



the future is safer with altro

altro
transflor



Flooring for Maritime

Integrated flooring solutions for passenger comfort and safety

www.altrotransflor.com

The Altro pedigree

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Altro Transflor is one of the world's leading brands of high performance flooring, part of the Altro Group with over 30 years' experience in the transport industry. The Altro Group remains an independent, privately owned UK company with subsidiaries in the US, Canada, China, Germany, Denmark, Sweden, Spain and Australia.

Since Altro invented safety flooring, the Group has remained at the forefront of innovation. We have a reputation for world-class products and excellent customer service. Our popularity grows, due in no small measure to the quality and commitment of our people, be it highly creative product designers or dedicated distributors in over 50 countries worldwide.

The Altro pioneering spirit led to the introduction of the world's first International Maritime Organisation (IMO) / Marine Equipment Directive (MED) compliant maritime slip resistant safety floor a few years ago. That reputation for innovation has now resulted in a collection of safety flooring including a new IMO/MED compliant range, plus specific solutions for wet and dry, kitchen and medical locations.

For further information on Altro Transflor and advice on IMO/MED requirements: call +44 1462 489522 or log on to www.altrotransflor.com



The complete solution

The Altro company ethos is to place safety, comfort and design at the heart of product development. Our portfolio of products for the maritime industry delivers slip resistance for the life of the product, outstanding durability, flexibility, strength, and, of course, compliance with the latest international regulations. We back our products with generous warranties, so that you can rest assured they won't let you down.

Investing in an Altro Transflor product is an investment in a complete system which caters for your every need. A full range of accessories, including adhesives, colour co-ordinated weld rods and sealants, nosings, trims and mouldings is available.

Customer Service and Technical Support

At Altro, we work hard to earn a reputation for delivering world-class product innovation combined with excellent customer service. We are on-hand to support you with product and technical support, from the moment you make your initial enquiry, through the installation process and afterwards, for the life of the product. Your Altro consultant will happily assist you in arriving at the best solution for your requirements.

A dedicated team has been fully trained on IMO/MED testing and approvals and any member of the team from manufacturing through to sales will be pleased to show the results of Altro Transflor tests.

As well as offering products that deliver superior performance without compromise, we pride ourselves on the unrivalled technical support that we offer every customer. We have a Technical Hotline +44 (0) 1462 707 700, should you require information on any of our products or services, including tests and approvals as required.

It's no wonder that Exxon Mobil, Maersk Oil, Shell and Chevron are just a few of the world's leading organisations to have chosen Altro Transflor.

Customised design option

We are able to work with your designers on bespoke options for you (conditions apply) on some of our ranges. Please refer to the individual product pages in this brochure.

Quality matters

Buy with complete confidence; our stringent quality control has been internationally accredited with manufacturing excellence awards for the last 20 years.

Pre-cut service

Time is money so take advantage of our pre-cut service for faster and easier product installations, enabling you to return to service more quickly. We can even include your own logo in the flooring. Please contact your Altro Representative for more information.

Key product features

Demands placed on maritime installations necessitate tough solutions. The Altro Transflor system delivers the following as standard

- IMO/MED approved ranges
- Compliance with stringent Health & Safety regulations
- Fire, smoke and toxicity compliance
- Water resistance
- Lifetime durability
- Slip resistance
- Stain resistance
- Different thicknesses to suit your needs from light to heavy duty
- Design options
- Corporate and vibrant colours
- Ease of installation
- Ease of maintenance

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Tried and tested

Our range of flooring has been tested in working ships and under aggressive laboratory conditions, details of certification are given on the datasheets for each range, visit www.altrotransflor.com.

Global manufacturer, Local stock availability

Our position as a global manufacturer means that you can obtain stock from our network of distributors and offices worldwide, when you need it.

This enables us to track cross border projects and deal with international companies with ease. What's more, we have developed an integrated relationship with all the supply chain, to facilitate smooth project running for you.

Local stock availability has the added advantage of facilitating quick repairs on shore when you need them and ships are not in port for long.

The advantages of a tankable solution

Altro Transflor safety flooring may be covered up walls to create a tankable flooring system, with impervious jointing which protects the subfloor. This is of particular value in bathrooms/wet areas and other locations on upper decks, where you can create a watertight floor, which offers long-term protection to lower decks. What's more, this system allows movement in the flooring and will not separate in the way that tiles do, thereby protecting the subfloor from the ingress of water, dirt and bacteria, which can cause contamination and pose a risk to health.

Detailing

Achieve perfectly sealed corners and steps etc to prevent water ingress and subfloor damage by using one of several techniques; our technicians will happily advise on which method best suits your installation.

Flooring maintenance and hygiene

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Specifying the right floor is only half of the story. The cleaning and maintenance regime adopted with flooring is equally important in maintaining slip resistance. The HSE chart below clearly illustrates the factors that influence slip potential.



Source: The Health and Safety Executive

This model summarises the key elements to consider during a slip assessment, such as the need to consider if the floor surface is fit for purpose in its location for its intended users and their modes of behaviour. Where possible, the footwear of users should be influenced and the systematic prevention and removal of foreseeable contamination on the floor should be considered.

Our ground-breaking Altro Easyclean Maxis PUR Technology offers you many industry-leading performance benefits, which are outlined at www.altro.com, to enable you to maintain safety, cleanliness and reduce life cycle costs throughout the lifetime of the product. We also provide detailed cleaning and maintenance information for all our types of flooring at www.altro.com.

HSE Report RR889 (available at www.hse.gov.uk/research/rrhtm/rr889.htm) concludes that the slip resistance of the floor covering is not a determining factor in the ability to clean the floor to a hygienic standard using a conventional cleaning regime. Therefore, the cleanability of any flooring should not be a barrier to the use of slip resistant flooring in foreseeably wet or contaminated work areas.

Following an effective cleaning regime is important to obtain full product performance for the lifetime of the product. Cleaning instructions are available through your Altro Consultant or online.

Life cycle costs

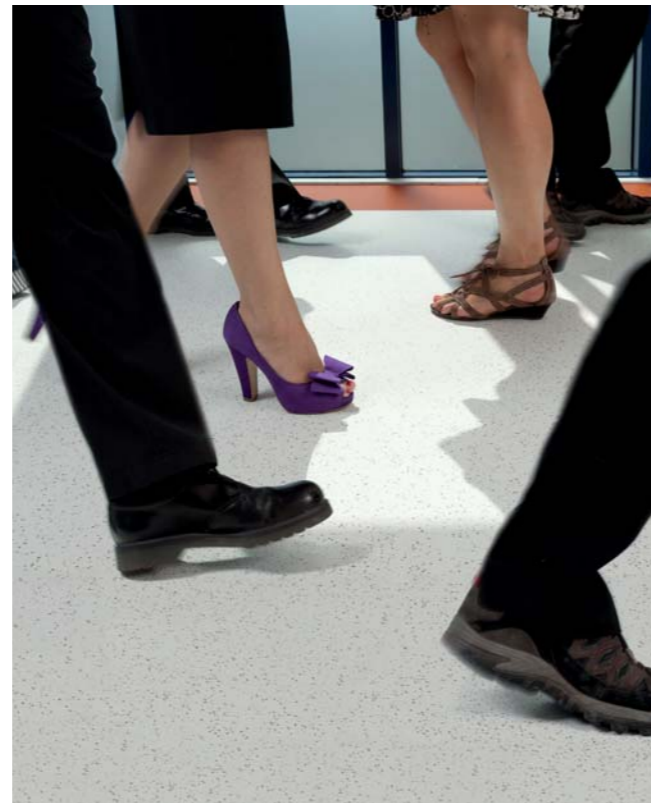
The durability of our products, backed by generous warranties and lengthy life expectancies of up to 20 years, demonstrate the excellent value that investment in our flooring systems represents.

Doing more to protect the environment

We are actively doing more to protect not just the environment but also the health of those who come into contact with our flooring; typically your passengers, suppliers and crew.

One example of our commitment to the environment is in our flooring production. We have never used known hazardous heavy metals and carcinogenic, mutagenic or toxic to reproduction (CMR) compounds. We have never used any substances which may be subject to any restrictions of the European REACH Regulation.

We have also implemented an environmental management system that is certified to ISO 14001:2004.



Duty of care – your responsibilities

Shipbuilders, owners and operators share a duty of care towards passengers and crew. Safety is paramount and cannot be compromised. It is therefore vital to select products that comply with the highest standards of safety.

Fire at sea poses great danger, with escape from within a ship far from easy. Confusion in a smoke-filled environment and loss of footing from ship movement only exacerbate the situation. Selection of safety flooring which offers the following can significantly contribute to you meeting your obligations

- Slip resistance even when wet
- Passive fire protection
- Low toxic emissions

By selecting true IMO/MED compliant products, you can fulfil the strict requirements for fire, smoke and toxicity.

Your duty of care, however, extends beyond consideration of fire. In addition to providing slip resistance to prevent accidents, your choice of safety flooring should include

- Ease of maintenance to maintain aesthetics and support standards of cleanliness

Flooring that does not meet fire, underfoot safety or hygiene standards not only puts lives at risk, but harms business reputations and can result in costly litigation claims.



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IMO/MED compliant flooring for the offshore industries

Altro Transflor is widely recognised as a pioneer in the development of superior interior surfaces, and we set out to create a specialist product that would meet and exceed the enhanced IMO / MED standards. Over 400 fire and smoke tests later, we added the first fully compliant offshore and maritime safety flooring to our range.

Oil and gas platforms, FPSO and drilling rig vessels present some of the most dangerous working environments in the world and protecting the welfare of those onboard is paramount. Without a slip-resistant covering, wet floors and sloping surfaces are particularly hazardous. Safety flooring should always be used wherever surface water is likely to occur, and these guidelines will be strictly enforced by local health and safety organisations such as the HSE Offshore Division in the UK.

New Altro Transflor Momentum is a new generation, high-performance IMO/MED compliant safety flooring, which can be installed in a range of areas including crew quarters, accommodation blocks, recreational modules and galleys. A combination of aluminium oxide, silicon carbide and quartz ensure superior slip resistance even when wet, helping you reduce the number of slip and trip accidents.



As well as unrivalled slip resistance, Altro Transflor Momentum is resistant to chemicals, is UV stable and withstands salt spray. This supreme durability ensures life-long performance, so you can be sure that you're meeting all the latest local HSE Offshore and IMO/MED standards without compromising on cost effectiveness.

Slip and trip statistics

Accidents are often down to the floor.

Each year, slips and trips account for around 26% and falls, a further 11% of all "lost-time" accidents at sea. In the UK, whether ashore or afloat, such major accidents cost employers over £300 million per annum. (Source: Maritime and Coastguard Agency)

The Marine Environment Protection Committee and the Maritime Safety Committee report that more than one in five personal injury incidents were the result of slips, trips or falls.

The risk of slipping or tripping rises exponentially in a working environment that is constantly in motion. With modern cruise ships carrying thousands of passengers and hundreds of crew, plus ferries now transporting passenger numbers in the thousands, the safety of those on board is under the legislative and media spotlight.

Accident statistics between 1994 and 2011 on UK Registered Merchant Vessels of 100gt and above, show 558 injuries to crew and 236 injuries to passengers directly attributed to a poor, slippery or uneven surface. (Source: Marine Accident Investigation Branch)

The Health and Safety Executive Offshore Injury, Ill Health and Incident Statistics 2011/2012 reports that over 23% of all injuries were as a result of slips, trips or falls at the same level and a further 14% involved a fall from a height, meaning that in total 36.1% of all injuries were associated with slips, trips and falls of all types. Furthermore, in Offshore Drilling/Workover slips, trips and falls accounted for 47% of major injuries.

Surprisingly, most flooring in use today on ships and other maritime vessels isn't slip resistant and these surfaces can become dangerously slippery when wet. Apart from the disruption and bad press that accidents bring, they can also prove costly. Because of the ever growing 'compensation culture', legal actions brought as a result of an injury can be extremely damaging to business, especially where the public is involved. Choosing the right flooring is therefore vital.

Flooring must be IMO/MED (Maritime Equipment Directive) compliant, but should also provide adequate slip resistance. If floors are slippery, especially on-board, they will put people's safety and lives at risk. A product like Altro Transflor Momentum offers high slip-resistance even when spillages occur. It also meets the requirements of the International Labour Organisation (ILO) concerning the rights of every seafarer to a safe and secure workplace that complies with all safety standards.

The risks and implications

Take steps to make your flooring safer

Not meeting maritime standards and failing to reduce underfoot hazards can put lives at risk and lead to damaging legal actions. To minimise the risk you need to implement a thorough system of control.

All employers of those on-board ships have to assess the risks to their employees and others who may be vulnerable. This helps to identify what needs to be done to satisfy the law. The Maritime and Coastguard Agency recommends a five-stage approach to risk assessment.

Stage 1 – Identify possible slip, trip and fall hazards around the workplace

Stage 2 – Decide who may be harmed and how, including passengers, crew and visitors

Stage 3 – Check adequacy of existing precautions. How can you develop a pro-active approach to minimising risk?

Stage 4 – Record any significant findings and report as required by law

Stage 5 – Review the assessment periodically and adapt to reflect change

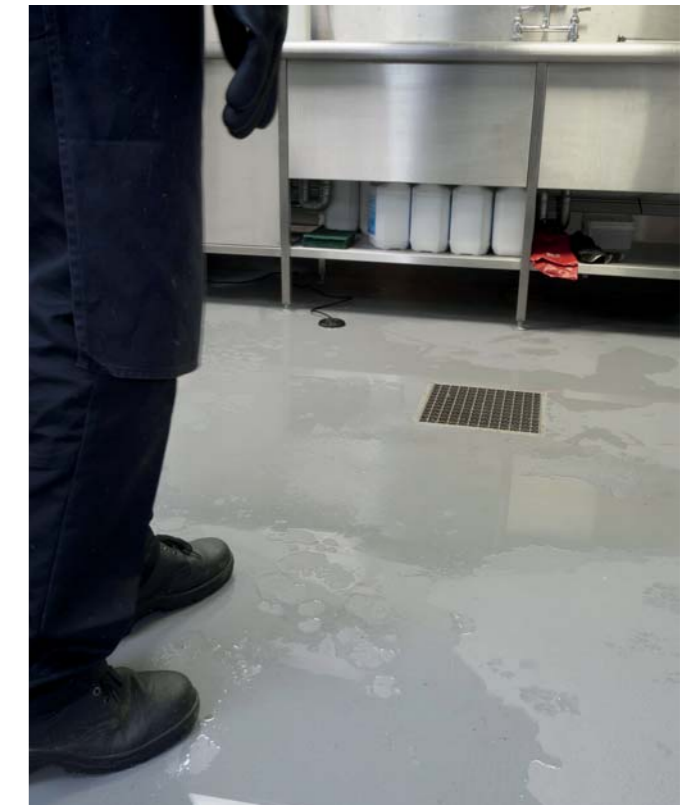
You can help to reduce slip and trip hazards through good health and safety arrangements. A good system involves planning, organisation, control, monitoring and review. For every major accident there will be some 40 cases of a slip or stumble resulting in little or no injury. Being mindful of these and quickly taking appropriate action can help minimise serious risks.

Slip, trip and fall risks should be an integral part of the risks examined during inspections and assessments of the working areas on-board. When assessing potential slip and trip hazards, remember that certain factors can affect the slipperiness of floors

- Leaks, spills and splashes of liquids and solids
- Wet processes
- Unsuitable matting
- Sloping surfaces
- Wet floors following cleaning
- Unsuitable footwear
- Unsuitable floors (e.g. glossy surfaces)
- Condensation and humidity
- Ingress of sea water

"The one way to be certain that your flooring specification will meet the HSE's safety standards is to specify slip resistant floors"

Paul Beaumont, Former Health & Safety Executive



Maritime laws and guidelines

It is the duty of specifiers and ship operators to ensure that all products destined for maritime installation are fully supported by the latest relevant test results and certification.

Maritime based flooring products installed in high risk areas should be tested and IMO/MED compliant under the IMO Fire Test Procedures (FTP) Code for flammability (Part 5) and smoke/toxicity (Part 2). Low risk passenger/crew areas could be subject to Part 5 only, whereas flooring in main passenger areas such as corridors and escape routes must be fully compliant.

Products passing the IMO FTP tests have to then gain MED (Maritime Equipment Directive) approval and receive the wheel mark of compliance. Every maritime based flooring manufacturer should have two levels of MED approval – Schedule B (product related) and either Schedule F (batch related) or Schedules D or E (process related). The product supplier must also provide a Declaration of Conformity to be kept on-board for inspection.

Maritime rules for primary deck coverings are set to get tighter in the future. SOLAS (Safety of Life At Sea) have already introduced amendments for better fire protection for cabin balconies on passenger ships in response to the fire aboard the cruise ship Star Princess. SOLAS 2010 amendments required all older cruise ships (pre-1980) to be updated to current regulations by October 2010 or risk being decommissioned. The IMO have undertaken a comprehensive review of their own FTP code which has resulted in the introduction of more stringent test methods for toxicity which should produce greater levels of consistency.

80% of the world fleet recognise MED and adopt the FTP Code. MED compliance is legally binding in the EU and the USA (under the Mutual Recognition Agreement) and is widely enforced across the world.

The Maritime Labour Convention (MLC) is a single consolidated convention providing comprehensive rights and protection at work for more than 1.2million seafarers worldwide. The MLC updated the International Labour Organisation’s Comprehensive rights and protection at work document to allow for the promotion of occupational safety, health policies and programmes, which include risk evaluation plus training for seafarers. It outlines requirements for reasonable precautions to prevent accidents and injuries on board.

The science of safety

Slip risk – tests that measure up

With a vast range of flooring available, plus often conflicting claims by manufacturers and a confusing array of testing methods, it can be difficult to establish slip resistance. The UK’s Health & Safety Executive (HSE) suggests two reliable tests for measuring slip risk.

The pendulum coefficient of friction test TRRL BS7976



The ‘pendulum’ coefficient of friction test is based on a swinging, dummy heel (using a slider made of a standardised rubber soling material) which sweeps over a set area of flooring in a controlled manner. The slipperiness of the flooring has a direct and measurable effect on the pendulum value. Results should be interpreted using the information in the table.

Pendulum value / Slip resistance value (TRRL)	Potential for slip
0 - 24	High
25 - 35	Moderate
36 +	Low

All Altro Transflor safety flooring for shod areas exceeds the 36+ rating, indicating the lowest potential for slip.

The James Machine and ASTM D2047

ASTM D2047 is a laboratory test most frequently used in North America based on the James Machine. An articulated arm pushes a leather pad which is in contact with the floorcovering. The co-efficient of friction is calculated from the angle of this arm at the moment the sample slips. The machine is large and heavy, therefore it is a laboratory based test and cannot be used to measure an in situ floorcovering.

The surface roughness test

An indication of slipperiness may be obtained by measuring the surface roughness of flooring materials. This test uses a microroughness meter which measures in Rz microroughness values (microns). This test is used to examine on-going slip resistance on site, in conjunction with the pendulum test when required. Results should be interpreted using the information in the table below. Potential for slip classification based on Rz microroughness values (application for water-wet low activity pedestrian areas):



Rz surface roughness (microns)	Potential for slip
Below 10	High
10 or above	Moderate
20 or above	Low

A surface roughness of 20 microns or above implies low slip risk.

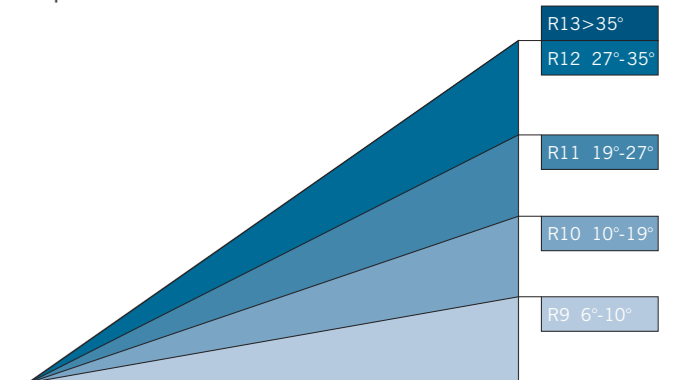
In most circumstances, both pendulum Coefficient of Friction (CoF) and surface roughness readings are required to give an accurate indicator of floor surface slipperiness.

		Altro Transflor Momentum	Altro Transflor Meta	Altro Transflor Chroma	Altro Transflor Stronghold	Altro Transflor Aquarius
Format		Roll/Kit	Roll/Kit	Roll/Kit	Roll/Kit	Roll/Kit
EN 426	Dimensions	20m x 2m / 65.62' x 6.58'	20m x 2m / 65.62' x 6.58'	20m x 2m / 65.62' x 6.58'	20m x 2m / 65.62' x 6.58'	20m x 2m / 65.62' x 6.58'
EN428	Thickness	2.5mm/0.10"	2.2mm/0.088"	2.2mm/0.088"	3.0mm/0.118"	2.0mm/0.08"
EN430	Weight	3kg/m ² /5.53lb/sy	2.6kg/m ² /4.77lb/sy	2.6kg/m ² /4.77lb/sy	3.6kg/m ² /6.62lb/sy	2.5kg/m ² /4.60lb/sy
Performance (Slip)						
TRRL		>40	>40	>40	>50	>36
DIN 51130		R10	R10	R10	R12	R10
ASTM D2047		>0.6	>0.6	>0.6	>0.6	>0.6
Compliance						
IMO MED Part 5 only			Yes	Yes	Yes	Yes
IMO MED Part 2 & 5		Yes				

There are several other tests currently available, particularly those based on “sled-type” principles, but these will not produce accurate data. The ramp test is commonly used but it cannot be replicated on-board a ship.

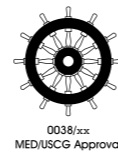
The ramp test

The ramp test (DIN 51130) is widely used and its ‘R’ values are quoted by most flooring companies. R9-R13 ratings are based on angle measurements, where an operator stands on a ramp, which is covered in oil. While the ramp test is a useful measure, it cannot be replicated on site. Altro Transflor Aquarius is rated a class B to DIN 51097.



Slips and trips

‘As New’ floor measurements can become obsolete in weeks. Many supposed slip-resistant floors have a factory-finished coating which may wear off to leave a less slip-resistant surface. Altro’s safety flooring technology is designed to maintain its slip-resistance throughout the life of the product. If you require further information, please contact your Altro Representative.



Key features

- Compliant to IMO FTP Code parts 2 and 5
- 2.5mm thickness
- Lightweight
- Pre-cut service available
- 12 colours, plain and chipped
- Covable
- Bespoke colour service available (conditions apply)
- Contains recycle
- Warranty 12 years
- Backed by full Altro Assurance of Customer Satisfaction for lifetime of product
- Slip resistance: TRRL ≥40, DIN 51130 R10

Depending on vessel compliance requirements, ideal for use in

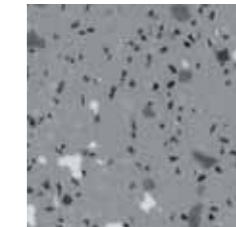
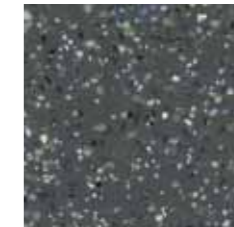
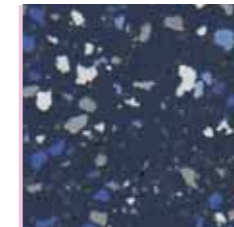
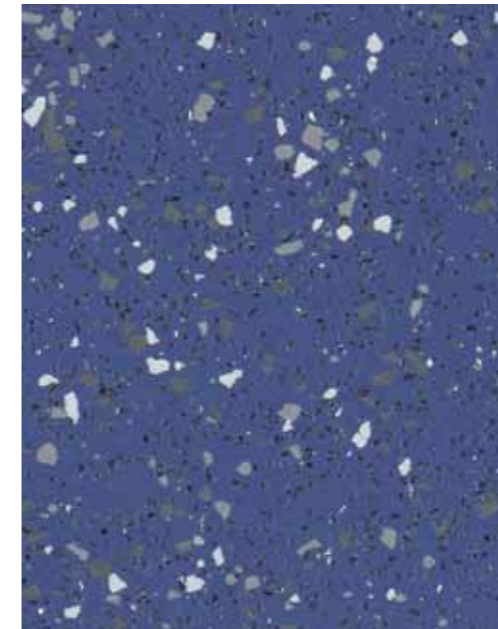
- Fast ferries, catamarans, hovercraft – seating areas where passengers wear belts
- Muster stations
- Emergency exits/escape routes
- Corridors/service corridors
- Gangways
- Stairwells
- Crew quarters
- Galleys / recreational areas
- General circulation areas

Altro Transflor Momentum easily meets the strict IMO/MED FTP requirements for fire, smoke and toxicity without compromising on slip resistance and durability.

Create a home from home environment for your crew and passengers with this new safety floor. The selection of 12 plain and chipped colours satisfies requirements both to match standard corporate liveries and provide design contrast with vibrant, accent colours. The range has been carefully researched with customers to bring you a palette with a proven track record in the industry. Bespoke colours and designs are also available on request.

Altro Transflor Momentum's lightweight construction makes it ideal for installation in small or awkward spaces, where product flexibility is key; it can also contribute to long-term fuel savings resulting from lighter overall weight. The inclusion of silicon carbide affords long-term durability, minimising repair and replacement costs. For areas of intense traffic, this product provides excellent durability and resilience. The inclusion of PVC contributes to a more robust product, easily able to cope with the demands placed upon the flooring. The fleece backing facilitates bonding and the whole floor may be welded to create a tankable flooring system, with impervious jointing which protects the subfloor.

For specification see page 9



Capri MOM25904
WR231 A1M73

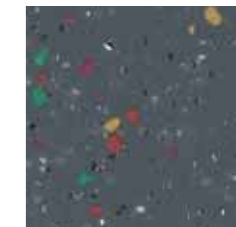
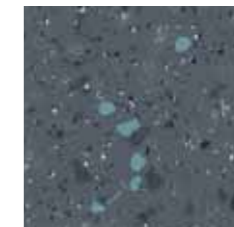
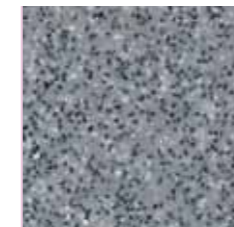
LRV 11

Storm MOM25910
WR82 A1M82

LRV 16

Elan MOM25902
WR81 A1M81

LRV 26



Quattro MOM25901
WR249 A1M249

LRV 15

Fog MOM25905
WR81 A1M81

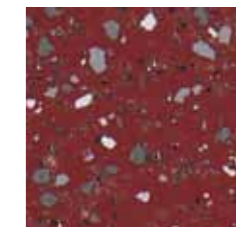
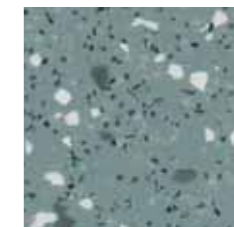
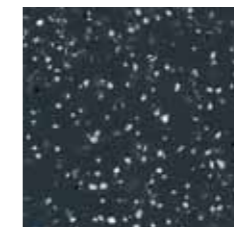
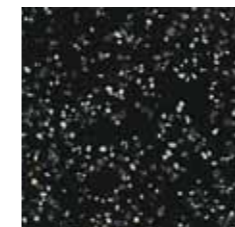
LRV 27

Zeal MOM25912
WR83 A1M83

LRV 15

Cyber MOM25906
WR83 A1M83

LRV 14



Black MOM25911
WR100 A1M100

LRV 7

Phantom MOM25908
WR100 A1M100

LRV 7

Midnight MOM25907
WR72 A1M72

LRV 8

Thema MOM25909
WR52 A1M52

LRV 24

Sprint MOM25903
WR248 A1M238

LRV 12

Products available in kit and roll format. Please call your local Altro Representative for further information or to discuss your bespoke options, such as custom-made colours or made-to-order lengths and widths.

For technical specifications and details of accessories, visit www.altrotransflor.com

Codes: **LRV** = Light Reflectance Value, **WR** = Weldrods, **A1M** = Mastic

For an unobtrusive appearance, colour matched weldrods and mastics are available.

EXPERIENCE HAS SHOWN THAT PRINTING CANNOT REPRODUCE COLOURS ACCURATELY. IF COLOUR CHOICE IS CRITICAL, PLEASE REQUEST A SAMPLE OF THE MATERIAL



Key features

- 2mm thickness
- Compliant to IMO FTP Code Part 5
- Lightweight
- Contains PUR for optimum cleanability
- Pre-cut service available
- 16 colours, plain and tonally chipped
- Bespoke colour service available (conditions apply)
- Contains recycle
- Warranty 10 years
- Backed by full Altro Assurance of Customer Satisfaction for lifetime of product
- Slip resistance: TRRL ≥36, DIN 51130 R10, DIN 51097 B

Depending on vessel compliance requirements, ideal for use in

- Ensuite bathrooms
- Washroom facilities
- Shower areas
- Changing rooms
- Spas, saunas, wet rooms

This new safety floor is for combined barefoot and shoe use in wet and dry environments. It is suitable for any type of shoe including hard and soft soled, rubber and trainers.

This innovation revolutionises product selection for potentially wet areas; you will no longer have to assess the risk of slipping to those in shoes or barefoot and whether to install studded or standard safety flooring. Altro Transflor Aquarius caters for these requirements, enabling you to install one product and eliminate the risk.

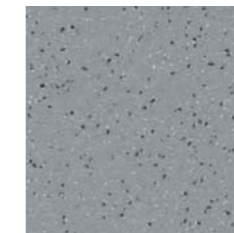
Altro Transflor Aquarius incorporates Altro Easyclean Maxis PUR™ Technology for ground-breaking low dirt-pick, resulting in excellent long-term cleanability and hygiene.

New, vibrant colours have been added recently to the Altro Transflor Aquarius palette, to extend the specification opportunities for the range to cater for older passengers, with options specifically designed to minimise confusion for those who may suffer from poor eyesight. The new colours are also perfect for to brighten up washing areas in interior cabins with artificial lighting.

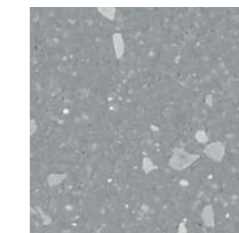
For specification see page 9



Mallard TFAQI2015
WR302 A1M302
LRV 13



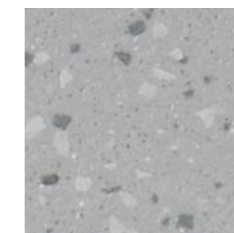
Walrus TFAQI2007
WR261 A1M81
LRV 29



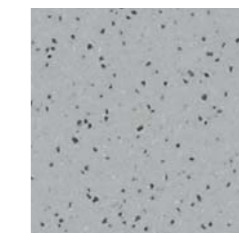
Tern TFAQI2008
WR261 A1M81
LRV 31



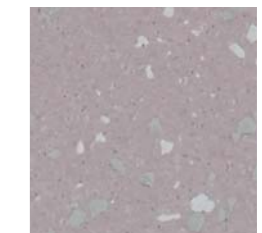
Hippo TFAQI2013
WR301 A1M82
LRV 11



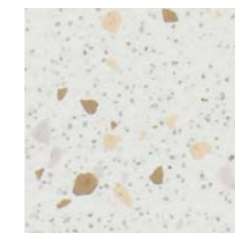
Puffin TFAQI2005
WR287 A1M79
LRV 46



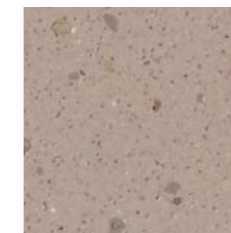
Cygnet TFAQI2004
WR287 A1M79
LRV 46



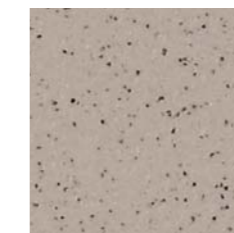
Salamander TFAQI2011
WR294 A1M294
LRV 41



Swan TFAQI2012
WR291 A1M01
LRV 75



Terrapin TFAQI2009
WR289 A1M265
LRV 40



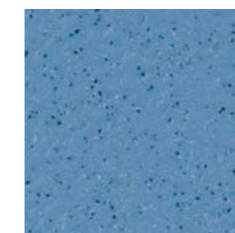
Vole TFAQI2010
WR289 A1M265
LRV 43



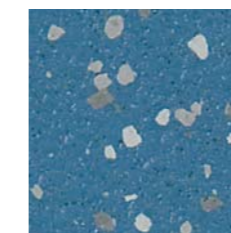
Otter TFAQI2006
WR290 A1M239
LRV 26



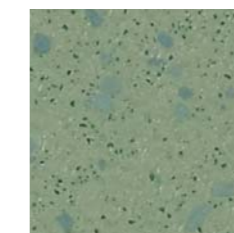
Spoonbill TFAQI2016
WR303 A1M303
LRV 11



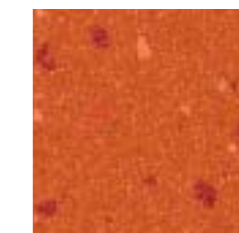
Dragonfly TFAQI2001
WR292 A1M292
LRV 33



Blue Penguin TFAQI2002
WR288 A1M71
LRV 24



Treefrog TFAQI2003
WR293 A1M271
LRV 33



Coral Crab TFAQI2014
WR300 A1M42
LRV 14

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For an unobtrusive appearance, colour matched weldrods and mastics are available.

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Altro Transflor Stronghold™ 30 specialist flooring solution



Key features

- Compliant to IMO FTP Code Part 5
- Fatigue-reducing, provides comfort underfoot
- Noise-reducing
- Easy to clean and maintain
- Pre-cut service available
- 13 colours, plain and chipped
- Bespoke colour service available (conditions apply)
- Contains recycle
- Warranty 15 years
- Backed by full Altro Assurance of Customer Satisfaction for lifetime of product
- Slip resistance: TRRL ≥50, DIN 51130 R12

Depending on vessel compliance requirements, ideal for use in

- Commercial kitchens
- Food preparation areas
- Galley areas
- Medical / doctor areas

A 3mm thick flooring designed for safety in wet and greasy conditions where frequent spillage is likely, this product is ideally suited to keep crew safe working in the kitchens or in medical areas.

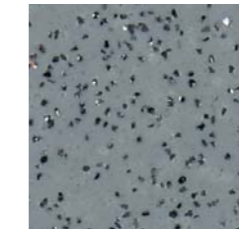
Boasting Altro Transflor's highest rating for slip resistance, Altro Transflor Stronghold 30 minimises slip risk in areas of heavy traffic. It offers long-term durability and ease of cleaning. The 3mm thickness affords added noise reduction, comfort and strength underfoot.

For specification see page 9



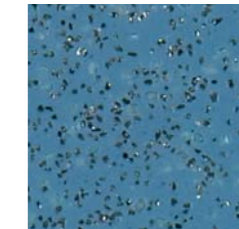
Abyss TFK3001
WR100 A1M100

LRV 7



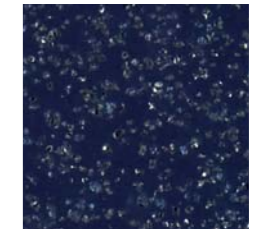
Monsoon TFK30153
WR81 A1M81

LRV 24



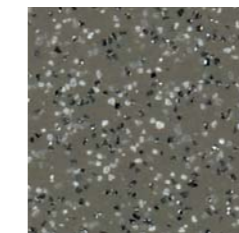
Surf TFK30412
WR71 A1M71

LRV 20



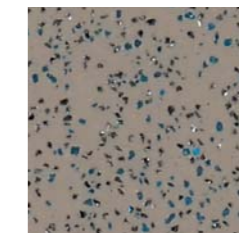
Lagoon TFK30910
WR39 A1M34

LRV 7



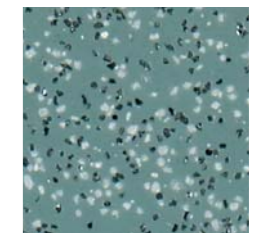
Tundra TFK30500
WR153 A1M239

LRV 17



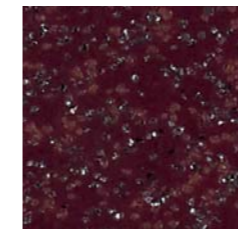
Camel TFK3017
WR64 A1M239

LRV 26



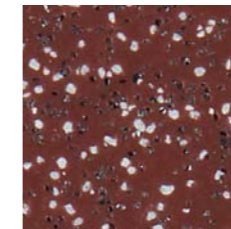
Skyline TFK30332
WR52 A1M52

LRV 24



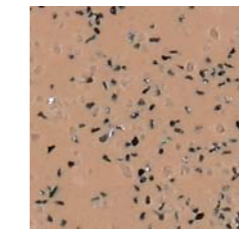
Velvet TFK30365
WR256 A1M148

LRV 8



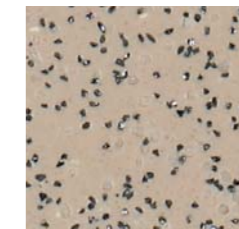
Russet TFK30262
WR41 A1M41

LRV 14



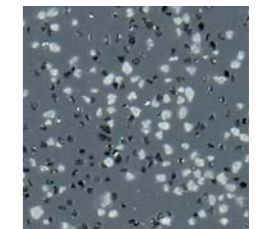
Maple TFK30522
WR24 A1M27

LRV 31



Oyster TFK30215
WR20 A1M20

LRV 36



Dolphin TFK3010
WR86 A1M86

LRV 21



Midnight TFK30421
WR72 A1M72

LRV 11

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Key features

- Compliant to IMO FTP Code Part 5
- 2.2mm thickness
- Lightweight
- Easy to clean and maintain
- Pre-cut service available
- 18 multi-chip colours
- Bespoke colour service available (conditions apply)
- Contains recycle
- Warranty 10 years
- Backed by full Altro Assurance of Customer Satisfaction for lifetime of product
- Slip resistance: TRRL ≥36, DIN 51130 R10

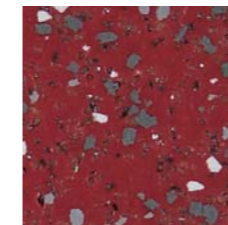
Depending on vessel compliance requirements, ideal for use in

- Crew areas
- Behind bars

Altro Transflor Chroma offers you all the technical features of Altro Transflor Meta in a high design option. This tough, popular range performs at its best in busy areas of intense usage. It boasts first-rate dirt-hiding properties.

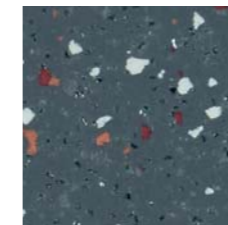
Altro Transflor Chroma adds a touch of style to your interiors; coloured multi-chips enhance the broad palette, harmonising with your branding.

For specification see page 9



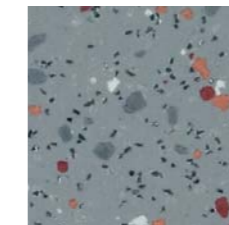
Sprint TFCR2274
WR248 A1M238

LRV 12



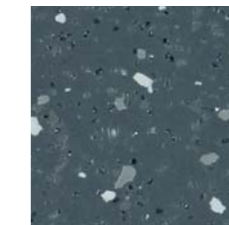
Viper TFCR2265
WR83 A1M83

LRV 14



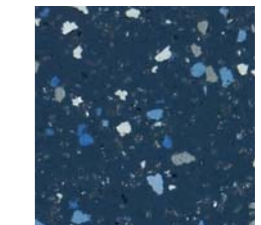
Spider TFCR2267
WR81 A1M81

LRV 26



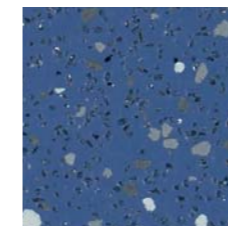
Tuscan TFCR2278
WR83 A1M83

LRV 14



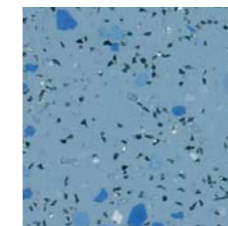
Capri TFCR2260
WR231 A1M73

LRV 11



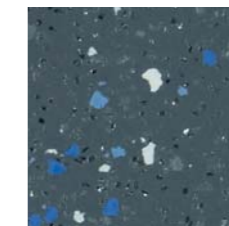
Quattro TFCR2275
WR249 A1M249

LRV 15



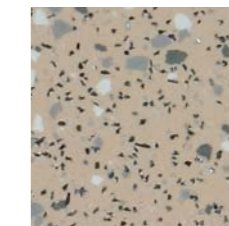
Cortina TFCR2262
WR245 A1M203

LRV 30



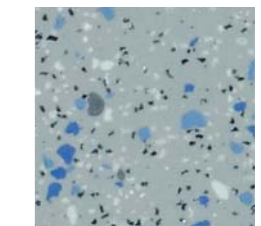
Cayman TFCR2261
WR83 A1M83

LRV 14



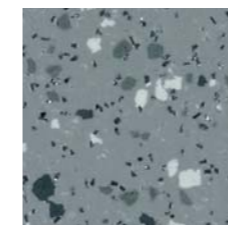
Mirage TFCR2273
WR20 A1M20

LRV 38



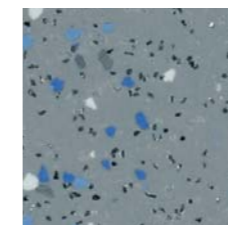
Esprit TFCR2264
WR04 A1M85

LRV 36



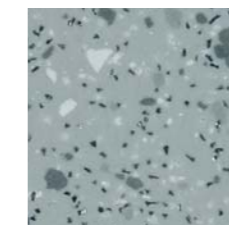
Elan TFCR2271
WR81 A1M81

LRV 26



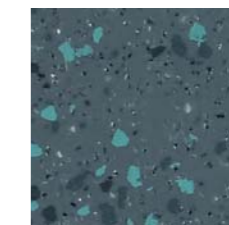
Strada TFCR2263
WR81 A1M81

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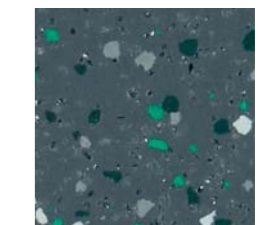
Civic TFCR2279
WR04 A1M85

LRV 35



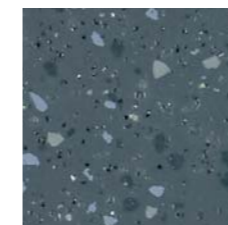
Zeal TFCR2233
WR83 A1M83

LRV 15



Sigma TFCR2282
WR83 A1M83

LRV 14



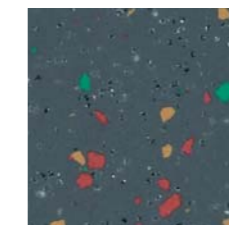
Mineral TFCR2230
WR83 A1M83

LRV 16



Phantom FCR2272
WR100 A1M100

LRV 7



Cyber TFCR2202
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LRV 14

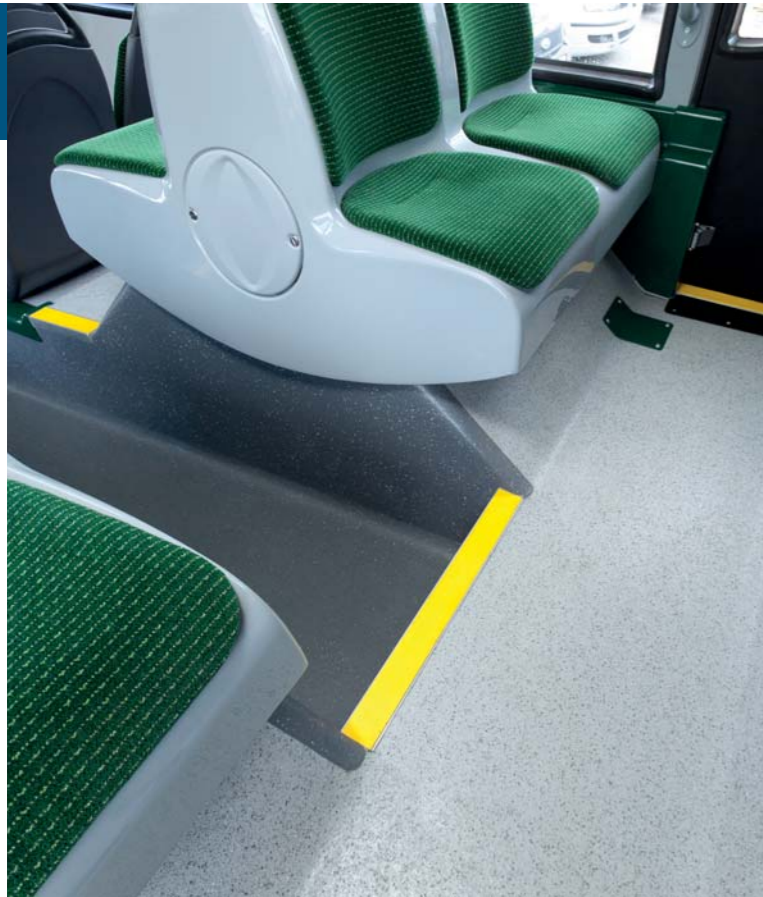
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Key features

- Compliant to IMO FTP Code Part 5
- 2.2mm thickness
- Lightweight
- Easy to clean and maintain
- Pre-cut service available
- 9 colours
- Bespoke colour service available (conditions apply)
- Contains recycle
- Warranty 10 years
- Backed by full Altro Assurance of Customer Satisfaction for lifetime of product
- Slip resistance: TRRL ≥36, DIN 51130 R10

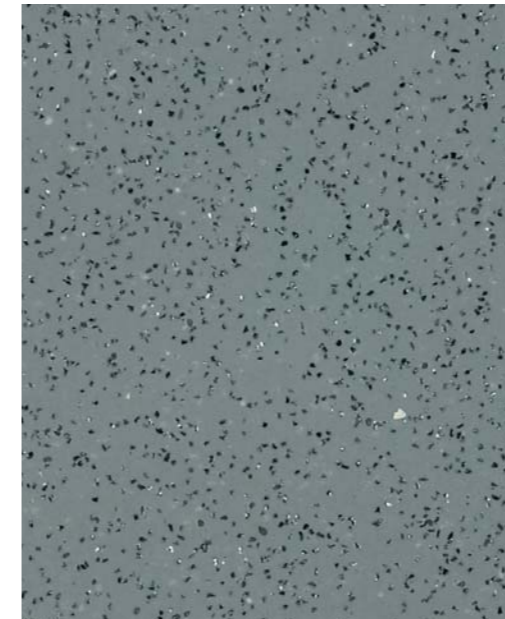
Depending on vessel compliance requirements, ideal for use in

- Crew areas
- Behind bars

Altro Transflor Meta features safety as standard. Designed with comfort in mind, it creates calm interiors, providing a subdued contrast to interior fixtures and fittings.

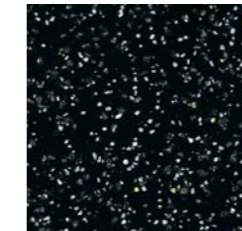
Altro Transflor Meta is a highly resilient and durable PVC flooring with a quality wear layer, incorporating silicon carbide and aluminium oxide grains for slip resistance. Dimensional stability is increased by including the scrim in the middle.

For specification see page 9



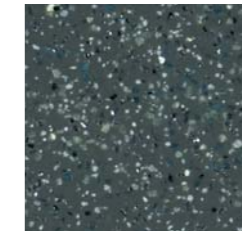
Pewter Grey TFM22890
A1M81 WR81

LRV 25



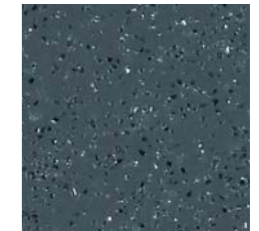
Black TFM22892
A1M100 WR100

LRV 7



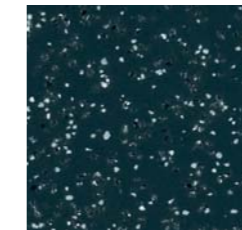
Storm TFM22903
A1M82 WR82

LRV 16



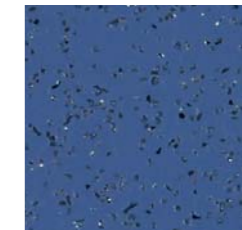
Genome TFM2202
A1M83 WR83

LRV 15



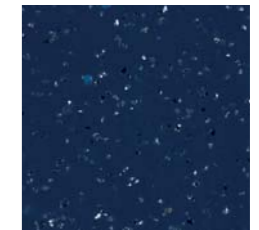
Midnight TFM22421
A1M72 WR72

LRV 8



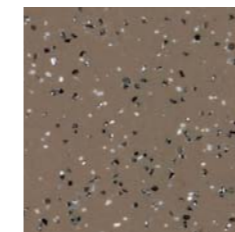
Diablo TFM2275
A1M249 WR249

LRV 13



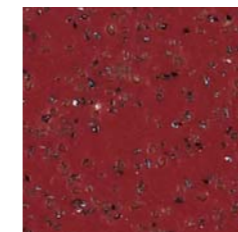
Radial TFM2206
A1M73 WR39

LRV 7



Bison TFM2247
A1M239 WR63

LRV 21



Torino TFM2274
A1M238 WR248

LRV 10

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