

Education

SOLUTION GUIDE

Designing
the schools
of the future

 **Tarkett**

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DESIGNING THE SCHOOLS OF THE FUTURE



An **inclusive environment** should cater for all, regardless of their background or physical ability.

A **flexible, supportive approach** helps students to learn and teachers to teach.

A **positive, respectful culture** encourages students academically and personally.

A **healthy, safe and sustainable** building fosters pupils' well-being and development.

Thinking on the best ways to teach and support children as they grow up has evolved significantly in recent years. One consequence is that education is no longer seen purely in terms of academic achievement. Society now expects schools and universities to address areas like students' sense of personal fulfilment and the transition to responsible adulthood.

School design has an important role to play here. Buildings that are easily accessible and welcoming improve quality of life for both students and staff and may enhance learning. Greater awareness of student health and well-being — especially among younger age groups — has put the fabric and environmental performance of school buildings under closer scrutiny. Architects and designers now focus more on better use of natural light, specifying sustainable and healthier building materials, and harnessing renewable energy sources. While doing this, they must also work within budgets that are often under pressure.

STUDIES SHOW THAT THE LEARNING ENVIRONMENT INFLUENCES EDUCATIONAL ACHIEVEMENT.*

- Good natural light (supplemented by artificial light where necessary) promotes physical and mental comfort while reducing eye strain.
- Better indoor air quality can prevent asthma and allergies, and reduce absenteeism.
- Being able to hear clearly without the distraction of background noise improves communication, working and learning efficiency.
- Colour can be used to achieve functional benefits, such as helping wayfinding through contrast and signage, increasing attention spans, and reducing eye fatigue.
- Building cleanliness improves student behaviour, creating respect and a sense of pride in the institution as well as enhancing staff retention.

These are among the factors that create an optimal learning environment conducive to students' academic and personal development and staff retention.

* Source: University of Salford, Manchester - Clever Classrooms / CIRI (Cleaning Industry Research Institute) Healthy School Environments and Enhanced Educational Performance.



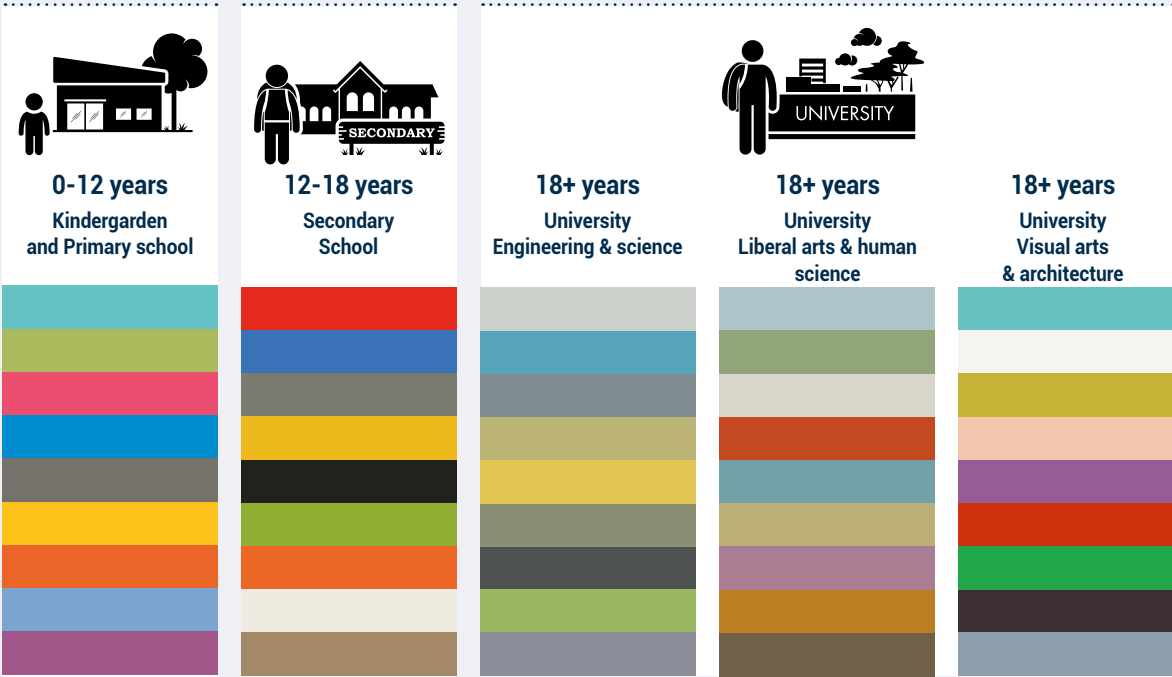
“Many studies confirm that colours produce different effects which are physically perceptible, particularly on tension, heartbeat, respiration, digestion, body temperature and brain activity.”

Dr. Lennie Scott-Webber
Principal of INSYNC: Education Research + Design and former founding Director of Education Environments for Steelcase Education, USA

A COLOUR PALETTE FOR EACH AGE GROUP

Beyond its decorative contribution, colour acts directly on emotions, behaviour and well-being. Harnessing this capability is important for creating high-quality spaces. To better understand the influence of colours and materials in learning environments, Tarkett has conducted extensive interviews with children and students, international school and childhood experts, interior designers and architects. This study added to our expertise on the emotional impact of colours and their effect on people beyond personal preference.

We can propose palettes of colours suitable for each age group and the educational spaces used by those groups. These colour suggestions should be used as a working basis and adapted to the specific context of each project. The full Colour Study document presents reasoned alternatives to and variations on these basic palettes - if you would like a copy, please contact us.



USING COLOUR TO SUPPORT STUDENTS' LEARNING ABILITY

Building design for schools and other academic facilities should aim to encourage students' ability to learn and help create a positive educational environment. More than just part of the decor, colour directly affects how people feel and behave, particularly in their formative years, and the colours which have the greatest impact on performance are the ones people like best. The choice of colour for school and university interiors should be guided by the age of the students who use them, as the reaction to colour varies by age group.

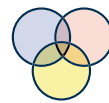


Memory improves by **55-78%** in children surrounded by their preferred colours.*



MATCHING COLOUR TO AGE

School and university facilities differ widely, but despite these variations, research shows that colour can serve different purposes depending on age. Colour choices should therefore take into account the main age groups of students using the space.



USING COLOUR TO SHAPE THE ENVIRONMENT

Colours, patterns and materials can help to define spaces and reinforce their purpose, such as by providing stimulation or encouraging a learning mindset.

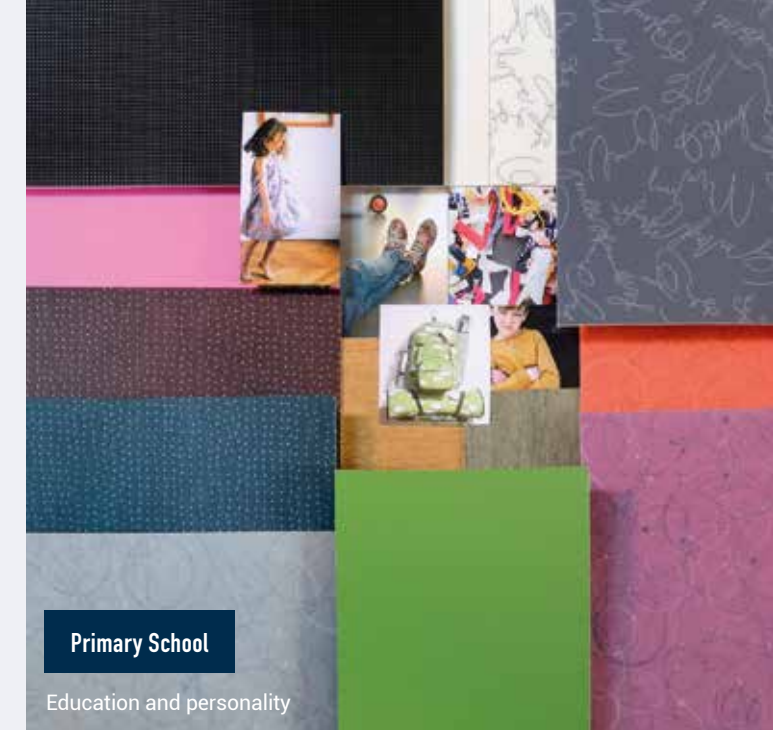
OUR RECOMMENDATIONS

- **From 0 to 6 years of age**, colour can act as a visual or emotional stimulus, or as a signal. Primary colours and light/dark contrasts aid motor and sensory development, encouraging children to explore their surroundings. The perception of colour changes with age.
- **From 6 to 12 years**, children's personalities and sense of identity become better defined. Their tastes and character (whether more introvert or extrovert) call for a wider palette of colours incorporating geometric patterns.
- **From 12 to 18 years**, the relationship with colour matures. Young people of this age are more aware of colour contrast, which can stimulate, and harmony, which tends to relax.
- **After the age of 18**, attitudes to colour and materials are often influenced by academic discipline, with science students displaying different preferences from those studying the humanities for example.

OUR RECOMMENDATIONS

- Employ the **emotional effect of colour to support the function of the space** concerned (through promoting sociability or creating reassurance, calming the mood or inducing concentration, for example).
- In large spaces, **colour can help with spatial orientation**, support function and create a welcoming atmosphere.
- Use colour to **differentiate activity areas** from learning zones or other spaces
- Adjust the degree of colour saturation for light intensity to prevent glare and eye fatigue.

* Source: Cockerill, I.M. & B.P. Miller: 'Children's Colour Preferences and Motor Skill Performance with Variation in Environmental Colour' (1983)



PERMUTATIONS OF COLOUR, MATERIAL AND PATTERN CAN STIMULATE PERCEPTION AND EMOTION ACCORDING TO AGE


A range of colour combinations can be designed to meet the changing needs and tastes of children during their development, as illustrated by the breadth of shade, pattern and material on these moodboards.

“Vary the coloured spaces, saturations and luminosities in order to give all children the chance to feel comfortable in a given area. The question of preferred colours is central. What is the environment in which children want to be? It must be possible to give them the chance to choose; this encourages them to discover their preferences, to form their tastes...”

Prof. Daniel Oberfeld-Twistel, Department of Experimental Psychology, Johannes Gutenberg University Mainz, DE


REDUCING NOISE TO MINIMISE DISTURBANCE

Studies show that noise affects children much more than adults in tasks involving speech perception and listening comprehension. Reducing noise in academic environments is therefore important to help students learn effectively. Students themselves generate noise of course, but it also comes from the impact of feet and chairs on the floor above or from communal spaces. Limiting noise in study areas like classrooms, lecture theatres and libraries is vital for concentration, while making corridors and cafeterias quieter contributes to a more relaxed atmosphere.




A quiet classroom of 30 students generates around 50dB of ambient noise, requiring the teacher to speak at 65dB to be heard.*

Intelligibility drops by up to 70% in noisy environments, making concentration and learning much harder.**



MINIMISE IN-ROOM AMBIENT NOISE

Shuffling feet, scraping chairs and falling objects are among the many causes of in-room noise that prevents effective learning and study.



MINIMISE NOISE FROM ADJACENT ROOMS

Movements in corridors or activities in adjacent classrooms increase the surrounding sound level. In some countries, regulation limits the amount of impact noise allowable from overhead to 60dB (EN ISO 717/2).

OUR RECOMMENDATIONS

The covering used for floors, walls and ceilings can absorb ambient noise, helping create a calmer environment that encourages concentration.

- **Choose flexible flooring over tiling.** Ceramic tiles reflect sound and add to the general noise, whereas flexible flooring absorbs sound, keeping it at a comfortable level.
- For the noisiest areas, choose a **class A<65dB** (NFS31-074) vinyl or linoleum flooring.
- Opt for carpet flooring with a high absorption coefficient (ISO 354) for keeping things quieter in large spaces like lecture theatres or libraries.

OUR RECOMMENDATIONS

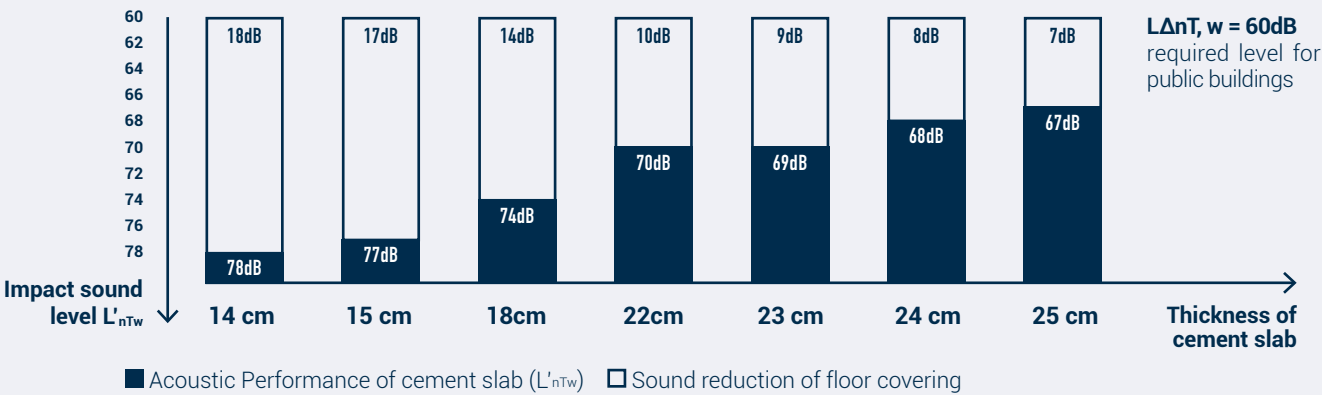
- A flooring with an **acoustic backing** will significantly reduce noise transmission.
- For classrooms, choose a floor with good indentation resistance and **acoustic performance** to reduce impact sound while preventing damage from chair legs.

* Source: Dr Paul McCarty and Jack Rollow's 2005 Los Angeles Unified School District (LAUSD) study
 **Source: AFT = American Federation of Teachers



HOW FLOORING CONTRIBUTES TO IMPROVED ACOUSTIC COMFORT

When it comes to flooring, the thickness of the concrete slab underneath affects acoustic performance. The graph below shows how to calculate the level of sound reduction required from the floor covering according to slab thickness. This example assumes ambient noise of 60dB is acceptable in public buildings.*



INDICATIVE FOOTFALL NOISE FLOORING CATEGORY

	TARKETT SOLUTIONS	ACOUSTICAL IMPROVEMENT (NFS31-074)
Vinyl on foam backing	Tapiflex / iQ Acoustic	Class A < 65 dB
Linoleum on foam backing	Linoleum Silencio xf²	Class A < 65 dB
Linoleum compact	Linoleum xf²	Class B < 75 dB
Vinyl compact	Acczent / iQ	Class C < 85 dB
Ceramics	-	Class D ≥ 85 dB

* Reference: Building Regulations Approved Document E - Resistance to the passage of sound

HELPING STUDENTS FLOURISH THROUGH SPORT

Gyms and sport are increasingly recognised as essential features of the learning environment. As well as promoting health and well-being, physical education as a collective activity brings people together. With more schools and universities offering sports facilities, the choice of sports surface matters more than ever. The main factors to consider are what the surface will be used for and the typical user profile. The right surface will enhance player comfort, make play more enjoyable and improve performance, while colour can create a link to the learning environment.



Up to **80%** of children attending school in Europe only practice sport at school.*



CHOOSE THE SURFACE ACCORDING TO GYM USAGE

Gyms are generally used for sport, but some must occasionally accommodate other activities like exams or social events. Usage is the first thing to consider when fitting out a gym. Another key factor is the typical gym-user profile. Larger players need a more shock-absorbent surface, for example.



CONTRIBUTE TO A HEALTHIER ENVIRONMENT

Players breathe 8-10 times more when exercising than at rest, substantially increasing their sensitivity to pollutants. Playing sport in a healthier environment with good indoor air quality and limited pollutants is a must, especially for children.

OUR RECOMMENDATIONS

• Sport only

Prioritise shock absorption, vertical deformation and friction levels that reduce the risk of muscle and joint pain. Users' weight will also help to define the most appropriate sports floor.

• Multi-use

Wear and tear, indentation and rolling load resistance must be factored in.

All these parameters are governed by a European standard: EN14904.

OUR RECOMMENDATIONS

• Minimise the risk of respiratory disease by choosing flooring with **extremely low VOC emissions**.

• Give preference to floorings that **need less glue** during installation for a more sustainable approach.



WHY DOES EXPOSURE TO UNCLEAN AIR DURING SPORT AFFECT CHILDREN MORE?

Indoor air quality is essential for the health of athletes, especially children whose immature lungs are at greater risk from indoor air pollution.

Exposure risk with indoor pollution



WITHOUT
sports activity



ATHLETES
during sports activity




CHILDREN
during sports activity


* Source: European Parliament – 2016 briefing – Physical Education in EU schools

CARING ABOUT INDOOR AIR QUALITY & WELL-BEING

Children spend five days out of every seven at school, most of the time indoors. Studies show that the air inside a building is up to five times more polluted than the air outside. This is attributed in large part to concentrations of Volatile Organic Compounds (VOCs), dust and allergens. One of the highest risk factors for developing asthma, especially among infants, is exposure to indoor allergens. This is why indoor air and environmental quality matter so much to the overall well-being of the young.



Asthma affects 14% of all children worldwide and is a major cause of school absenteeism.*



CONSIDER INDOOR AIR QUALITY

VOCs are organic chemical molecules that evaporate at ambient temperature. They can have multiple origins: floor or wall coverings, paint, cleaning products or air fresheners. These molecules can trigger respiratory disease and may harm children's respiratory systems.



WORKING TOWARDS A BETTER INDOOR ENVIRONMENT

Phthalates are common contaminants in the indoor environment. Research suggests that pthalates may have a detrimental effect on human health, and governments are increasingly challenging their use. Work towards a healthier indoor environment by specifying floor coverings that reduce exposure to the potential triggers of asthma and allergies.

OUR RECOMMENDATIONS

- Select floor and wall coverings which are **guaranteed to have the lowest VOC emissions**, ideally 10 to 100 times lower than European standards require (<1000µg/m³ after 28 days).
- Choose surface treatments that **need less maintenance** (with no stripping and polishing) to prevent exposing pupils and academic staff to harmful chemicals.

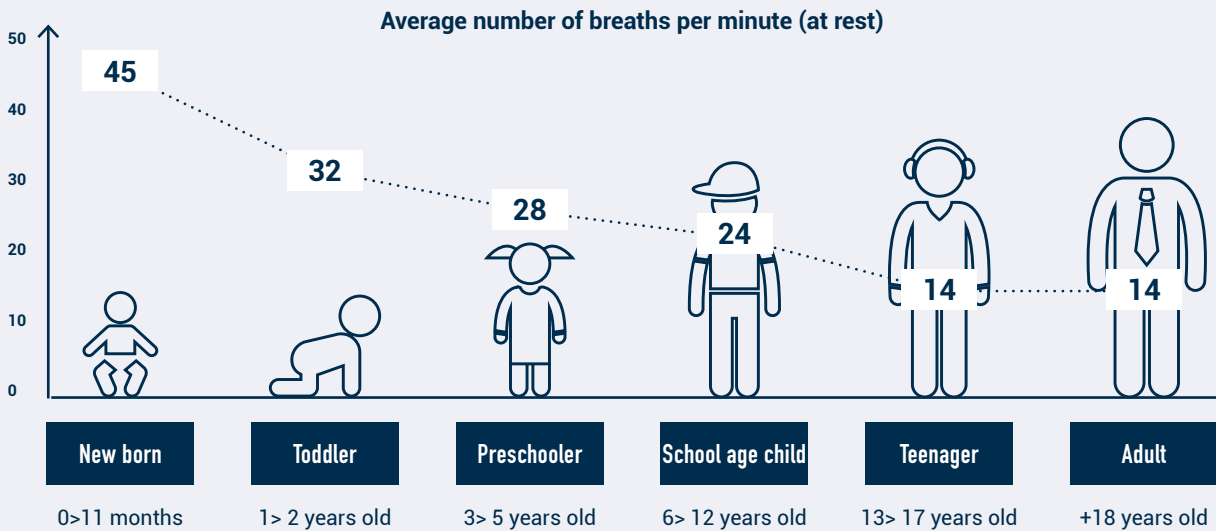
OUR RECOMMENDATIONS

- Opt for products developed with alternatives to phthalates, offering flooring solutions that are **100% phthalate-free**.
- Choose floorings that are made of materials assessed for their impact on environment, people's health and the sensitization in particular. Third-party endorsements, such as the Material Health Statement (MHS) or Allergy UK seal of approval, are reliable indicators and good sources of information.
- Select floorings from manufacturers who are open, honest and transparent about the raw materials and production methods they use.



CHILDREN'S BREATHING: THE CRUCIAL DIFFERENCE

Why are young lungs different? A child's respiratory system is not simply a miniature version of an adult's. The lungs of a new-born baby have around 50 million alveoli, while adult lungs have 300 million. This is why air quality and emissions are even more important for younger children.



* Source: Forum of International Respiratory Societies (FIRS)

PROMOTING ACCESSIBILITY AND INCLUSION

Today's schools and universities welcome a wide range of people, from students of all ages to teaching, administrative and maintenance staff. Furthermore, efforts to make education more inclusive mean provision must be made for students with disabilities, such as impaired vision or reduced mobility. Difficulty in finding one's way often leads to a loss of confidence and can be unsettling, whether for younger children or the visually impaired. And with so many users, these spaces must be easy to navigate, utilising colour and daylight to promote traffic flow and help guide people around the building.



An estimated **19 million children** are vision-impaired.*



ENHANCING VISUAL PERCEPTION TO PROMOTE WAYFINDING

Colour contrast is vital to help people with visual impairment identify doors, furniture or changes in floor level, enabling them to perceive their surroundings more easily. Careful combinations of light and colour can give these users the confidence to make full use of the building.



ENSURING SMOOTH TRAFFIC FLOW

Smooth traffic flow can be difficult in large buildings with many users trying to circulate simultaneously, between classes for example. The risk of falling should be considered in areas prone to water and viscous-liquid spillages.

OUR RECOMMENDATIONS

- A difference of at least **30 Light Reflectance Value (LRV) points** between floor and wall-covering colours is advisable.
- Potential risks, like the first and last risers of a stairway, and wayfinding notices **should be signalled by a LRV differential** of at least 60 points.
- Use **warning tiles** to indicate a level change and **tactile strips** to help visually-impaired users navigate entrances and corridors.

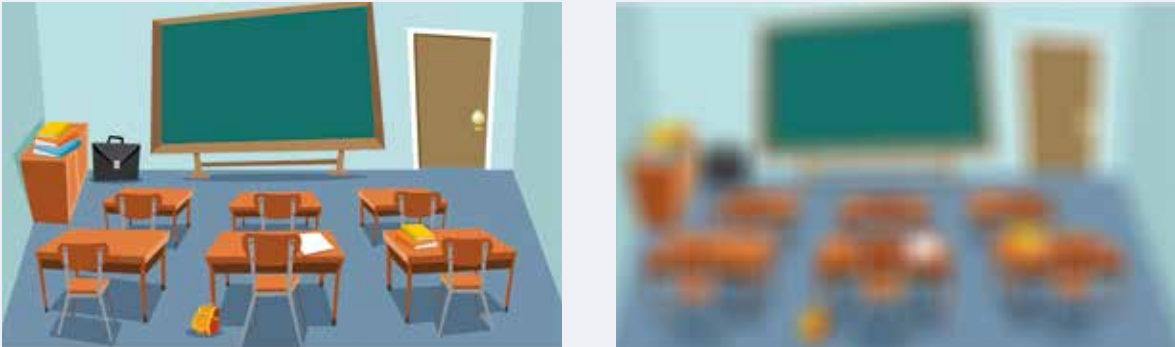
OUR RECOMMENDATIONS

- Use **floor colours** to help signal and differentiate key spaces.
- **Effective signage** should be recognisable, concise and clearly visible to all. Floors and walls can be used for signage.
- Flooring choices will be driven by the likelihood and extent of **spillages**.



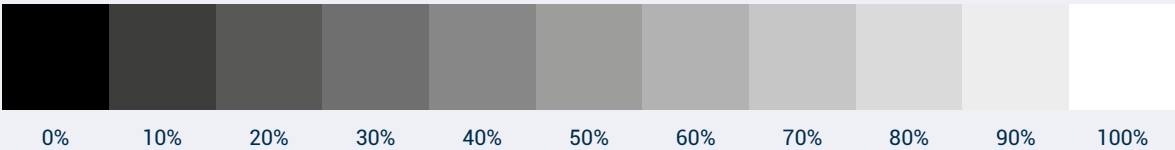
COLOUR CONTRAST CAN HELP WITH IMPAIRED VISION.

These images show how a child with impaired vision is affected compared to a child with full vision. A difference of 30 points LRV make it possible to distinguish between the floor, walls, board and furniture when moving around, leading to fewer injuries.



USE LRV (Light Reflectance Value) TO ENHANCE CONTRAST

Light reflectance value, or LRV, measures how much light a colour reflects. The higher the difference in LRV, the greater the contrast. LRV is measured on a scale ranging from 0% (pure black that absorbs all light) to 100% (pure white that reflects all light).



* Source: World Health Organisation

DESIGNING A SUSTAINABLE BUILDING

Children's futures are closely linked to the future of the planet. Designing sustainable buildings and adopting a life-cycle approach for their construction is key to reducing their environmental impact. It also contributes to student and staff well-being and good health. As previously stated, better use of natural light, healthier building materials and improved maintenance practices are increasingly important in school design. More and more parents want environmentally sound buildings that set an example to others and form a focal point for their surrounding communities.

One of the United Nations' sustainable development goals is to «improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning». Where better to learn about sustainability than in an ecologically-oriented school environment?

DESIGNING FOR LIFE

In the education sector, it's important to have spaces that promote child and student well-being and good health alongside staff productivity within a sustainable environment. Creating healthier, safer, more people-friendly interiors made with high-quality, sustainable materials may also attract great teachers.

OUR COMMITMENT

- At Tarkett we strive to **continuously improve the health and environmental credentials of our products**, making use of materials that can be recovered, recycled and repurposed.
- For instance, we've decided to **stop using biocides in our products**. This means that we're not contributing to bacterial resistance.
- Since 2010, Tarkett has proactively developed alternatives to phthalates, investing considerably in R&D. Today, all our vinyl products manufactured in EMEA are **100% phthalate-free**.

CLOSING THE LOOP

Recycling programs that manage flooring waste more effectively and a sustainable approach to manufacturing are two ways to help safeguard the world's natural resources and protect the environment.

OUR COMMITMENT

- Our **ReStart® takeback programme** collects installation offcuts, and in some cases also post-use materials, transforming them into new, high-quality products.
- We offer some **Cradle to Cradle™ certified products**, a multi-attribute sustainability label that shows manufacturers' efforts to eco-design better products for human health and environment and to move towards circular economy.
- Today, 98% of materials used in our products are **third-party assessed for their impact on people's health and the planet**, based on Cradle to Cradle® criteria.
- **67% of our industrial waste is recycled**. By 2020, we aim to send zero industrial waste to landfill.

* Source: <https://www.un.org/sustainabledevelopment/climate-change-2/>



THE RIGHT CHOICE OF FLOORING CAN HELP ACHIEVE THE HIGHEST STANDARDS OF SUSTAINABILITY

Green building labels (such as BREEAM, DGNB, LEED, WELL and others) set guidelines and standards for indoor air quality, water and energy consumption, and waste management. The table below shows how flooring can address up to 8 specific requirements and achieve up to 15 credits for the BREEAM label.


BREEAM (Building Research Establishment Environmental Assessment Method) - Main Requirement

ISSUE	BREEAM CREDITS	iQ RANGES	EXCELLENCE & PLATINUM RANGES	OMNISPORT EN 14904 COMPLIANT RANGES	LINOLEUM 2.5 xf²	iD INSPIRATION 70	AIR MASTER ON ECOBASE BACKING
Health and Well-being Hea02 – Indoor air quality	1	✓	✓	✓	✓	✓	✓
Health and Well-being Hea05 – Acoustic performance	MAX 4	✓	✓	✓	✓	✓	✓
Materials Mat02 – Life-Cycle impacts / specific EPD	1	✓	✓	✓	✓	✓	✓
Materials Mat03 – Responsible sourcing of construction costs	MAX 3	✓	✓	✓	✓	✓	✓
Materials Mat05 – Designing for durability and resilience	1	✓	✓	✓	✓	✓	✓
Materials Mat06 – Material efficiency	1	✓	✓	✓	✓	✓	✓
Waste Wst01 – Construction waste management	3	✓	✓	✓	✓	✓	✓
Waste Wst06 – Functional adaptability	1	✓	✓	✓	✓	✓	✓


Tell us about your objectives and the green-label certification you're aiming for, and our teams will advise you on the best flooring solutions.

OPTIMISING MAINTENANCE ROUTINES

Hygienic, well-maintained buildings convey a positive message about any educational establishment and, more importantly, safeguard the health and well-being of the people that use them. Cleaning and maintenance routines are central to this, especially for floors subject to high traffic and repeated impacts from chair legs or moving furniture. This is why particular attention should be paid to the durability of materials and ease of cleaning. Product lifespan, maintenance requirements and costs are key considerations for any flooring decision.




Less than 10% of the total cost is represented by purchase and installation.
90% of the total cost is related to cleaning and maintenance.



ANALYSE LIFE-CYCLE COST

Maintenance represents most of any flooring's cost of ownership. Life-cycle cost analysis reveals that 90% of the total cost comes from cleaning and maintenance. Purchase and installation represent less than 10% of this cost.



MAKE CLEANING EASIER AND HEALTHIER

Cleaning regimes often involve chemicals and are physically demanding, both of which can adversely impact maintenance and staff health.

OUR RECOMMENDATIONS

- Select products that will last, provide consistent **long-term performance**, and offer easy installation as well as **low life-cycle costs**.
- Choose flooring that's **quick and easy to clean and maintain**. Removing the need for wax or stripper will also save cost and time.
- In areas prone to spillages of water, liquids or food, use vinyl flooring with hot-welded joints to create waterproof surfaces that are simpler to clean.

OUR RECOMMENDATIONS

Choose floor coverings with no requirement for wax or stripper and the chemicals they contain.

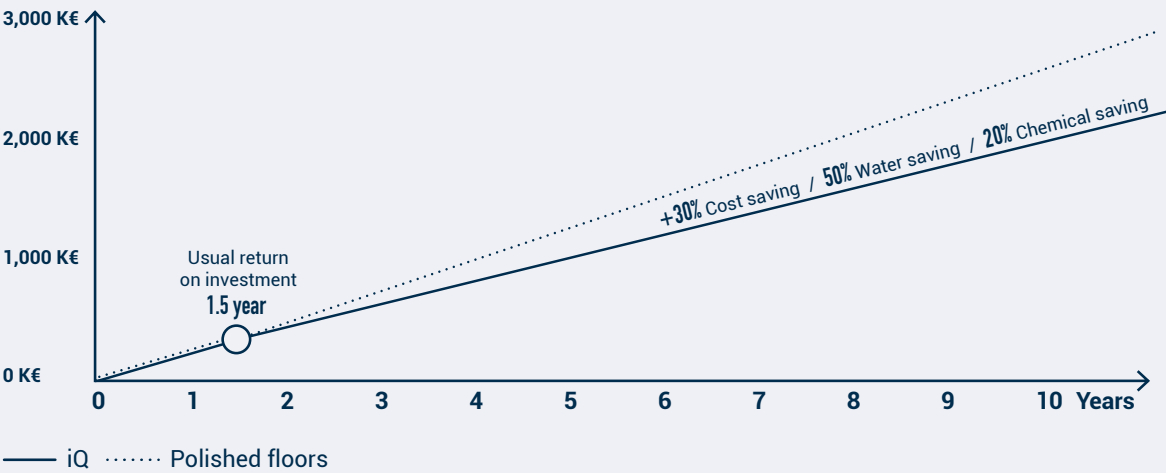
- These floors will be **easier and quicker to maintain, reducing environmental impact** by reducing chemical, water and energy consumption.
- They will also **minimise staff exposure to chemicals**.



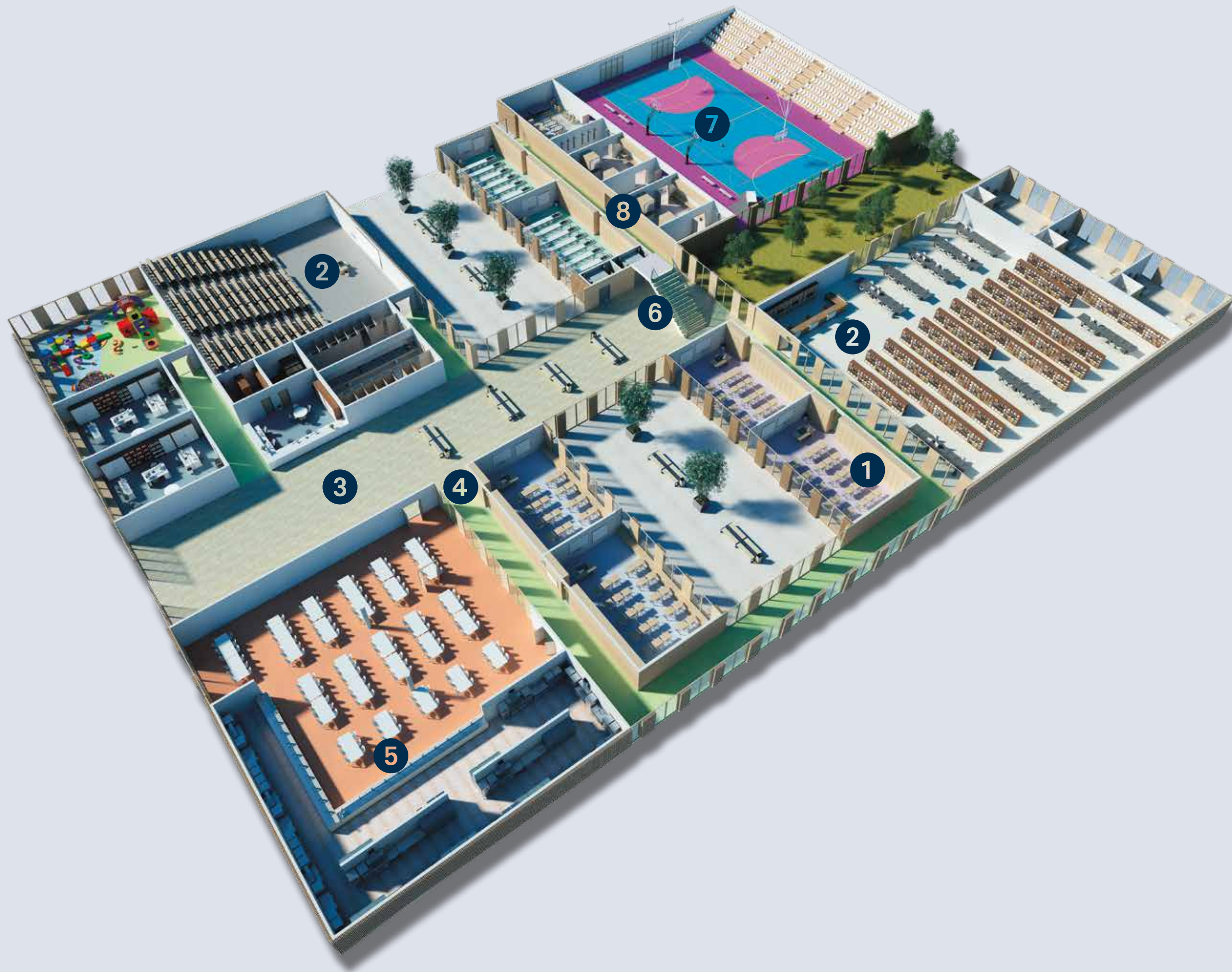
HOW TO ESTIMATE YOUR SAVINGS WITH OUR LCC SOFTWARE

Tarkett LCC software can provide you with an estimate of the total cleaning and maintenance costs for any of our flooring solutions.

1. Give us details about your project (number of classrooms, total surface area...)
2. Cleaning protocols (cleaning equipment, daily cleaning...)
3. Choose one or several floorings for a comparison



To obtain an estimated total ownership cost for any of our flooring solutions, please speak to your local contact.



A SOLUTION FOR EVERY SPACE

LEARNING AREAS:

1 CLASSROOMS	22
2 LECTURE ROOMS & LIBRARIES	24

COMMUNAL AREAS:

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SPORTS AREAS:

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SOLUTION
LINOLEUM VENETO SILENCIO xf²™


FOCUS: REDUCE POLLUTANTS FOR A HEALTHIER LEARNING ENVIRONMENT

Specify flooring solutions that help improve indoor air quality. On average, students and teaching staff spend 40% of their day in the classroom. Good air quality not only contributes to well-being and academic performance but also reduces the health risks from asthma and allergies. International standard ISO 16000-6 fixes the maximum permissible TVOC level at <1000µg/m³ after 28 days. However it is preferable to select the lowest VOC level solution.


	LINOLEUM SILENCIO xf ² ™	TAPIFLEX EXCELLENCE 80	TAPIFLEX PLATINIUM 100	iQ GRANIT ACOUSTIC
TVOC after 28 days	<10 µg/m³	<10 µg/m³	<10 µg/m³	<10 µg/m³
Phthalate-free	Naturally phthalate free	100% phthalate free	100% phthalate free	100% phthalate free

LEARNING AREAS:
CLASSROOMS


To study effectively, students must be able to concentrate for long periods. The learning environment can help them keep alert and focused by providing natural light and reducing noise from neighbouring rooms. Colour and decor can encourage a receptive mindset and direct attention towards work on tables and the teacher’s board or screen by creating gentle contrasts with the floor and walls around them.




Acoustic comfort




Resistant to indentation and abrasion



Visual comfort



Easy cleaning



Indoor air quality

Using colour and light

Colours should be chosen to create calmness in a classroom and to promote concentration, contributing to a balanced, pleasant environment for students. The increasing use of digital boards makes the choice of wall colour important to help children focus without causing eye strain.

TARKETT-RECOMMENDED SOLUTIONS - FLOORS

> YOUR NEED: THE RIGHT BALANCE OF ACOUSTIC PERFORMANCE AND INDENTATION RESISTANCE

- Tapiflex Platinum 100**
Heterogeneous vinyl
- High acoustic performance: sound reduction of 17dB, rated Class A<65dB
 - High resistance to scratch, wear and tear thanks to its inlaid construction (1mm opaque wear layer) and 0.07mm indentation (best measured value)
 - Easy cleaning thanks to TopClean XP PUR surface treatment
 - Contributes to good indoor air quality: 100% phthalate free and very low TVOC emissions (<10µg/m³ after 28 days)

> YOUR NEED: NATURAL, DURABLE MATERIALS

- Linoleum Silencio xf²™**
Linoleum acoustic
- Made from natural materials
 - Naturally phtalate-free and natural bactericidal qualities
 - Hard-wearing solution, xf² treatment increases resistance for even longer durability
 - Cradle to Cradle Silver certified™
 - Contributes to good indoor air quality with very low TVOC emissions (<10µg/m³ after 28 days)
 - Reviewed, tested and approved by Allergy UK
 - xf² surface treatment means easy maintenance (no wax no polish) and very favorable life cycle cost
 - High acoustic performance: sound reduction of 18dB, rated Class A<65dB

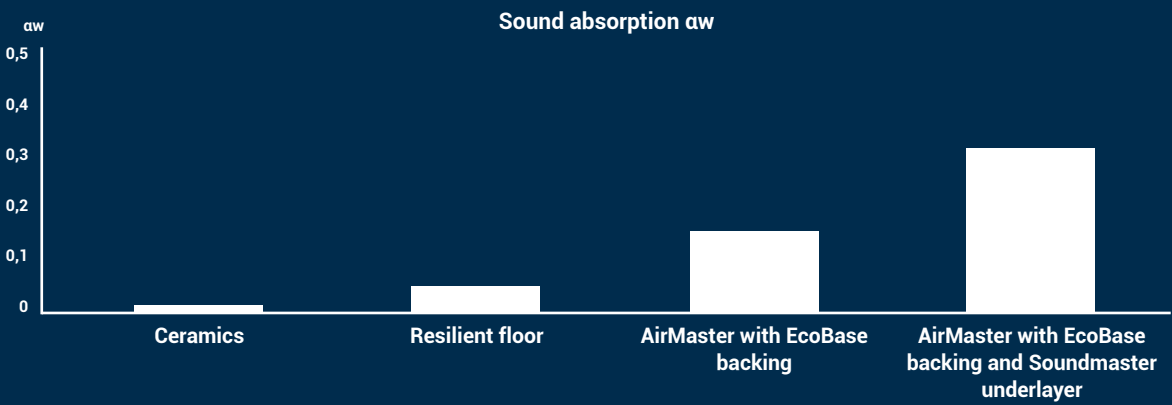
OTHER SUITABLE RANGES: iQ Acoustic, Tapiflex Excellence 80



SOLUTION
LINOLEUM VENETO SILENCIO xf²™

FOCUS: CONTRIBUTE TO SOUND ABSORPTION

The floor covering in any learning environment must be able to absorb noise, allowing students to concentrate on their work. This matters even more in areas with many simultaneous users, like lecture rooms or libraries. Structured, smooth surfaces are best for absorbing noise, with carpet particularly effective.



LEARNING AREAS:
LECTURE ROOMS & LIBRARIES

Like classrooms, lecture rooms call for sustained concentration from the students that use them. With 100 or more sometimes attending lecture courses, the potential for ambient noise is greater, making lecturer audibility crucial. The library is another learning area that has to cope with lots of users. Tackling in-room noise is a prime concern as library-users expect a quiet, study-friendly environment that lets them focus on their work.



Acoustic comfort



Heavy-traffic resistance



Easy cleaning



Indoor air quality

Using colour and light

Lecture rooms are often large spaces with little visual interest, but too much colour may distract students from their work. The use of colour is certainly recommended, but subtlety is the key. In rooms with limited or no natural light, artificial lighting can seem harsh and over-bright. Carefully-chosen colours help to soften light reflection and minimise fatigue among students.

TARKETT-RECOMMENDED SOLUTIONS - FLOORS

> YOUR NEED: ABSOLUTE COMFORT

AirMaster with EcoBase backing
Carpet Tiles

- High acoustic performance: Reduces sound by at least 23dB depending on the pattern chosen with a noise-absorption coefficient of 0.15 aw
- Sound reduction may be improved up to 31dB and 0.30 aw when combined with SoundMaster backing
- Reduces the concentration of fine dust in the air
- Contributes to good indoor air quality (TVOC emissions <100µg/m³)
- Cradle to Cradle Silver certified™

> YOUR NEED: NATURAL, DURABLE MATERIALS

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Linoleum acoustic

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- Hard-wearing solution, xf² treatment increases resistance for even longer durability
- Cradle to Cradle Silver certified™
- Contributes to good indoor air quality with very low TVOC emissions (<10µg/m³ after 28 days)
- Reviewed, tested and approved by Allergy UK
- xf² surface treatment means easy maintenance (no wax no polish) and very favorable life cycle cost
- High acoustic performance: sound reduction of 18dB, rated Class A<65dB

OTHER SUITABLE RANGES: iQ Acoustic, Tapiflex Platinum 100, Tapiflex Excellence 80




SOLUTION
LINOLEUM ETRUSCO xf²™

COMMUNAL AREAS: ENTRANCE

The main entrance creates a first impression of the building. It can persuade parents to choose a kindergarten for their child or generate a positive mindset in pupils as they enter a school. For a campus, the entrance acts as an invitation, and it can foster a sense of pride among school students and staff.



Heavy-traffic resistance



Easy cleaning



Visual comfort

Using colour and light

Use light, colour, contrast and patterns to create a welcoming, reassuring atmosphere. Alternatively, they can provide order and structure, help visitors find their way, or convey the vision and values of an academic institution.

TARKETT-RECOMMENDED SOLUTIONS - FLOORS

- > YOUR NEED: COMBINING DESIGN POSSIBILITIES & PERFORMANCE

Acczent Excellence 80
Compact heterogeneous vinyl

 - Wide palette of 127 stunning patterns and colours
 - Matt finish to prevent glare
 - Full Floor, Wall & Stairs coordination
 - TopClean XP top treatment for traffic resistance and easy cleaning
 - Contributes to good indoor air quality: 100% phthalate free and very low TVOC emissions (<10µg/m³ after 28 days)
- > YOUR NEED: NATURAL, DURABLE MATERIALS

Linoleum xf²™ 2.5mm
Linoleum

 - Made from natural materials
 - Naturally phthalate-free and natural bactericidal qualities
 - Hard-wearing solution, xf² treatment increases resistance for even longer durability
 - Cradle to Cradle Silver certified™
 - Contributes to good indoor air quality with very low TVOC emissions (<10µg/m³ after 28 days)
 - Reviewed, tested and approved by Allergy UK
 - xf² surface treatment means easy maintenance (no wax no polish) and very favorable life cycle cost

OTHER SUITABLE RANGES: iQ ranges, iD Inspiration 70, iD Click Ultimate

ENTRANCE MATS

A well-designed entrance with suitable mats will significantly reduce cleaning and maintenance costs, extending the life of the flooring and ensuring that it looks good for longer.

FOCUS: USE OUR FLOORCRAFT SERVICE FOR A WELCOMING FEEL AND SENSE OF IDENTITY

Give your entrance personality by combining patterns and colours to create zones for an attractive, welcoming feeling. Our floorcraft service can highlight the building's identity or conjure up a magical world for kindergarten children to enjoy.

Our experienced team is ready to apply their floorcraft skills to your project, building on your ideas and helping to bring them to life.



SOLUTION
LINOLEUM ETRUSCO SILENCIO xf²™

FOCUS: ALLOW FOR AN EASY & EFFECTIVE MAINTENANCE. NO POLISH NO WAX

Linoleum flooring is appreciated for its natural beauty, comfort, durability and versatility in most interior environments. The xf²™ technology surface treatment improves resistance and simplifies maintenance for significant cost savings in daily cleaning and care.




- Micro-reinforced polyurethane UV treatment seals and hardens the surface to make it more resistant to dirt and daily wear and tear.
- No need for polish, stripping and polymer waxing over the lifetime of the surface, providing soil barriers are correctly put in place, regular maintenance is operated (daily vacuuming and mopping), furniture with appropriate leg coverings and daily surveillance.
- Excellent resistance to abrasion, stains and chemicals.

CASE STUDY

School of 1 200m² (class rooms 800m² and corridors 400m²) : comparison between treated linoleum and Linoleum xf².

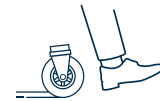



For 20 years life time, respecting cleaning and maintenance recommendations: entrance matting, regular cleaning and furniture with appropriate leg caps and daily surveillance.

Savings:

3% of water saved	20% less detergent	7% less electricity power
		

COMMUNAL AREAS:
CORRIDORS

If the building is a human body, the corridors are its veins. Students and teachers use them to circulate between classrooms and other areas. Corridors must promote wayfinding but also withstand heavy wear while being quick and easy to clean.

 Heavy-traffic resistance	 Easy cleaning	 Visual comfort	 Wall protection
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Using colour and light

The main objective is to use colour to guide students through the building. However, corridors can sometimes be dark, and reflected light along with carefully-chosen colours can make these spaces brighter and more pleasant to use.

TARKETT-RECOMMENDED SOLUTIONS

FLOORS

> YOUR NEED: COMBINING DESIGN POSSIBILITIES & ACOUSTIC COMFORT

Tapiflex Excellence 80
Heterogeneous vinyl

- High acoustic performance: sound reduction of 19dB, rated Class A<65dB
- Wide palette of 127 stunning patterns and colours
- Matt finish to prevent glare
- Full Floor, Wall & Stairs coordination
- TopClean XP top treatment for traffic resistance and easy cleaning
- Contributes to good indoor air quality: 100% phthalate free and very low TVOC emissions (<10µg/m³ after 28 days)

> YOUR NEED: NATURAL, DURABLE MATERIALS

Linoleum Silencio xf²™
Linoleum acoustic

- Made from natural materials
- Naturally phthalate-free and natural bactericidal qualities
- Hard-wearing solution, xf² treatment increases resistance for even longer durability
- Cradle to Cradle Silver certified™
- Contributes to good indoor air quality with very low TVOC emissions (<10µg/m³ after 28 days)
- Reviewed, tested and approved by Allergy UK
- xf² surface treatment means easy maintenance (no wax no polish) and very favorable life cycle cost
- High acoustic performance: sound reduction of 18dB, rated Class A<65dB

OTHER SUITABLE RANGES: iQ Acoustic, Tapiflex Platinum 100

WALL PROTECTION

ProtectWall 1.5

- High-performance wall protection from stains, scratches and impacts
- TopClean XP treatment simplifies cleaning and maintenance

LINOWALL

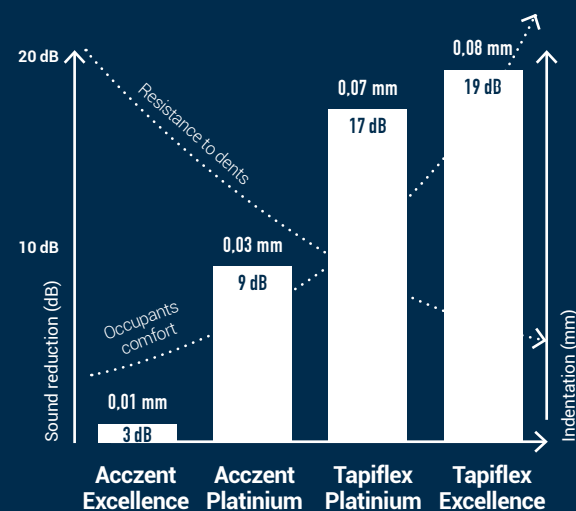
- xf² surface protection for excellent resistance and easy maintenance
- Naturally bactericidal solution



SOLUTION
ACCZENT PLATINUM 100

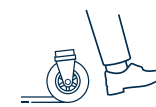
FOCUS: FIND THE RIGHT BALANCE BETWEEN ACOUSTIC PERFORMANCE AND RESISTANCE TO DENTS

A lower indentation value offers better resistance to dents from chair and table legs. The right balance between withstanding indentation and reducing noise ensures acoustic comfort and a good-looking floor able to cope with impacts from furniture legs over time.



COMMUNAL AREAS: CAFETERIA

Mealtimes represent a welcome break in the academic routine, offering students the chance to relax and mix with their peers. Filled with the sound of voices, laughter and scraping chairs, the cafeteria can be a noisy place. The food preparation and serving areas are prone to stains and spillages too, so the floor covering must work hard to ensure a pleasant, hygienic environment for students and staff.



Heavy-traffic
resistance



Easy
cleaning



Acoustic
comfort



Visual
comfort



Wall
protection

Using colour and light



In the cafeteria, colour can be used to stimulate appetites or create a sense of calm. Dining areas vary widely in size, so different colours or materials can help by structuring the space into separate zones with different moods.

TARKETT-RECOMMENDED SOLUTIONS

FLOORS

> YOUR NEED: GOOD BALANCE BETWEEN ACOUSTIC PERFORMANCE & RESISTANCE TO INDENTATION

Acczent Platinum 100

Compact heterogeneous vinyl

- High resistance to scratch, wear and tear thanks to an inlaid construction (1mm opaque wear layer) and 0.04mm indentation
- Reduces sound by 9dB
- TopClean XP top treatment for traffic resistance and easy cleaning
- Contributes to good indoor air quality: 100% phthalate free and very low TVOC emissions (<10µg/m³ after 28 days)
- Roll format with hot-welded joints provides a watertight surface where stains are easy to remove

OTHER SUITABLE RANGES: iQ ranges

WALL PROTECTION

ProtectWall 1.5

- High-performance wall protection from stains, scratches and impacts
- TopClean XP treatment simplifies cleaning and maintenance

> YOUR NEED: COMBINING DESIGN POSSIBILITIES & PERFORMANCE

Acczent Excellence 80

Compact heterogeneous vinyl

- Wide palette of 127 stunning patterns and colours
- Matt finish to prevent glare
- TopClean XP top treatment for traffic resistance and easy cleaning
- Contributes to good indoor air quality: 100% phthalate free and very low TVOC emissions (<10µg/m³ after 28 days)
- Roll format with hot-welded joints provides a watertight surface where stains are easy to remove



SOLUTION
TAPIFLEX STAIRS

COMMUNAL AREAS: STAIRWAYS

School and college timetables often require students and teaching staff to move quickly between classes. This leads to the intensive, simultaneous use of stairways, which significantly increases the risk of falls. Clearly signalling changes in floor level via textured surfaces and contrasting colours is an effective way of tackling the problem.



Visual comfort



Slip resistance



Easy cleaning

Using colour and light

Use colours to warn of potential hazards, both by creating contrasts and for visual signage. Light reflectance value (LRV) will be even more crucial here to signal changes in floor level.

TARKETT-RECOMMENDED SOLUTIONS

FLOORS

- > YOUR NEED: NOISE REDUCTION AND CONTRASTING STAIR NOSES
- > YOUR NEED: FAST AND EASY INSTALLATION WITH IMMEDIATE TRAFFIC POSSIBLE

Tapiflex Stairs

Acoustic heterogeneous vinyl

- Full floor, wall & stairs coordination
- Over 20 design and colours
- Integrated contrasting stair noses
- 5 unique phosphorescent stair noses
- 18dB sound reduction
- TopClean XP top treatment for traffic resistance and easy cleaning
- 100% phthalate-free

Tapiflex Stairs self adhesive

Acoustic heterogeneous vinyl

- 10 design and colors
- Cfl-S1 rated
- Unique on the market, comparable performances to the glue down version with extra assets
- Reduce installation time by 30%
- Immediately available for use after installation
- Safe dry glue

OTHER SUITABLE RANGES: iQ range

ACCESSIBILITY SOLUTIONS



Warning tiles

Glued or self-adhesive

- Highlight changes in level
- Colour-coordinated to contrast with flooring
- Comply with accessibility and safety requirements

3D Studs

- Ready-to-use tactile studs that fit over the existing floor covering.

FOCUS: INCREASE SAFETY IN STAIRWAYS

As stairways are a common location for falls, a particular attention should be paid to these areas. Handrails, tactile warnings, visual cues, will help to enhance visual awareness. Use visual contrast according to the rules defined by the ISO 21542: at least 30 points of LRV difference forge large surfaces (i.e. walls/floors/doors) and elements (i.e. handrails, switches and controls, tactile walking surfaces) and a LRV difference of 60+ points for potential hazards and text information. Tarkett provides a full range of accessories to fulfill these requirements. Our Tapiflex Stairs range is designed for optimal contrast between step and stair nose with a majority of references including 70% of contrast between step and stair nose.

Signage: Tarkett's Floorcraft service offers a range of signs to indicate lifts, wheelchair ramps and exits. These feature contrasting colours to aid recognition.

Tactile strips use texture, resonance or shape to show the way. They can be easily detected by a foot or stick.



Warning tiles can be used to highlight potential hazards and changes in level.

Striped stairnoses in contrasting colours will prevent slipping and falls.

The first and last risers must have a contrast of at least 60 LRV points to make changes in level more visible.



SOLUTION
OMNISPORTS EXCEL 8.3

SPORTS AREAS: SPORTS HALL

Sports halls or gyms need to be versatile, often catering for users ranging from pupils just starting school to university-age adults. The demands placed on the flooring by an 11-year-old weighing 35kg won't be the same as those of a 25-year-old who's around 100kg heavy. As well as being sports areas, gyms sometimes have to double as examination halls, party or performance venues requiring a multi-use floor.



Comfort for athletes




Indoor air quality



Easy cleaning

Using colour and light

 In a multifunctional sports hall it's important to mark out clearly the different areas for each sport. You can achieve this by using bright, contrasting colours.

TARKETT-RECOMMENDED SOLUTIONS

FLOORS

> YOUR NEED: MULTI-SPORTS AND MULTI-USE PERFORMANCES

Omnisports reference Multi-Use
Point Elastic Heterogenous Vinyl

- Good compromise between sports performances and versatile use, light and medium weight users
- Contributes to good indoor air quality: 100% phthalate free and very low TVOC emissions (<10µg/m³ after 28 days)
- Easy maintenance thanks to TopClean XP PUR top treatment
- GreenLay installation method 98% glue free – Shorter installation downtime (-20% versus a fully glued one)

> YOUR NEED: A MULTI-SPORT WOOD SYSTEM FAST AND EASY TO INSTALL

Flexlock
Area Elastic Wood Flooring

- Ideal solution for multi-sports practice suited to medium weight and heavier users
- Optimal comfort and consistent sport performances
- Natural warmth of the wood surface
- Sport lacquer for a simplified cleaning
- Ideal surface for wheelchair athletes thanks to rough surface – extremely low rolling resistance





> YOUR NEED: MULTI-SPORTS SURFACE OFFERING TREMENDOUS MULTI-USE PERFORMANCES

Lumaflex Duo Linosport xf²
Area Elastic Sport Flooring

- Ideal surface for all type of users with extremely low rolling resistance for wheelchair sportive disciplines and usage
- Optimal solution for both multi-sports and multi-purpose activities
- Extremely resistant to wear, indentation and static / rolling loads
- xf² top treatment for an increased resistance and easier maintenance
- Contributes to good indoor air quality Linosport xf² <10µg/m³

FOCUS: CHOOSE THE RIGHT SPORT FLOORING

Usage and user profile will drive the choice.

					
Type of usage	Multi-sports	✓	✓	✓	✓
	Multi-use	With an adapted floor protection ✓	With an adapted floor protection	✓ ✓	With an adapted floor protection ✓
Practisers' weight		Light/Medium	Medium/High	Medium/High	Light /Medium /High
Sport performances		Entrance and medium sport performances PVC monolayer solution ▶ Comfort	High level sports performances Wood top layer ▶ Responsive surface	High level sport performances Linoleum or compact PVC top layer ▶ Multi-use surface	High level sports performances Omnisports foam backed on top ▶ Comfort and responsive surface
		Omnisports Active Omnisports Excel Omnisports PurePlay	Omnisports Reference Multi-use Reflex M Evolution Multiflex M FlexLock Proflex M	Lumaflex Duo Linosport xf² Lumaflex Duo Omnisports Compact	Lumaflex Duo Omnisports Speed Lumaflex Duo Omnisports Training Lumaflex Duo Omnisports Reference multi-use



SOLUTION
GRANIT SAFE.T

SPORTS AREAS: CHANGING ROOMS, SHOWERS & TOILETS

Water spillage is the main consideration in these areas, with bare feet increasing the chances of slipping and falling. Flooring that can handle damp conditions will minimise the injury risk for users, and ease of cleaning matters too for preventing the fungal growth that can occur in moist environments.



Slip resistance




Watertight construction



Easy cleaning

Using colour and light

 Colour schemes in changing and washing areas should convey brightness, freshness and cleanliness. These are also spaces to be creative with livelier shades, which can help young people feel comfortable and more at ease.

TARKETT-RECOMMENDED SOLUTIONS

FLOORS

- > YOUR NEED: DURABLE SLIP RESISTANCE PROPERTIES

Safetred
Compact heterogeneous vinyl

 - Slip-resistant R10 grip
 - Sustainable slip resistance throughout product life
 - Safety Clean XP PUR reinforced surface for easy maintenance
- > YOUR NEED: SAFETY FOR USERS WHETHER BAREFOOT OR WEARING SHOES

Granit Safe.T
Homogeneous vinyl

 - Studded surface offers high slip-resistance for bare feet (Class B / Esb - R10 / Esf)
 - Fully watertight system with a limited number of hot-welded, sealed joints with Aquarelle Wall HFS
 - Flexible for easier coving
 - Safety Clean XP top treatment for easy maintenance

OTHER SUITABLE RANGES: **Granit Multisafe, Optima Multisafe**

WALLS

Aquarelle HFS

- Waterproof solution featuring hot-welded joints for increased hygiene
- Easy to clean and maintain with fewer joints, minimising moisture traps
- Available in 32 bright, distinctive designs for harmonious combinations with our flooring ranges
- Bs2-d0 fire-rated

ACCESSORIES

- Drains
- Cove formers
- Junction profile
- Gratings
- Waterproof pipe collars

FOCUS: PREVENT SLIPPING IN WETROOMS

A floor's degree of slip-resistance must be selected depending on:

- Whether students wear shoes or not, and then the respective standards (barefoot or wearfoot standard)
- Type of liquid spillage: water and/or viscous material (oil, grease...)

	TARKETT SOLUTIONS	TECHNICAL CHARACTERISTICS
Area where shoes are worn	Safetred solutions	R10 / > 36° / > 20µm / Esf
	Safetred universal Plus	R11 / > 45° / ≥ 35µm / Esf
Barefoot areas Showers and changing room	Granit Safe.T	R10 / Esf
	Optima Multisafe	Class B
	Granit Safe.T	Class B / Esb
	Granit Multisafe	Class C

TECHNICAL DATA

		Compact homogeneous vinyl	Acoustic homogeneous vinyl	Compact heterogeneous vinyl		Acoustic heterogeneous vinyl			Compact linoleum	Acoustic linoleum	Luxury Vinyl Tiles		Heterogeneous vinyl	Carpet tiles
		iQ RANGES	iQ ACOUSTIC RANGES	ACCZENT RANGES		TAPIFLEX RANGES			LINOLEUM xf² 2.5MM	LINOLEUM SILENCIO xf²	LVT GLUE DOWN	LVT LOOSE LAY	WALL PROTECTION	AIRMASTER*
		iQ Granit / Optima / Natural / Megalit / Eminent /	iQ Granit / Optima acoustic	Acczent Platinum 100	Acczent Excellence 80	Tapiflex Platinum 100	Tapiflex Excellence 80	Tapiflex Stairs (fully glued or adhesive version)	Veneto/Etrusco/ Style Emme/ Style Elle	Veneto/Etrusco/ Style Emme/ Style Elle	iD Inspiration 70	iD Click Ultimate	ProtectWALL 1.5	Airmaster with Ecobase backing
		ENTRANCE / CAFETERIA / STAIRWAYS	CLASSROOMS / LECTURE ROOM / LIBRARY / CORRIDORS	CAFETERIA	ENTRANCE / CAFETERIA	CLASSROOMS / LECTURE ROOM / LIBRARY / CORRIDORS	CLASSROOMS / LECTURE ROOM / LIBRARY / CORRIDORS	STAIRWAYS	ENTRANCE	CLASSROOM / CORRIDORS / LECTURE ROOM / LIBRARY	ENTRANCE	ENTRANCE	CORRIDORS / CAFETERIA	LECTURE ROOM / LIBRARY
Durability and resistance	Commercial Class <i>EN ISO 10874 (Resilient)</i> <i>EN 1307 (Carpet)</i>	34	33/34	34	34	34	34	34	34	33	34	34	-	33
	Total thickness <i>ISO 24346</i> Total thickness <i>ISO 1766</i>	2mm	4mm/3.70mm	2.45mm	2mm	3.10mm	3.25mm	3.50mm	2.5mm	3.8mm	2.5mm	6.5mm	1.50mm	≥ 2.4mm (Effective pile thickness - ISO 1766)
	Wear layer thickness <i>EN ISO 24340 (EN 429)</i>	2mm	2mm	1mm	0.80mm	1mm	0.80mm	1mm	2.5mm	2.5mm	0.70mm	0.70mm	0.35mm	-
	Average indentation <i>EN ISO 24343-1</i>	≤0.10mm Best measured value: 0.02mm	≤0.20mm	0.04mm	0.03mm	0.09mm	0.10mm	≤0.20mm Best measured value: 0.10mm	0.08mm	≤0.30mm Best measured value 0.20mm	0,05mm	0.05mm	-	-
	Resistance to impacts <i>EN 259-2</i>	-		-	-	-	-	-	-	-	-	-	No visible burst nor crack	-
	Scratch resistance	-	-	-	-	-	-	-	-	-	-	-	Sclerometre test: Excellent No visible scratch with naked eye	-
	Thermal resistance Underfloor heating	Approx. 0.01 m² K/W Suitable - Max 27°C	Approx. 0.01 m² K/W Suitable - Max 27°C	0.02 m² K/W Suitable	0.02m² K/W Suitable	0.02 m² K/W Suitable	0.04 m² K/W Suitable	0.04 m² K/W Suitable	0.015 m² K/W Suitable	0.040m² K/W Suitable	0.02 m² K/W Suitable	0.05m² K/W Suitable	0.02 m² K/W	≥ 0.040m² K/W
Easy cleaning	Surface Treatment	iQ™	iQ™	TopClean XP™	TopClean XP™	TopClean XP™	TopClean XP™	TopClean XP™	xf²	xf²	TopClean XP™	PUR Ultimate	TopClean XP™	-
Acoustic comfort	Impact sound reduction <i>EN ISO 717/2</i>	-	15dB/17dB	9dB	3dB	17dB	19dB	18dB	6dB	18dB	2dB	19dB	-	≥ 23 dB
	Acoustic Improvement <i>NF S31-074</i>	-	Class A	Class C	Class C	Class A	Class A	Class A	Class C	Class A	Class C	Class C	-	-
	Measurement of sound absorption <i>ISO 354</i>	-	-	-	-	-	-	-	-	-	-	-	-	0.15 αw
Slip resistance	<i>DIN51130</i>	R9	R9	R9	R9 / R10 (Wood)	R9	R9 / R10 (Wood)	R10	R9	R9	R9/R10 (depending on embossing)	R9	-	-
Indoor Air Quality & Environment	Total VOC emissions <i>ISO 16000</i>	< 10 µg/m³	< 10 µg/m³	< 10 µg/m³	< 10 µg/m³	< 10 µg/m³	< 10 µg/m³	< 10 µg/m³	< 10 µg/m³	< 10 µg/m³	< 10 µg/m³	< 100 µg/m³	< 10 µg/m³	< 100 µg/m³
	Phthalate-free	100%	100%	100%	100%	100%	100%	100%	Naturally	Naturally	Phthalate free technology	100%	100%	-
	% recyclable	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	-
	% recycled content	26%	26% / 29%	29%	33%	21%	21%	25%	-	40%	32%	-	11%	-
Reaction to fire	<i>EN 13501-1</i>	B _{fl} -s1	B _s -s1	B _{fl} -s1	B _{fl} -s1	B _{fl} -s1 glued on any A2 _s or A1 _{fl} substrate C _{fl} -s1 glued on any derivated wood substrate	B _{fl} -s1 glued on any A2 _s or A1 _{fl} substrate C _{fl} -s1 glued on any derivated wood substrate	Glue down: B _{fl} -S1 glued on any A2 _{fl} or A1 _{fl} substrate Adhesive: C _{fl} -s1 over any A2 _{fl} or A1 _{fl} substrate	C _{fl} -S1	C _{fl} -S1	B _{fl} -s1	B _{fl} -s1	Bs2-d0 (glued on any non metal A2-s1 d0 class substrate)	B _{fl} -s1

* depending on range chosen

TECHNICAL DATA

		Homogeneous	Heterogeneous	Homogeneous	Heterogeneous	Heterogeneous vinyl floor covering - Point elastic solution				Wooden floor system - Area elastic solution		Lumaflex - Area elastic solution
		SAFETY SOLUTIONS		WETROOM CONCEPT		OMNISPORTS RANGE				S'MATCH-IT RANGE		LUMAFLEX RANGE
		Granit Safe.T	Safetred Design / Ion / Universal / Spectrum	Granit Multisafe	Aquarelle Wall HFS	Omnisports Reference multi-use	Omnisports Active	Omnisports Excel	Omnisports PurePlay	Multiflex M	Flexlock	Lumaflex Duo Linosport xf²
		CHANGING ROOMS, SHOWERS & TOILETS	CHANGING ROOMS & TOILETS	CHANGING ROOMS, SHOWERS & TOILETS	CHANGING ROOMS, SHOWERS & TOILETS	SPORTS HALL	SPORTS HALL	SPORTS HALL	SPORTS HALL	SPORTS HALL	SPORTS HALL	SPORTS HALL
Comfort and Safety (EN14904 - Sports floors)	Shock Absorption EN14808	-	-	-	-	P1 ≥25% <35%	P1 ≥25% <35%	P1 ≥25% <35%	P2 ≥35% <45%	A4 ≥55% <75%	A3 ≥40% <55%	A3 ≥40% <55%
	Vertical Deformation EN14809	-	-	-	-	P1 ≤ 2mm	P1 ≤ 2mm	P1 ≤ 2mm	P2 ≤ 3mm	A4 ≥ 2.3mm < 5mm	A3 ≥1.8mm < 3.5mm	A3 ≥1.8mm < 3.5mm
	Slip resistance	-	-	-	-	80 - 110	80 - 110	80 - 110	80 - 110	80 - 110	80 - 110	80 - 110
	Vertical ball reaction EN12235	-	-	-	-	≥ 90%	≥ 90%	≥ 90%	≥ 90%	≥ 90%	≥ 90%	≥ 90%
Durability and resistance	Commercial Class EN ISO 10874 / 1307	34	34	31	-	-	-	-	-	-	-	-
	Total thickness	2.00mm	2.00mm	2.00mm	0.92mm	6.1mm	7.1mm	8.3mm	9.4mm	38mm	64mm	36mm
	Wear layer thickness EN ISO 24340 (EN 429)	2.00mm	-	2.00mm	0.12mm							
	Average indentation EN ISO 24343-1 EN1516 (sport)	0.02mm (best measured value)	<0.10mm	≤ 0.10mm	-	≤ 0.10mm (best measured value)	≤ 0.15mm (best measured value)	≤ 0.15mm (best measured value)	< 0.50mm	< 0.50mm	< 0.50mm	< 0.50mm
	Resistance to wear ISO 5470-1	-	-	-	-	≤ 1g	≤ 1g	≤ 1g	≤ 1g	≤ 0.8g	≤ 0.08g	≤ 1g
	Resistance to rolling load EN1569	-	-	-	-	≤ 0.50mm	≤ 0.50mm	≤ 0.50mm	≤ 0.50mm	≤ 0.50mm	≤ 0.50mm	≤ 0.50mm
Easy cleaning	Thermal resistance / Underfloor heating EN ISO 10456	0.01 m² K/W Suitable - Max 27°C	0.01 m² K/W Suitable - Max 27°C	Approx. 0.01 m² K/W Suitable - Max 27°C	-	-	-	-	-	-	-	-
	Surface Treatment	Safety Clean™	Safety Clean™	iQ PUR	-	TopClean XP™	TopClean XP™	TopClean XP™	TopClean XP™	Sport Lacquer	Sport Lacquer	xf²
Acoustic comfort	Impact sound reduction EN ISO 717/2	-	6dB (Spectrum) 4dB (Ion, Design, Universal)	-	-	-	-	-	-	-	-	-
	Acoustic Improvement NF S31-074	-	Class C	-	-	Class A	Class A	Class A	Class A	-	-	-
Slip resistance	DIN51130	R10	R10	R10	-	-	-	-	-	-	-	-
	DIN51097	Class B	-	Class C	-	-	-	-	-	-	-	-
Indoor Air Quality & Environment	Total VOC emissions ISO 16000-9	< 10 µg/m³	< 100 µg/m³	< 10 µg/m³	< 10 µg/m³	< 10 µg/m³	< 10 µg/m³	< 10 µg/m³	< 10 µg/m³	< 100 µg/m³	< 100 µg/m³	< 10 µg/m³ (Linosport)
	Phthalate-free	100%	Phthalate free technology	100%	100%	100%	100%	100%	100%	Naturally	Naturally	Naturally
	% recyclable	100%	100%	100%	100%	100%	100%	100%	100%			100% (Linosport)
	% recycled content	-	-	-	-	14%	17%	23%	5%	-	-	39% (Linosport)
Reaction to fire	EN 13501-1	Bfl-s1	Bfl-s1 (on cement)	Bfl-s1	Bs2-d0 (on jypsum plaster board & on A1 & A2 substrate)	Cfl-s1	Cfl-s1	Cfl-s1	Cfl-s1	Cfl-s1	Cfl-s1	Cfl-s1

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Lille, France
Architect: Credo Architecture



University
Ordu, Turkey
Architect: Şafak Şahin



Karel De Grote Hogeschool
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Architect: TV RAU-Stramien



Nelson Mandela Middle School,
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Basisschool de Kameleon,
Terneuzen, The Netherlands
Architect: V+G Architecten



Tarih College
Istanbul,
Turkey



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Nyköping, Sweden
Architect: Carlstedt Arkitekter



Drill Hall Library,
Chatham Maritime,
United Kingdom



Istanbul Technical University
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Architect: Kıvanç Gürtaş



Milan Rakic Primary School
Mionica, Serbia
Architect: Model Art, Novi Sad

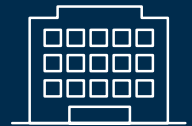


University
Delft, The Netherlands
Architect: Gispem

TARKETT, A TRULY
GLOBAL COMPANY



€ 2.8billion
net sales



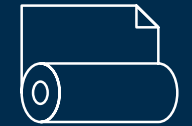
21 acquisitions
in the last 10 years



36 industrial sites



100 countries
covered



1.3 million m²
flooring sold every day

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