



MARINE FLOOR COVERINGS

creating better environments

forbo

FLOORING SYSTEMS

A modern interior space featuring a dark brown carpet in the foreground and a lighter brown carpet in the background. On the left, there are white wall panels with vertical handles. In the background, a white chair with a metal frame is visible. In the foreground on the right, there are two white, rounded, modern armchairs with thin metal legs.

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**COMMITTED
TO THE HEALTH
OF ONE**

WWW.FORBO-FLOORING.COM/CHO

As our floors are part of the indoor environment in which people live, meet and work, it is our mission to design and offer products that contribute in a positive way to the health and comfort of the individual. "Committed to the health of one" introduces a focus in our commitment to sustainability that centres around all aspects that concern your health, well-being and comfort in relation to our products and services, today as well as for future generations.

CREATING BETTER **MARINE** **ENVIRONMENTS** ACROSS THE WORLD

Forbo understands that material choice is one of the most critical aspects of designing marine transport interiors.

The material sets the tone for the overall look and feel of a vessel with many criteria influencing the specification including aesthetics, durability, maintenance and the requirement of IMO certification. Add to this other performance requirements such as slip resistance, sound absorption, comfort, anti-static properties, cleanability and green credentials and it becomes obvious why flooring choice is a complex one.

Forbo Flooring Systems manufactures the widest range of floor coverings in the market and offers a portfolio of IMO and non IMO certified products. Our Key Account Managers will help you, and provide all the expert advice you need when selecting

flooring for your marine projects. In addition to our core collections, we also offer a custom design service to help you create flooring designs that perfectly match your interior requirements.

We understand that aesthetics and corporate branding are of high importance, and that functionality and durability play an important role in defining different floor covering requirements.

Need to reduce the costs of cleaning?

In all marine transport environments, having protective entrance systems such as Forbo's Coral Marine FR can help greatly. With a cut pile construction of 60% wool and 40% nylon, it stops up to 95% of walked in dirt and moisture, which significantly reduces cleaning costs and prolongs the lifetime of the interior floorcoverings. It also meets the IMO standards.

IMO certified products are:

- **Flotex FR**
(a unique flocked floorcovering)
- **Coral Marine FR**
(a textile entrance system and corridor floor covering)
- **Westbond FR**
(fusion bonded carpet tiles)
- **Forbo's own IMO certified primers and adhesives**

Non IMO products include:

- **Linoleum** (*Marmoleum*)
- **Vinyl: Safety, Acoustic and LVT**
(Step, Sarlon Trafic, Allura)
- **Carpet tiles** (*Tessera*)
- **Flocked** (*Flotex*)
- **Entrance systems** (*Coral, Nuway*)



flotex® FR

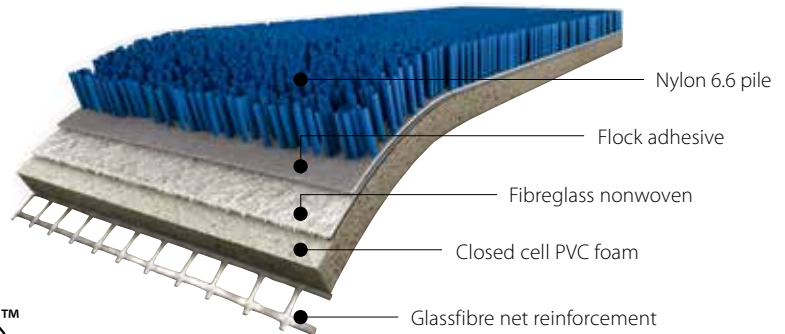
THE ONLY **IMO CERTIFIED,**
WASHABLE, TEXTILE
FLOOR COVERING

flotex® FR

Flotex FR is unique, combining the cleaning properties and durability of a resilient flooring with the comfort, slip resistance and acoustic properties usually associated with textiles.

Benefits:

- IMO tested and approved, and wheelmarked in accordance with the Maritime Equipment Directive (MED)
- Smooth textile velour like surface that's comfortable and warm underfoot
- Excellent slip resistance
- 100% waterproof. Impervious backing makes it suitable for wet cleaning
- Durable construction: using Nylon 6.6
- Easy to clean
- Improved indoor air quality (independently proven by Allergy UK)
- Easy to repair any damaged areas
- Anti-microbial
- Flotex is phthalate free
- Excellent acoustic properties up to 22 dB
- Choose from an extensive range of designs and colours or use our custom design service
- High definition print offers you complete freedom of design.



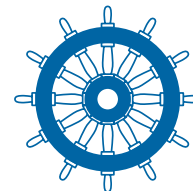
Flotex FR is extremely dimensionally stable and has a velour-like surface whilst being functional and extremely easy to clean.

Having been awarded the prestigious Allergy UK Seal of Approval, Flotex FR is proven to offer consistent protection against bacteria and reduce allergens, improving indoor air quality for passengers.

Flotex FR can be digitally printed. Its high definition quality and specialist printing technology allow for large endless pattern repeats and vivid lifelike colours. This creates a new dimension for Flotex FR and provides ultimate design flexibility for marine environments.



Lloyd's
Register



1121/13 164.117/1121/WCL MED0364

flotex[®] vision FR

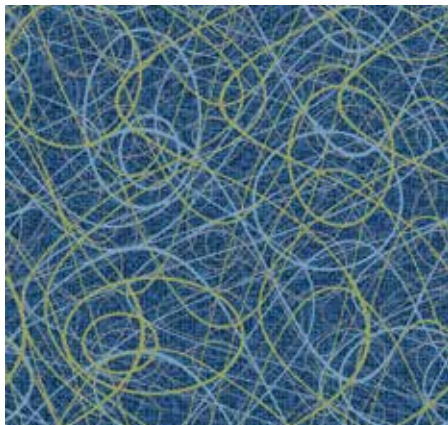
Flotex Vision FR offers an infinite number of design options ranging from abstracts with an intricate colour spectrum to realistic images of natural materials.

With over 500 items to choose from, Flotex Vision is best viewed on Forbo's online digital library which is continuously updated. The designs in Flotex Vision FR fall into six broad categories, each of which represents a different design direction: Floral, Lines, Shape, Pattern, Image and Naturals.



Lines

Line or stripe designs, each with their own characteristics, ranging from muted and sophisticated colourways to very complex and multi-colour patterns.



Pattern

Textured, non-directional visuals created through the intricate interplay of networks and patterns.



Floral

A selection of floral designs, ranging from abstract, graphic flower motifs to romantic images of roses and butterflies.



Shape

A collection of organic shapes and motifs delivering beautiful all-over patterns, including both contemporary and traditional designs.



Naturals

This collection offers photorealistic images of natural materials such as wood, stone, ceramics and cork floors. The design technology creates amazingly realistic aesthetics, with the added benefits of improved acoustics, slip resistance and reduced maintenance costs.



Image

A design category containing a wide variety of photographic images. Grass, sand, water drops, buttons and street maps are just some of the possibilities to be found within this intriguing range.

TOTAL DESIGN FREEDOM

Flotex Vision FR is a collection of high definition digital print designs that create superior textures with almost 3D like appearance. As Flotex Vision FR has 70 million fibres per square per metre, it provides a matt high density substrate for printing, enabling vibrant designs and true-to-life visuals to be produced in high level photographic resolution, providing ultimate design flexibility for marine interiors. All colours, tones and hues are achievable with Flotex Vision FR.



All of the Flotex Vision designs offer the option to create your own colourway, allowing you to match the floor precisely to your interior design scheme or corporate identity colours. If you have your own vision of what you want on the floor, we also offer a complete custom design service on request.



www.flotexvision.com



flotex® colour FR

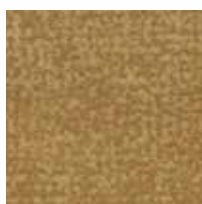
Flotex Colour is a collection of three designs (Metro, Penang and Calgary) which together form a rhapsody of colour across a broad spectrum.

The swatches shown are only a small selection of the colourways available. Please refer to the Forbo Flooring website in order to see the full colour palette.

flotex® colour FR metro



246033 | Metro emerald



246013 | Metro amber



246031 | Metro cherry



246025 | Metro tangerine



246001 | Metro indigo



246008 | Metro anthracite

flotex® colour FR penang



482006 | Penang sage



482015 | Penang beige



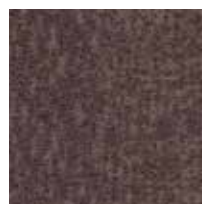
482024 | Penang purple



482011 | Penang sapphire



482031 | Penang ash



482023 | Penang dusk

flotex® colour FR calgary



290021 | Calgary aqua



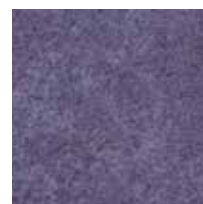
290011 | Calgary quartz



290009 | Calgary moss



290024 | Calgary fire



290022 | Calgary condor
















290023 | Calgary expresso

TECHNICAL SPECIFICATIONS – FLOTEX FR

Technical specifications

Flotex FR meets the requirements of EN 1307

| | | | |
|---|---|----------------|--------------------------------------|
|  | Total thickness | ISO 1765 | Approx. 3.3 mm |
| | Wear classification | EN 1307 | Class 33 |
|  | Roll width | | 200 cm |
|  | Roll length | | 30 m |
|  | Suitability for castor chairs | EN 985 | Castor chair continuous use |
| Colour fastness ratings: | | | |
|  | Light | EN ISO 105/B02 | 6 |
| | Rubbing | EN ISO 105/X12 | ≥ 4 |
| | Water | EN ISO 105/E01 | ≥ 4 |
| | Pile material | | 100% polyamide |
| | Construction | | Flocked textile floor covering |
| | Backing | | Resilient waterproof backing |
|  | Total weight | ISO 8543 | Approx. 1225 gram/m ² |
| | Pile thickness | ISO 1766 | Approx. 2 mm |
| | Pile installation weight | ISO 8543 | Approx. 250 gram/m ² |
|  | Impact sound insulation | EN ISO 717-2 | Δ Lw = approx. 22 dB |
|  | Dimensional stability | ISO 2551 | ≤ 0.20% |
|  | Flexibility | ISO 24344 | No cracking (10 mm diameter Mandrel) |
|  | Electrical resistance | ISO 10965 | Approx. 10 ⁹ Ω |
|  | Comfort class | EN 1307 | LC1 |
| CE Flotex FR product meets the demands set by EN 14041 | | | |
|  | Slip resistance | EN 13893 | > 0.30 |
|  | Body voltage | ISO 6356 | < 2.0 kV |
| Fire rating: | | | |
| | IMO Resolution A653(16) | | Pass |
| | IMO Resolution MSC 307(88) Annex 1 Part 2 | | Pass |
| | IMO Resolution MSC 307(88) Annex 1 Part 5 | | Pass |
| | US Coast Guard approval ref: 164.117/1121/WCL | | MED0364 |

Flotex FR is made to order.

IMO certified adhesives can be recommended upon request.

Final production might vary within commercial tolerances from sample.

Manufacturing specifications subject to normal industry tolerances.

Forbo reserves the right to improve the specification of its products without giving prior notice.

Errors and omissions excepted.



1121/13 164.117/1121/WCL MED0364



coral[®] marine FR

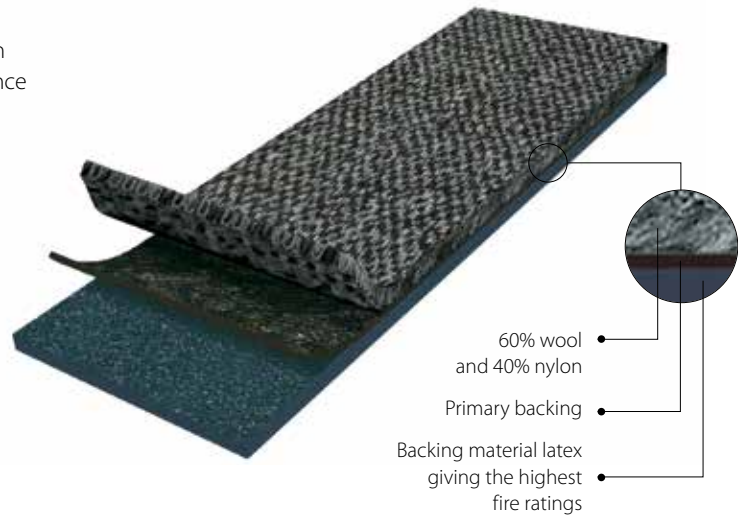
**TEXTILE ENTRANCE
AND CORRIDOR
FLOOR COVERINGS**

coral[®] marine FR

Coral is the market leader in entrance systems providing an exceptionally versatile and proven range of 'clean-off' entrance system products and customisable carpets.

Benefits:

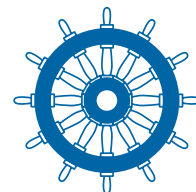
- IMO tested and approved, and wheelmarked in accordance with the Maritime Equipment Directive (MED)
- Stops up to 95% of walked in dirt and moisture
- High moisture absorption
- Excellent dirt storage/soil hiding
- Durable construction: using a 60% wool/40% nylon mix
- PVC and phthalate free
- Advanced colouring and choice
- All references stocked for quick delivery
- Using Coral Marine FR can reduce cleaning costs and prolong the lifetime of on board floor finishes and coverings.



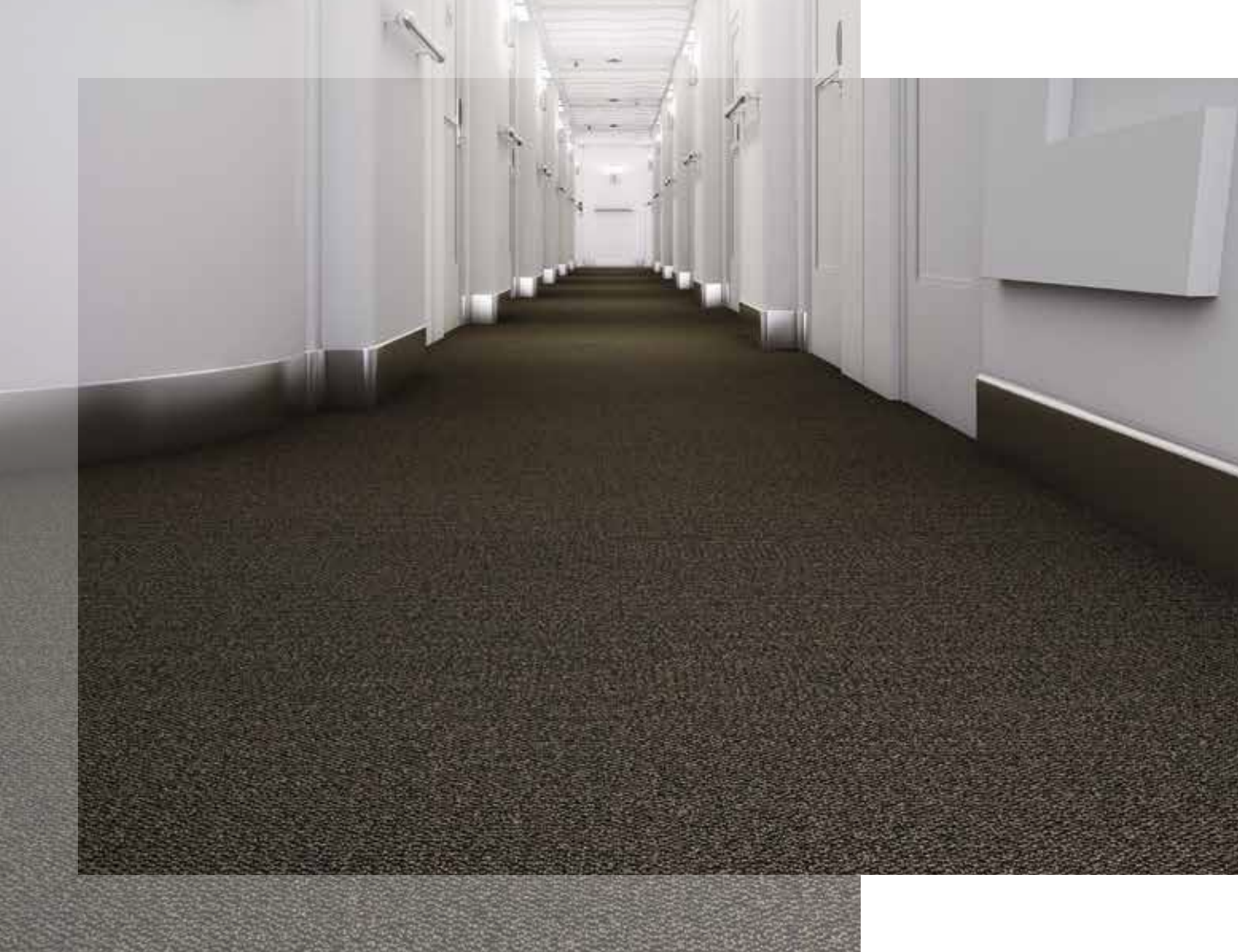
Coral Marine FR is a cut pile floor covering consisting of 60% wool and 40% nylon. It is the ideal choice for an entrance system, simultaneously absorbing moisture and removing dry soiling. Coral entrance systems can reduce cleaning costs and prolong the life of on-board floor finishes and coverings.

Coral Marine FR meets all the fire safety standards set by the International Maritime Organization (IMO) for products used in seagoing vessels. Yarn and backing systems have been developed to meet the stringent smoke toxicity and low flame spread standards required to achieve the IMO 'Wheelmark'.

As a result Coral Marine FR can be used with confidence in cruise liners, passenger ferries, charter boats and other seagoing vessels, in addition to offshore facilities where the 'Wheelmark' classification is required.



0493/17 164.117/EC0493/Forbo_2017_0001



4210 | Rotterdam black



4201 | Singapore grey



4230 | New York black



4207 | Panama blue



4223 | Hong Kong red



4204 | Santos brown















4226 | Tangier brown



4222 | Sidney blue

TECHNICAL SPECIFICATIONS – CORAL MARINE FR

Technical specifications

| | | | | | | | | | |
|---|--|-----------------|--|------|------|-----|------|------|------|
|  | Total thickness | ISO 1765 | Approx. 9 mm | | | | | | |
| | Area of use | | Heavy use | | | | | | |
|  | Roll width | | 185 cm | | | | | | |
|  | Roll length | | Roll length approx 27.5 m (customisable) | | | | | | |
| | Colour fastness ratings: | | | | | | | | |
|  | Light | EN ISO 105/B02 | > 5 | | | | | | |
| | Rubbing | EN ISO 105/X12 | 4 | | | | | | |
| | Water | EN ISO 105/E01 | 4-5 | | | | | | |
| | Seawater | EN ISO 105/E02 | 4 | | | | | | |
| | Shampoo | BS 1006 | 4-5 | | | | | | |
| | Organic solvents | EN ISO 105/X05 | 5 | | | | | | |
| | Construction | | Tufted, 5/32" cut-pile | | | | | | |
| | Designs | | Mottled | | | | | | |
| | Pile material | | 60% Wool / 40% polyamide | | | | | | |
| | Tuft base | | Non-woven polyester | | | | | | |
|  | Backing | | FR latex | | | | | | |
|  | Total weight | ISO 8543 | Approx. 2550 gram/m² | | | | | | |
| | Pile installation weight | ISO 8543 | Approx. 1120 gram/m² | | | | | | |
|  | Pile thickness | ISO 1766 | Approx. 6 mm | | | | | | |
| | Pile density | ISO 8543 | 0.141 gram/cm³ | | | | | | |
| | Number of tufts | ISO 1763 | Approx. 96,400/m² | | | | | | |
|  | Impact noise reduction | EN ISO 717-2 | Δ Lw 31dB | | | | | | |
|  | Sound absorption | EN ISO 354:2003 | f(Hz): | 125 | 250 | 500 | 1000 | 2000 | 4000 |
| | | | αp: | 0.05 | 0.05 | 0.1 | 0.3 | 0.55 | 0.6 |
|  | Slip resistance | EN 13893 | DS | | | | | | |
|  | Body voltage | ISO 6356 | < 2.0 kV antistatic | | | | | | |
|  | Thermal resistance | ISO 8302 | 0.125 m² K/W | | | | | | |
| | Fire rating: | | | | | | | | |
| | IMO Resolution A653(16) | | Pass | | | | | | |
| | IMO Resolution MSC 307(88) Annex 1 Parts 2 and 5 | | Pass | | | | | | |
| | US Coast Guard approval ref: 164.117EC0493 | | EC0493/17 | | | | | | |

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Manufacturing specifications subject to normal industry tolerances.

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Errors and omissions excepted.



0493/17 164.117/EC0493/Forbo_2017_0001



westbond® FR

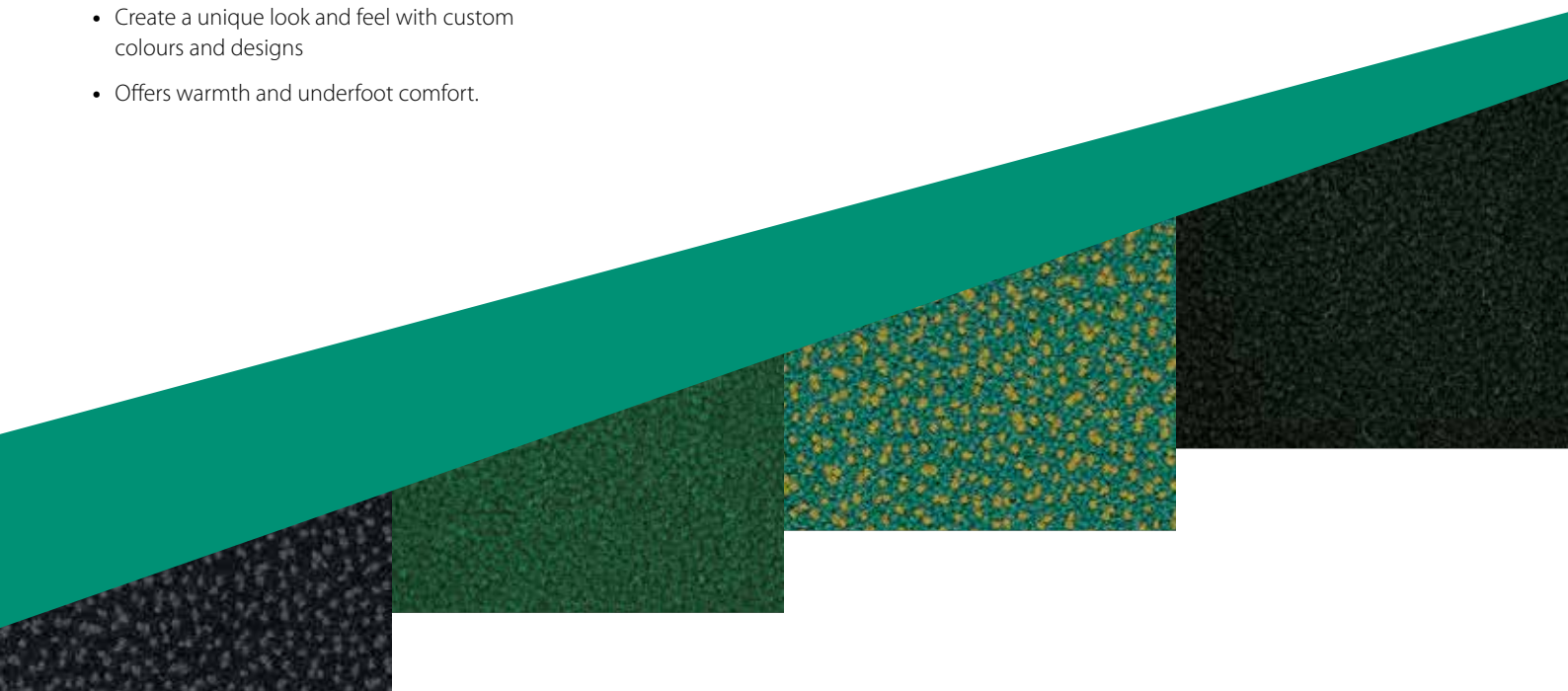
CARPET TILES OFFERING
INFINITE POSSIBILITIES
AND **EXCEPTIONAL**
QUALITY

westbond® FR

The Westbond wool carpet tile range is synonymous with sophistication and offers great warmth, comfort and acoustic benefits. Westbond FR carpet tiles are IMO certified and are ideally suited to many environments including cabins, restaurants, offices and lounge areas.

Benefits:

- IMO tested and approved, and wheelmarked in accordance with the Maritime Equipment Directive (MED)
- 50cm x 50cm tile format for easy installation and replacement
- Design flexibility to suit all interior design schemes – available in 144 colours
- Create a unique look and feel with custom colours and designs
- Offers warmth and underfoot comfort.



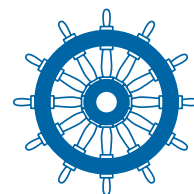
Fusion bonding is a sophisticated method of carpet tile manufacture where individual yarn pile is bonded onto the backing material to make an extremely dense and luxurious carpet tile. Each tuft is individual and a high proportion of the yarn is in the wear surface providing a beautiful, rich, velour carpet tile which gives an excellent broadloom appearance.

Choose your own colours and combine them into a truly unique floor

Westbond allows customers to take control of the process of designing luxurious, custom carpet tiles with a heavy pile weight for the most prestigious installations.

Create your own carpet tile with a flex combination. The Flex carpet tile is unique to Westbond and offers the ideal solution for those seeking an individual look to the floor. Simply create your own carpet tile design by selecting colours from the Westbond FR range in a flex combination.

The results of your creativity can be easily and quickly realised with a sample to show you what the finished product will look like.



0338/16 164.117/0338/WCL MED53106

westbond® FR

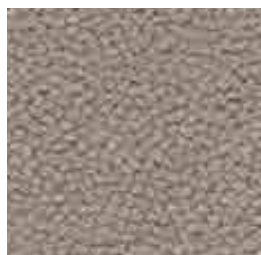
Westbond is available in 144 colours that can be flexed together to create unique designs.



W15856FR | marshmallow



WF152192FR | sorbet



W1510078FR | tendril



W15734FR | fawn



W15569FR | coral



W15248FR | sunset gold



WF152196FR | wheatgrass



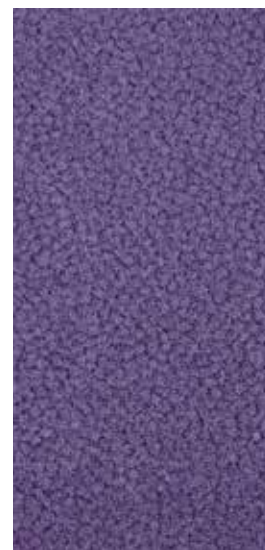
W15226FR | tiger



W15410FR | cerise*



WF152187FR | morello



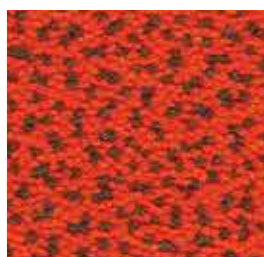
W15419FR | violet



W15568FR | flamenco



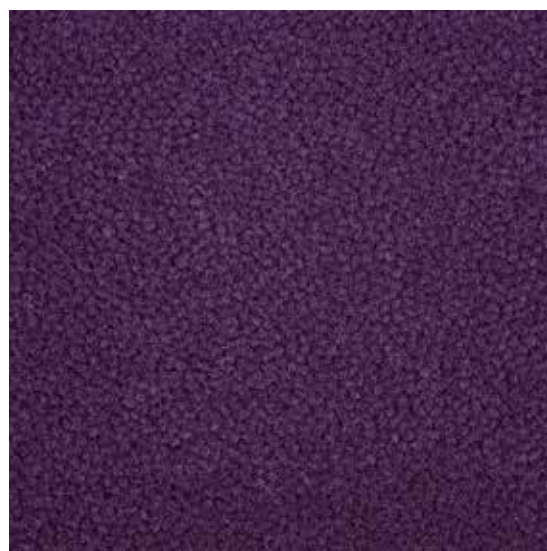
W15425FR | royal*



WF152199FR | sunhaze



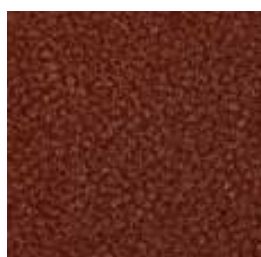
W15578FR | poppy



W15415FR | bilberry



W15405FR | brick dust



W15442FR | acorn

*Stocked items.

We offer 10 stocked designs, marked below with an asterisk.

Below is only a selection of the colours available, for further information on the full range, please contact us.



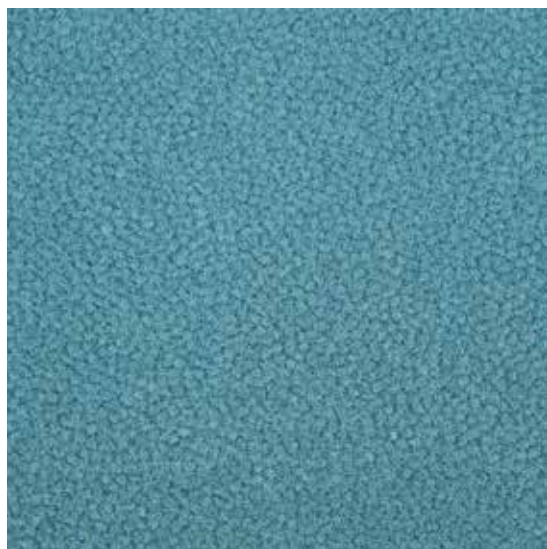
W1510075FR | lemongrass



WF152198FR | gooseberry



W15433FR | lichen



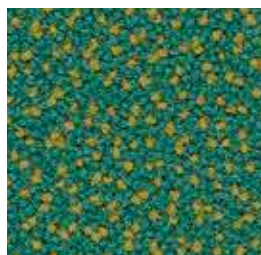
W15579FR | ocean



W15429FR | linden



W15431FR | pine frost



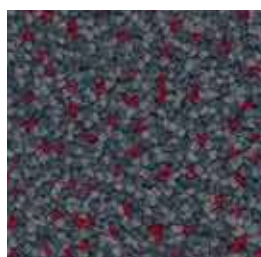
WF152194FR | amazon



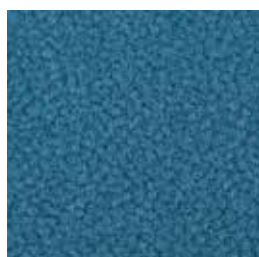
W15489FR | battleship*



WF152193FR | hailstone



WF1521564FR | shooting star*



W15585FR | crystal



WF1521566FR | sea mist*



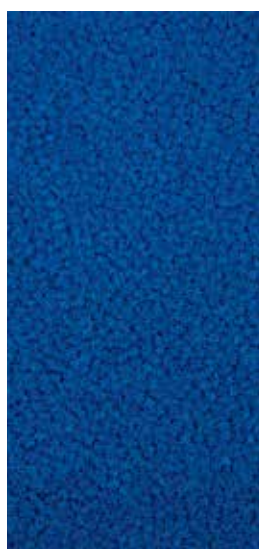
W1510076FR | sparrow



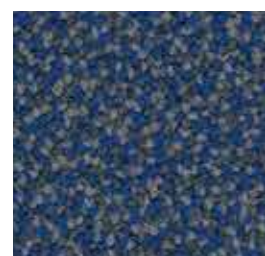
WF1521564FR | shooting star*



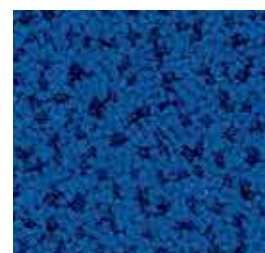
W15490FR | gunmetal*



W15421FR | bluebird*



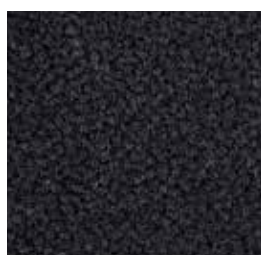
WF1521565FR | night sky*



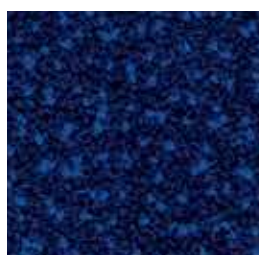
WF1521568FR | high tide*



WF152185FR | blackbird



W15017FR | charcoal



WF1521567FR | deep pacific*

*Stocked items.

westbond® flex

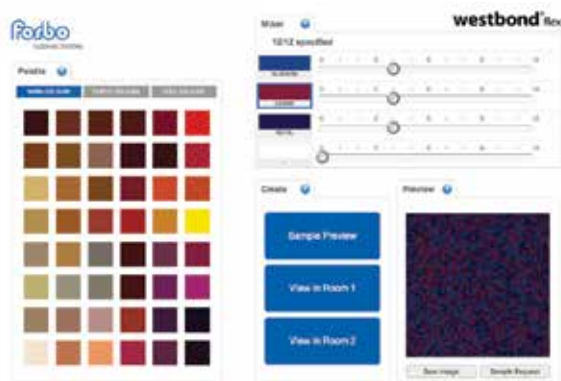
Westbond Flex carpet tiles are the ideal solution for those seeking a truly individual look to the floor. By mixing shades from the Westbond Colour collection, or from a custom colour of your choice, you can simply create your own custom designed Westbond Flex carpet tile.

Within two working days we will send you a 'POM' that offers a realistic impression of what the finished carpet tile will look like.

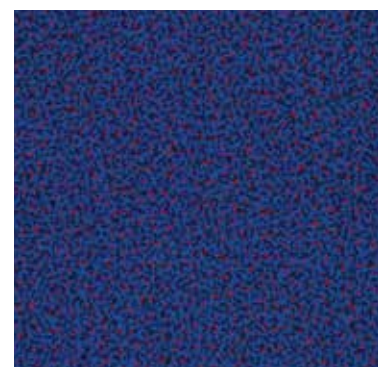


HOW TO CREATE YOUR UNIQUE WESTBOND FLEX DESIGN

To create your own Westbond Flex design simply choose your desired colours, minimum of two, maximum of four and visit www.forbo-flooring.co.uk/flexcreator. Here, you can design a Westbond Flex tile in the colour combination of your choice and within two working days, we'll send you a 'POM' to help you visualise what your design will look like on the floor.



Pom












Westbond Flex NF92111 | geyser

Shown above are three plain yarns, which are combined together to create a chosen Flex design. A 'pom' is then created to help you visualise your unique finished carpet tile.



TECHNICAL SPECIFICATIONS – WESTBOND FR

Technical specifications

Westbond FR meets the requirements of EN 1307

| | | | |
|---|--------------------------|----------------|---|
|  | Total thickness | | 10mm ± 10% |
|  | Wear classification | EN 1307 | Class 33 |
|  | Dimensions | | 50cm x 50cm |
| | Minimum order quantity | | Stocked range 3.5m ² (1 box). Custom colours 250m ² |
| | Colour fastness ratings: | | |
|  | Light | EN ISO 105-B02 | > 4 |
| | Seawater | BS EN ISO-E02 | 4-5 |
| | Pile material | | 80% dyed British wool/10% polyamide/10% polyester |
| | Construction | | Fusion bonded carpet tiles |
| | Tile backing | | Flame retardant PVC |
|  | Total weight | ISO 8543 | 3600 gsm ± 10% |
|  | Pile thickness | ISO 1766 | 7.5mm + 0mm/-0.5mm |
| | Pile weight | ISO 8543 | 1500 gsm ± 10% |
| | Pile density | ISO 8543 | 0.168 grams per cm ³ |
|  | Impact sound insulation | ISO 10140-3 | 28 dB |
|  | Dimensional stability | ISO 2551 | < 0.2 % |
|  | Comfort class | EN 1307 | LC5 |
|  | Installation method | | Monolithic, tessellated or quarter turn |

Westbond FR fusion bonded carpet tiles meet the requirements of EN 14041

| | | | |
|---|---------------------------------|------------------------------|--|
|  | Slip resistance | EN 13893 | DS |
|  | Electrical resistance | EN 10965 & EN1815 | 1 x 10 ⁹ Ω: Static dissipative. Body voltage < 2.0 kV |
| | Reaction to Fire/Smoke/Toxicity | IMO FTP code 2010 part 2 & 5 | Passes the standards set by the IMO fire test procedures for use in vessels at sea |

Westbond FR is made to order. Stocked items are shown on pages 16 and 17.
IMO certified adhesives can be recommended upon request.

Final production might vary within commercial tolerances from sample.
Manufacturing specifications subject to normal industry tolerances.
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Errors and omissions excepted.



0338/16 164.117/0338/WCL MED53106

Forbo Flooring Systems is part of the Forbo Group, a global leader in flooring and movement systems, and offers a full range of flooring products for commercial and affordable housing and new build markets. High quality linoleum, vinyl, textile, flocked and entrance flooring products combine functionality, colour and design, offering total flooring solutions for any environment.



What to do now?

For more information about any of the products and services offered by Forbo Flooring Systems, to request samples/brochures or a visit then contact us:

Email: transport@forbo.com

Website: www.forbo-flooring.com/transport

Tel: **+44 (0)1773 744121**

Let us keep you up-to-date

Visit us at transport-flooring.com for more information.

 LinkedIn: **Forbo Flooring Transport**

 **@forbotransport**

TRANSPRESS

Email us at transport@forbo.com to sign up to our quarterly transport newsletter for:

- *Product information*
- *Design inspiration*
- *Forbo transport news*
- *Industry news*

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