



QUALITY THAT MAKES THE GRADE

nora® rubber flooring for educational environments

nora®
by **Interface**®

Robust by origin – Rubber



Inspired by nature, perfected by technology

Nature often provides the best ideas. This also applies to nora floor coverings, which are made of high-quality natural and industrial rubber. In addition, minerals from natural deposits and other components such as environmentally friendly colour pigments are added, forming the basis for an extremely robust yet permanently resilient classic “Made in Germany”.

The special feature of rubber is its inherent elasticity, so nora floor coverings do not require softening substances. Vulcanisation makes them permanently elastic, helping their unique functionality and aesthetics last for decades to come. The nora complete system

is no less unique. With a comprehensive range of accessories and unparalleled service, it delivers both consistent and cross-functional design across all surfaces, stairs and levels.





For a good learning environment

Educational institutions have a high responsibility. They are the place where young people are prepared for their lives and the world of work. It is therefore important to create a motivating learning environment – and that starts with the flooring.

This must, of course, meet many criteria and the highest standards, and above all it should be healthy and low-emission. After all, only an optimal indoor climate ensures a good learning environment. Children also like to run around, so slip resistance is an important aspect. Just like robustness, this feature will pay off in the long run. A perfect floor is wear-resistant and

results in minimal follow-up costs. Get to know nora floor coverings – the following pages give you the opportunity to do so.



Quality just like from the textbook

Architects, builders, users and processors worldwide rely on nora solutions when it comes to creating healthy and aesthetically pleasing interior design. As the market leader of unique rubber flooring, nora systems GmbH develops and produces premium quality "Made in Germany".

We consistently follow the vision of creating products with outstanding and sustainable benefits for our customers. That's why we put all our innovation spirit into our product development. For us, innovation means constant learning – from our customers, the markets and ecological development.

We consider it our responsibility to think and act holistically and in a future-oriented way – for this we have enjoyed the trust of our customers since 1950.

Contents

06 Health & environmental sustainability

08 Durability & longevity

10 Ecology & economy

12 Colour & design options

14 Acoustics & learning environment

16 Inclusion & accessibility

18 Workshops & specialist rooms

20 Sports & exercise rooms

22 System solutions

Top marks in the field of environmental protection

A healthy environment is of great importance for the wellbeing of students and teachers. Important foundations for a positive learning environment are already being created when planning an educational institution. The decisive factor here is the choice of flooring, which occupies the largest area in the room. nora rubber floor coverings are extremely low-emission and thus contribute to good indoor air quality. As such, these provide the best conditions for a positive learning environment and effective protection for those who need it most. Children in particular are sensitive to pollutants. This makes it all the more important to select optimal building materials.



Carbon neutral floor coverings over the entire product life cycle

Our floor coverings not only ensure a good indoor climate. Health and environmental sustainability are particularly important for future generations: nora rubber floors are carbon neutral over the entire product life cycle. We are continuously working to prevent emissions: For example, the electricity demand from renewable energies is met and work processes are optimised in order to further reduce emissions. We compensate for the unavoidable carbon emissions by purchasing emission reduction certificates that finance climate protection projects.

Eco-Labels



www.blauer-engel.de/uz120

norament® 926 and noraplan® standard floor coverings



nora standard flooring, dissipative and acoustic floorings



norament 926 and noraplan standard floor coverings



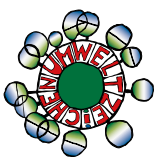
norament and noraplan floor coverings



norament 926 and noraplan standard floor coverings



norament 926 and noraplan standard floor coverings



norament 926 and noraplan standard floor coverings



norament 926 and noraplan standard floor coverings



nora floor coverings



norament 926 and noraplan standard floor coverings



norament 926 and noraplan standard floor coverings

Memberships and other certifications



Certified: DIN EN ISO 14001, DIN EN ISO 50001



Sighartstein kindergarten, Neumarkt am Wallersee, Austria | © Angelo Kaunat



Survives many education reforms

The fascinating material of rubber is ideal for the versatile requirements of school operations. Where many chairs, furniture and feet put stress on the flooring every day, durability is important. Maximum wear resistance and long-term elasticity ensure that the facility offers a safe environment for well-being and remains well maintained even after decades. Be it through optimal acoustics in study areas, ergonomic advantages or slip resistance for areas where things are sometimes a little wilder. Even in the event of a fire, the advantages of nora rubber floor coverings are apparent, as they are not only flame retardant (EN 13501), but also fire-toxicologically safe according to DIN 53436. That's how much safety should be provided in education.

nora floor coverings are comprised of the very efficient raw material of rubber. The dense and closed surfaces of norament and noraplan are extremely robust, resistant and durable. This makes them predestined for educational institutions and ensures a high-quality appearance for many decades.

“The floors are very durable and that is exactly what we need in a university, whose buildings are heavily frequented and used around the clock.”

Seppo Markku, Architect



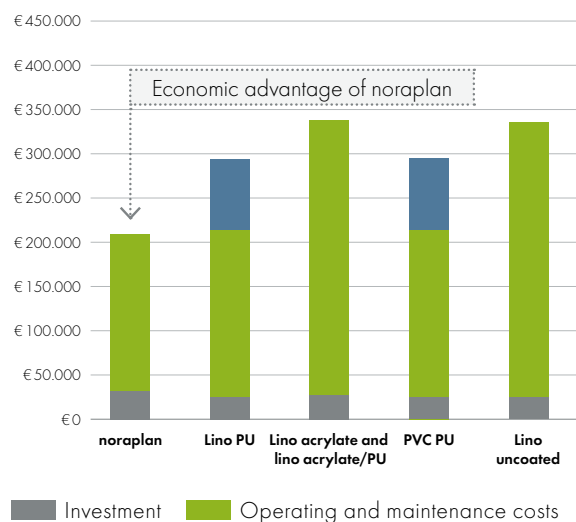
Perfect for running around, easy to clean

When selecting floor coverings, the emphasis is being placed on life-cycle costs (LCC). A closer examination of the overall costs reveals that the majority of costs are incurred when the flooring is in use. This is consequently where the largest potential savings are. Criteria such as cleaning and maintenance effort as well as sensitivity to renovation are also significant. Particularly in long-term buildings such as highly frequented educational buildings, the low maintenance costs and durability of nora floor coverings have a positive effect on the LCC analysis.

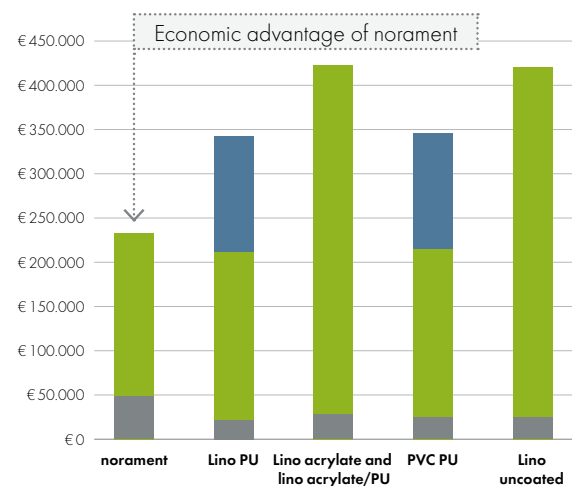
“With nora, we don't have to invest in long-term maintenance because it can be so easily maintained with just light detergent and water.”

Neysha Mejia, Project Manager at Pillar Property Management, Bronx - NY

Life-cycle cost (LCC) comparison: noraplan



Life-cycle cost (LCC) comparison: norament



Presumed cleaning scenario for 1,000 m² area and 15 years.

Details and source: nora systems GmbH

noraplan: typical scenario for areas with average stress, such as a kindergarten.

norament: typical scenario for areas with heavy dirt influx and high mechanical load, for example in the school foyer.

With foresight and forward planning, a lot of money can be saved in the maintenance of school buildings. We will be happy to create your individual life-cycle cost analysis and show you potential savings specific to the building premises.



Völklingen kindergarten, Germany | © arus GmbH Willi Latz | Norbert Miguletz



Ladybird Early Learning Centre, Dubai, United Arab Emirates | © Gerry O'Leary

Better learning

Educational spaces can become living spaces through creative design concepts that inspire learning. Flooring gives your rooms structure, personality and life. With nora 4you we offer customisable and unique products that give educational institutions a special character.

Inlays

Playful design elements, helpful orientation and guidance systems, symbols or logos can be easily produced with inlays according to your ideas and wishes.

Modular installation

You can choose between different plank and tile sizes in different colours and designs. The individual laying patterns decisively shape the ambience, giving the room a unique appearance.

Special colours

With more than 300 shades in different designs, we have a large standard range. If you are looking for a different shade, we will be happy to develop an individual colour for your project. We can implement almost any colour using samples or colour codes (NCs, RAL, Pantone) according to your wishes.



Ladybird Early Learning Centre, Dubai, United Arab Emirates | © Gerry O'Leary



Children's Hospital Colorado, US | © nora systems

See the result now?

You won't know how design works in spaces until you've seen it. In the nora room design studio, rooms can be individually and virtually redesigned. Experience a wide variety of colours and designs in real spaces. Change the flooring and colour at will, or import the selected floor into your CAD or 3D modeling program. Further information can also be found on our website.



Lecture Hall and Campus Center (HCC), University of Kassel, Germany | © Werner Hufmacher

Level down, concentration up

Good acoustics are important for learning success. After all, noise distracts and is a stress factor for all involved. Good room acoustics are crucial for the innovative, open construction methods of education, with their new forms of learning and cooperation. Acoustic measures are intended to minimise unwanted sources of sound. In addition to soundproofing elements in walls and ceilings, the flooring can also make a positive contribution to better speech intelligibility and greater listening comfort.

Footfall sound absorption

nora rubber floor coverings reduce walking noise by up to 20 dB.

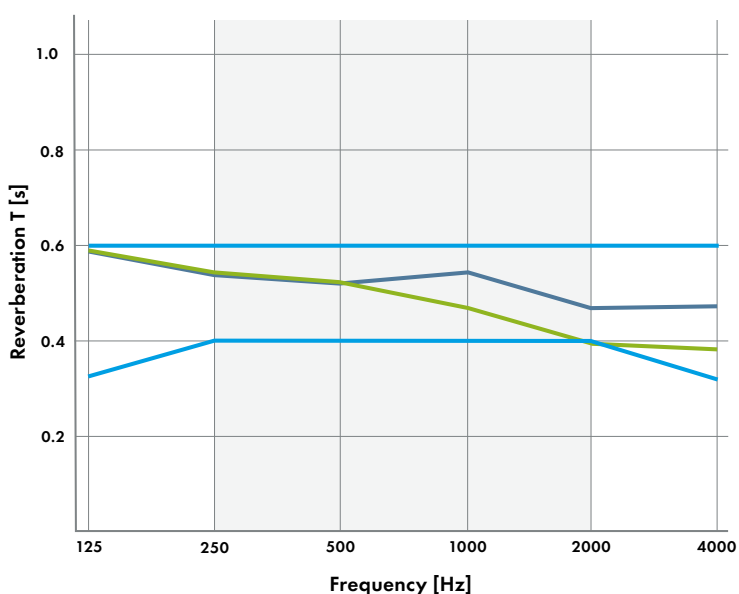
Noise generation

The permanently elastic floor coverings contribute to lower noise generation when walking or rolling compared to harder materials.

Reverberation times

In the case of rubber and textile coverings, the reverberation times in a room equipped with an acoustic ceiling in the relevant frequency range are comparable and correspond, among other things, to the recommendation of DIN 18041 (see comparative study by the Oldenburg acoustic office).

Room acoustics: expected reverberation times



Reverberation time in the model office ($V = 1000 \text{ m}^3$) with acoustic ceiling

- for carpets
- for rubber flooring
- Upper and lower limit for reverberation time according to the recommendation of DIN 18041

Comparative examination carried out by the Oldenburg acoustic office.

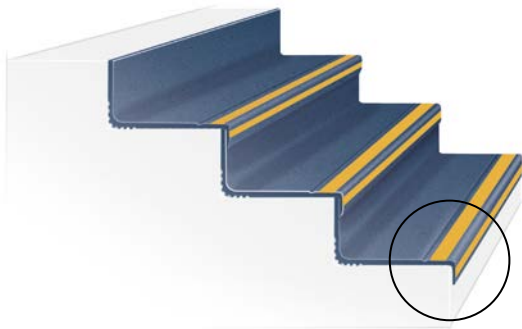
Inclusion starts from the bottom

Inclusion in education is an immense challenge that all participants must face: Schools, teachers, pupils – but also architects and planners, who should pave the way for joint learning. When implementing accessible buildings in education, you receive holistic system solutions. For classrooms, stairwells and equal opportunities in daily learning. nora stands for unrestricted diversity – also in terms of design possibilities.

With more than 300 standard colours, a wide range of surface structures and stair solutions with contrasting colours and orientation guidance systems, nora floor coverings can make a pioneering contribution to successful inclusion. The service is included. We competently support accessible planning, for example with regard to contrast determination.

Even tactile guidance systems and attention markings can be installed on nora floor coverings. Recommended systems and further information are available upon request.

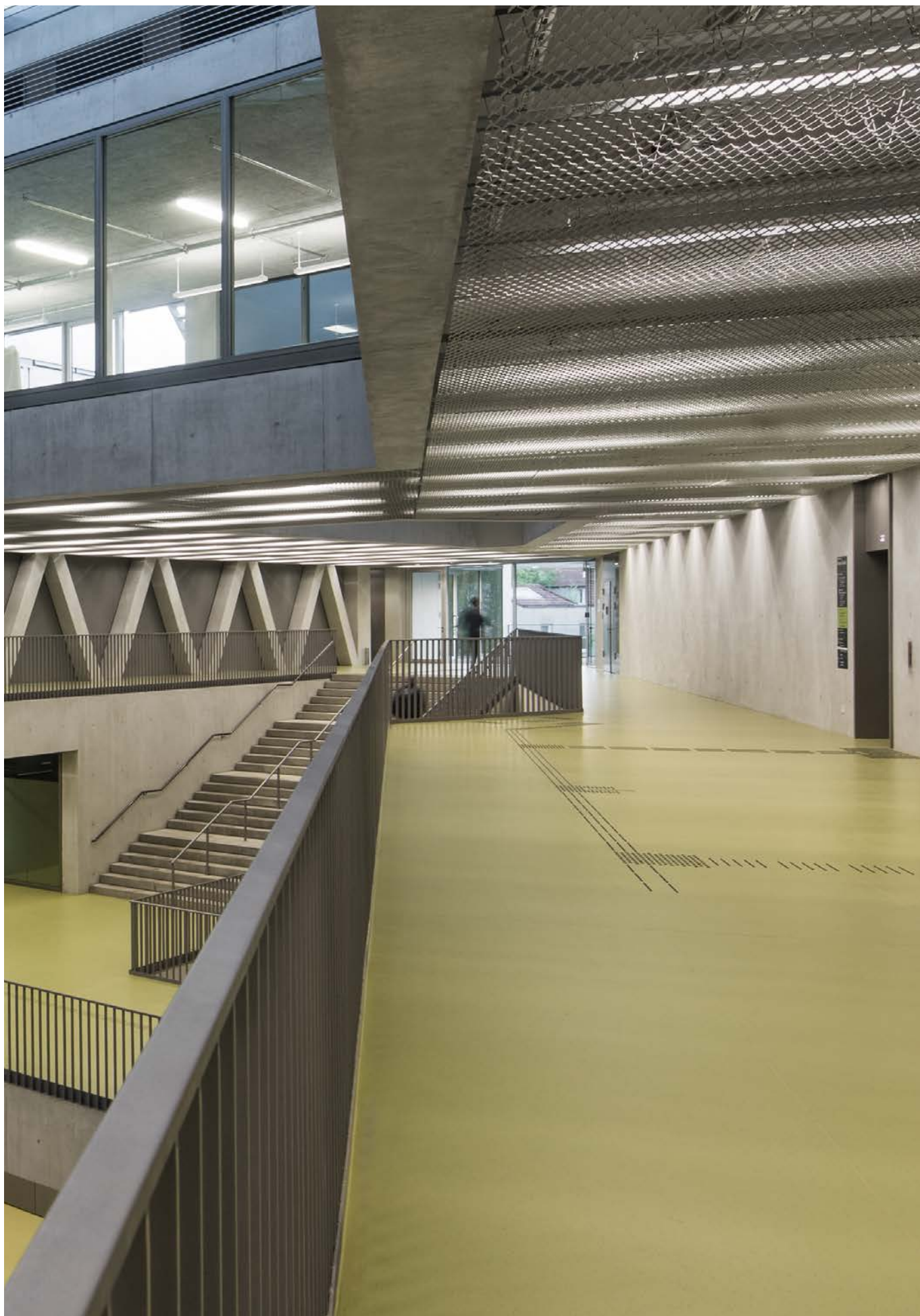
To make stairs more usable and to minimise obstacles, nora also offers solutions for people with visual limitations. This allows everyone to really participate in education.



**norament steptreads
with contrasting signal
or safety stripes**



**Contrasting stair nosing
with plug-in lip**



Lecture Hall and Campus Center (HCC), University of Kassel, Germany | © Werner Huthmacher

Safety at all times

The requirements for educational spaces are as diverse as the learning content itself. nora floor coverings are particularly distinguished here, as they not only offer different surface structures for increased slip requirements, but also provide electrostatic conductive and dissipative variants for the greatest possible protection of people and devices. In addition, floors with extensive oil, grease and chemical resistance are also part of the product range. In all of this, safety is paramount for small and large-scale users – whether in specialist science rooms, workshops, changing rooms or teaching kitchens.





Biologicum, Johann Wolfgang Goethe University Frankfurt, Germany | © Oliver Heinemann

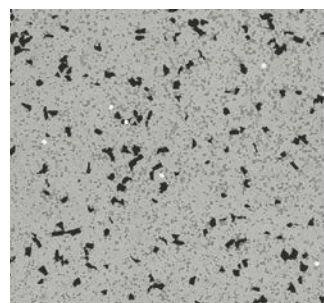
Where wood is chopped, splinters must fall. No problem for the nora range. Its extensive surface variants ensure that it meets greater requirements for slip resistance ratings (DIN 51130), which can be demanded in specialist workshops, for example.



R9 assessment group
norament and noraplan
standard floor coverings



R10 assessment group
norament 926 arago,
norament 926 grano (cubic structure),
noraplan stone (reflex-breaking surface)



R11 assessment group
noraplan ultra grip

Strong in many disciplines

nora standard flooring also score points in the sports sector: It provides excellent anti-slip and cushioning properties. The risk of friction burns or skin damage due to falling is very low. The range also includes coverings for sports and multi-purpose halls. noraplan sentica is tested in accordance with EN 14904:2006-06 and meets the requirements for playing surfaces. The resistance to scuffing from shoes and wheels ensures an impeccable appearance – even after major sporting events.





Exercise room at the Kokon children and youth rehabilitation centre, Bad Erlach, Austria | © Bruno Klomfar

Whether playing, running around or exploring, the warm and permanently elastic rubber floor coverings are the ideal basis for play and sport. The 4 mm-thick noraplan acoustic coverings with their two-layer structure are particularly accommodating to the joy of movement. These not only provide excellent anti-slip and cushioning properties, but are also characterised by shock-absorbing properties. This can absorb impact forces and reduce the risk of injuries from falling. The flooring is therefore gentle on joints and is also ideally suited for gymnastics or aerobics areas.



Like new – no matter how old

Since 1973, the norament floor with the characteristic pastille structure has been situated in the library of the Ruhr-University Bochum (RUB). "Selecting a resistant, long-lasting floor that was fire-resistant and non-slip was already a top priority at the time, in addition to the design aspect," says Dr Erdmute Lapp, Director of the RUB.

"The norament floor has absolutely met the expectations over the decades (...)"

Norma Schormann, Head of Building Maintenance, RUB



Future-proof installation

Quality work with a system – nora® offers you two product solutions that have one thing in common: you don't have to worry about anything. nora one is a certified complete system that supplies you with everything from a competent source. nora® nTx, a rapid installation system that makes floors immediately usable, is even simpler – to name just one of the many advantages.

noraONE - the safe complete solution

nora one® consistently pursues the sustainable system concept: The combination of low-emission nora® floors with suitable floor installation products and flooring installers specially trained by nora® form a certified complete system that is unique in the field of floor coverings.



nora rubber floor coverings

+



nora floor installation products

+



floor installers qualified by nora



The advantages: maximum safety for users and planners as well as an extended warranty period of 8 years for the entire system. The individual components are awarded Greenguard Gold and Emicode EC1^{PLUS}. In addition, this low-emission complete system is certified in line with Indoor Air Comfort GOLD. This is also unique in the area of floor coverings.

nora nTx – the revolutionary rapid installation system

The adhesive strength of nora® nTx is already factory fitted. In just a few steps, the floor is laid cleanly and safely and can be used immediately - and this can be done on the usual concrete or cement screed subfloors as well as on existing other floor coverings. Even increased residual moisture in the concrete or screed is no problem.



Reliable installation result



Immediate usability



High efficiency



For all types of subfloors



Use with residual moisture



Covering-over-covering installation

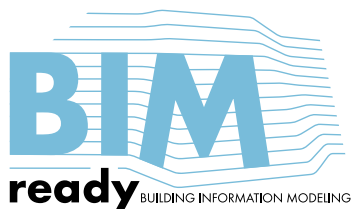


Photo page 2/3: © Markus Bachmann

Errors as well as misprints and changes reserved. No guarantee is given for the accuracy and completeness of the information. The product images in this document may differ from the original. This document is not a contractual offer and only serves to provide non-binding information.

The nora brand and all other registered trademarks used in this document are registered to the company, the country or to a company associated with nora systems GmbH. Other labels used here are trademarks of their respective owners.

Contact details, local branches or authorised retailers, as well as other information can be found at www.nora.com.

Publisher

nora systems GmbH

Höhnerweg 2-4

69469 Weinheim | Germany

www.nora.com