER, UNITED KINGDOM Architect: BDP Architects





BOFLEX OAK 3 Flekkerøyhallen KRISTIANSAND, NORWAY THE PATENTED BOFLEX SYSTEM HAS BUILT IN SHOCK ABSORBING MATERIAL AND THE CONSTRUCTION CAN WITHSTAND AN ALMOST UNLIMITED LOAD. BOFLEX CAN BE INSTALLED DIRECTLY ABOVE THE EXISTING FLOOR OR SUB-FLOOR.

Sport



- BOFLEX MAPLE CANADIAN 1 Haderslev Idrætscenter HADERSLEV, DENMARK
- BOFLEX MAPLE CANADIAN Oxford University OXFORD, UNITED KINGDOM
- BOFLEX CHAMPION W/TENNIS SURFACE 3 Wimbledon UNITED KINGDOM



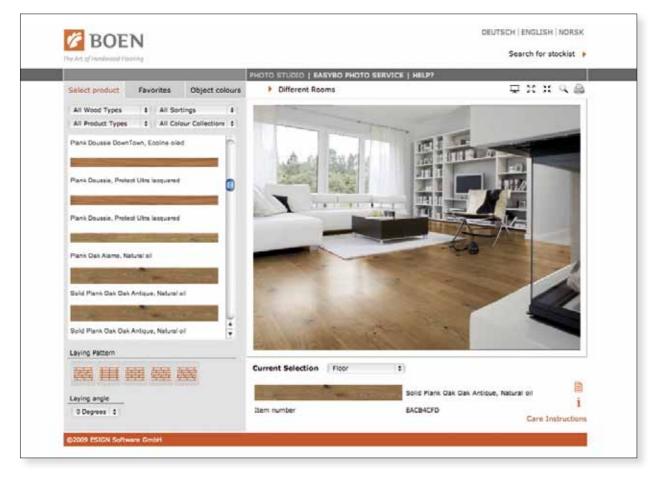
# **FROM CONCEPTS TO DESIGN TO CONSTRUCTION** A technical checklist for professional customers

It is helpful for all concerned when all aspects of the flooring in a building project are considered before starting the project. BOEN recommends a pre-construction investigation and, if the project in question is large, even laying a test floor.

### POINTS TO BE TAKEN INTO ACCOUNT:

- Choosing the species of wood and colour of the floor
- Choosing the installation method: floating, glued or nailed?
- Quality assurance, procedures, conditions at the work site and the time of year
- Moisture requirements; responsibility for the various parts of the building
- Constructing the concrete foundations and timber joists
- Delivery and logistics at the building site
- Potential problems

### **BOEN FLOOR STUDIO** See our floors presented in different settings



Visit our virtual showroom and see our floors presented in various environments - www.boen.com

### **BOEN ALLOWS SPACE FOR INDIVIDUAL TASTE** Choose between lacquered, matt lacquered

Choose between lacquered, and oiled surfaces

### PROTECT ULTRA

Protect Ultra is a very hard-wearing and extremely scratch resistant lacquer, available in a silk matt finish. It is cured by UV light and does not emit any dangerous chemicals or gasses. We offer a comprehensive maintenance system with parquet refresher or parquet polish and cleaners.

### MATT LACQUER

The effect of matt lacquer resembles an oiled floor. Matt lacquer provides the same hard-wearing surface as Protect Ultra, but with less shine. Bona Polish Matt should be used to maintain this finish.

### ECOLINE

Ecoline is an oil that is cured by UV light. It contains sunflower oil, soya oil, carnauba wax and bees wax. The surface does not emit any dangerous chemicals or gasses. BOEN Floor Soap and Oil Freshen Up should be used for cleaning and maintaining.

### NATURAL OIL

Natural oil is an oxidising oil which is cured with the help of the oxygen in the air. It is absorbed deep into the wood and offers greater protection. Use Osmo Oil or an equivalent product to maintain this finish.

### WHITE PIGMENT

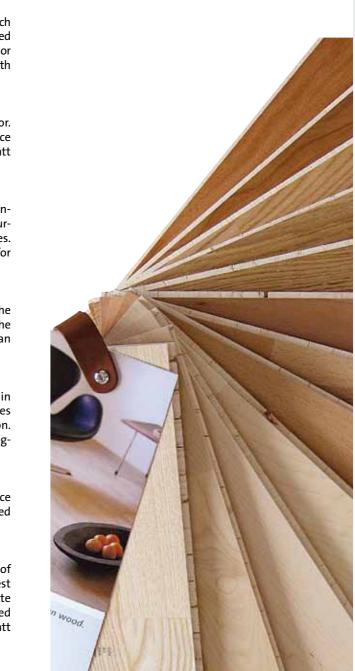
White pigmentation is used to tone down the colour in the wood and create a modern look. BOEN normally uses matt lacquer in combination with white pigmentation. Bona Polish Matt should be used to maintain white pigmented matt lacquer surfaces.

### BRUSHING

Brushing is used in conjunction with staining to enhance the structure of the wood. The surface can be lacquered or oiled.

### STAINING

BOEN has developed coloured stains to suit a range of interior designs. There is increased consumer interest in dark, warm colours and these products can replicate colours found in varieties of tropical wood. Stained products are usually lacquered with silk matt or matt lacquer.



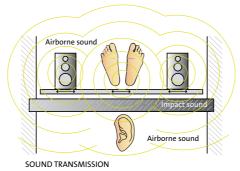
### **METHODS OF INSTALLATION** Glued, nailed or floating?

Parquet can be installed on most types of flooring - from mature wood to new concrete. Problems such as uneven sub-flooring, moisture, dry air and soundproofing can be resolved with the help of technical expertise from BOEN's sales and service team. BOEN delivers parquet that is suitable for gluing down or nailing, or in the form of self-supporting parquet laid on joists or as floating parquet for use with or without the Clic system.

We recommend that the floor be glued down to the sub-flooring in public buildings, hotels, airports, offices and similar, where there is heavy traffic. In private homes, the floating method is the general method of installation, but nailing and gluing to the sub-floor is also a good alternative.

#### SOUND PROOFING

A floating floor should be considered if it is necessary to reduce sound to the lower floors. BOEN also has a type of acoustic matting for sound proofing in, for example, apartment buildings. If clearer sound with low reverberation is required in the room, gluing the parquet to the sub-floor is the best solution.

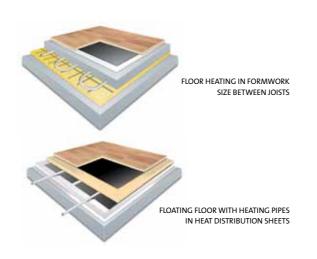


**FLOOR HEATING** 

A glued floor allows more heat transference than does a floating floor. Floor heating must be thermostatically controlled and installed so that it provides an even heat load over the whole surface. Beech and Maple parquet are sensitive to heat and should not be used with floor heating. We would also recommend not using solid wood with heated flooring.

TIP:

Carpets with a reverse side of rubber or other dense material should not be used on parquet with floor heating. The heat becomes isolated under the carpet and can damage the floor.



FLOATING INSTALLATION WITH ADHESIVE IN THE GROOVE (15 mm, 21 mm Strongline)

FLOATING INSTALLATION WITH-OUT ADHESIVE (14 mm Boen Clic)

#### Advantages:

- Ouick and easy to install
- Easier to insulate against sound transmission by impact
- Can be installed on most types of self-supporting sub-floor
- · Easier to insulate against damp from the sub-floor

#### Disadvantages:

- The limited size of the area that can be installed before the floor has to be divided up
- The floor must be able to move, so walls should not be mounted on the floor
- The floor must be divided between rooms •
- The sub-flooring must be completely level and even •
- High room resonance, especially in connection with effective insulation against the sound of footsteps

#### NAILING OR SCREWING TO JOISTS AND BATTENS (23 mm, 21 mm Strongline, 20 mm Solid Wood)

- Advantages of nailing/screwing to joists/battens:
- Saves on sub-flooring
- Can be installed continuously between rooms
- Walls can be mounted onto the floor

#### Disadvantages:

· Relatively high room resonance and impact sound transmission

#### **GLUING TO THE SUB-FLOOR**

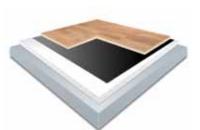
(10 mm Prestige, 12 mm Traffic, 15 mm, 21 mm Strongline, 20 mm Solid Wood Plank, 8 mm Mosaic parquet, 23 mm Industrial parquet)

#### Advantages with gluing:

- The floor is very stable
- The floor is more tolerant to fluctuations in climate
- Good acoustics in the room
- Can be installed in large areas, and continuously between rooms, without having to be divided up

#### **Disadvantages:**

- A long drying period is required when used with concrete - It must be dried to RH 65%
- Floor sheeting should be installed diagonally (at 450) in relation to the parquet
- Higher installation costs
- Higher impact sound transmission



Multi-layer parquet, parquet underlay with moisture barrier. EPS - Polystyrene insulation sheet, laver of concrete



Engineered hardwood thickness 23 mm nailed on battens



Patterned parquet MS-Polymer adhesive, layer of concrete

### A BEAUTIFUL FLOOR YEAR AFTER YEAR Cleaning and Maintenance

### WOOD FLOORING ADJUSTS TO THE CLIMATE Spot-light on stable flooring

Parquet from BOEN has been treated with the most up-to-date and hardwearing products, but it should still be maintained from time to time - how often depends on the surface and the amount of wear and tear, especially in public buildings.

BOEN recommends dry mopping and vacuuming for daily cleaning of all types of floor. When washing the floor becomes necessary, it is important that a minimum amount of water is used together with a cleaning product suitable for oiled and lacquered floors. Water should never be allowed to remain on the parquet to dry.

A floor treated with oil requires more frequent maintenance than a lacquered floor, and should be treated every other year. It is not necessary to treat the whole floor on each occasion: smaller areas can be treated without leaving visible marks. Lacquered floors should be maintained every four or five years.

BOEN can supply detailed instructions on cleaning, maintaining and renovating parquet.

For more information see www.boen.com

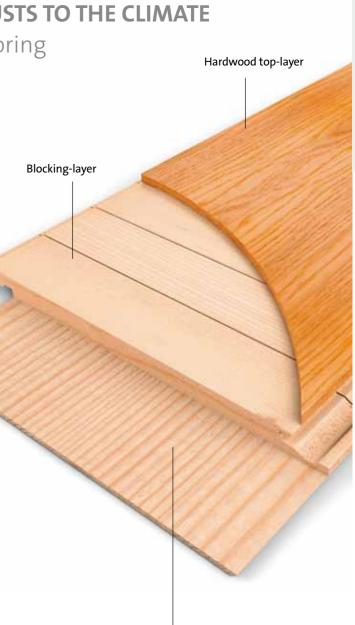


STABILITY IS A KEY WORD IN **BOEN'S PRODUCTION.** 

Wood is affected by temperature and humidity and its volume is constantly changing. It absorbs and emits moisture and adapts to fit its surroundings. For wood flooring to remain stable, it is important that there are no large fluctuations in temperature and humidity.

The majority of BOEN's floors are made up of three layers which are glued together. The top layer is made of hardwood, while the middle and bottom layers are of softwood. This construction significantly minimizes shrinkage and swelling during fluctuations in climatic conditions compared to the movement that takes place in solid wood flooring. This construction allows the floor lie in a stable position in a climate with a moisture content of between 30% and 60%.

TIP: Shrinkage and the formation of cracks in the wood can be avoided by introducing moisture into the air. Use a humidifier or simply place a container with water on a source of heat.



Bottom-layer

# the world of BOEN

### **BOEN IN THE MARKET**

BOEN is a full range supplier to private customers as well as the professional market

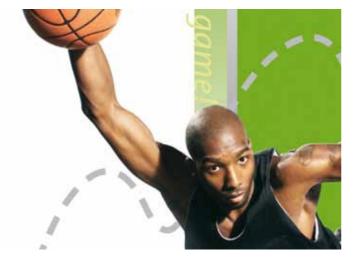




### BOEN

BOEN is one of the largest manufactures of multi-layer hardwood flooring in Europe. We deliver parquet in all categories, at competitive prices and in large quantities. We have the largest choice in 138 mm wide plank. We also have Castle plank, 209 mm wide, and an exclusive choice of ShipsDeck, Solid Wood Plank and Chalet Plank, which is 200-395 mm wide and up to 4 metres in length.

For more information see www.boen.com





### **BOEN SPORT**

BOEN Sport has delivered specialist flooring for indoor sports venues for over 40 years and is one of the world's leading manufacturers and suppliers of sports flooring. BOEN Sport has a leading role in the development of new constructions for sports flooring.

For more information see www.boensport.com



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THE ART OF HARDWOOD FLOORING

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www.boensport.com