

GRABO

GRABO

# Commercial

VINYL FLOORINGS AND WALL COVERINGS

Welcome in our Commercial catalogue, your guide to our products and services.

You can find all about our heterogeneous and homogeneous floor and wall covering products recommended for commercial and light-commercial applications.

## WHY GRABO?

### > TRADITION

Graboplast Ltd is one of the biggest independent floor covering manufacturer company with over 115 years of experience.

### > FLEXIBILITY

The key factor of this long-term success is the ability to develop the products that would meet the always changing market requirements.

### > INNOVATION

Our production is based exclusively on our own technologies and unique production processes developed and improved continuously by our R&D.

### > QUALITY

The life-long commitment to quality is the basis of stable and reliable business partnership we offer to our clients all around the world.

### > SUSTAINABILITY

The Graboplast Company takes considerable efforts to maintain a healthy environment for both its employees and people living around.



# Global presence

More than 80 countries and 650 partners



GRABO

# Environmental attributes of Grabo vinyl floorings



## PHTHALATE FREE TECHNOLOGY

Grabo floorings contain biologically inert plasticizer which can be used in sensitive areas as well, such as medical devices and children toys. Thanks to the eco-friendly formulations our products have low volatile organic compounds (low VOC), therefore they do not adversely affect the indoor air quality.

## 100% RECYCLABLE

Beside the carefully selected raw materials and the environment-friendly manufacturing solutions we pay attention to the fact that our products do not impact the environment at the end of their life-cycle either. Accordingly our floorings are 100% recyclable.

## NO WASTE PRODUCT

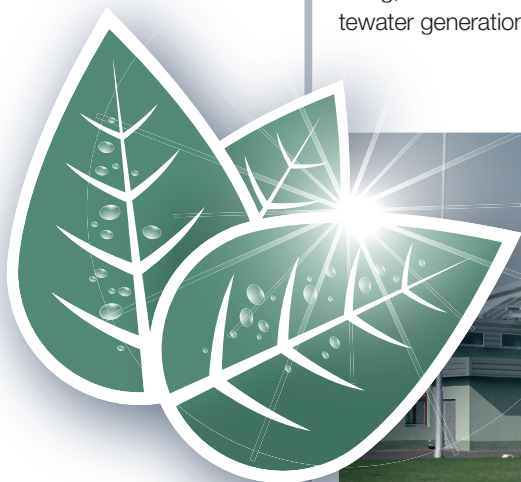
It is important to know that we not only declare that our products can be 100% recycled but we ourselves can convert the production waste and post-consumer waste into valuable raw materials which are incorporated into our floor production.

## NO HARMFUL MATERIALS

Grabo floorings are metal and solvent free resulting in reduced global environmental pollution.

## NO WAX

Grabo floorings have reduced cleaning requirements. Environmental impact is lessened by: no energy needs for waxing, reduced energy needs for cleaning, reduced cleaning agent use, reduced water use, and reduced wastewater generation.



# What is...



## X-PUR

Grabo's new surface treatment combines state-of-the-art technology with a customized, special lacquer formula. This results in excellent chemical resistance and very easy cleaning of our commercial floors, or outstanding scuff resistance of our sports floor products.



## SILVER KNIGHT

Grabo Silver Knight eliminates harmful bacteria without the use of chemicals. It has a self-disinfecting surface reached by a unique double-defense-line.



## iGUARD PUR SURFACE

UV cured, cross linked Polyurethane reinforcement which ensures easy cleaning and durability. No additional surface treatment needed for the whole lifetime of the product.



## TECH SURFACE

Extreme durability due to PUR and micronized  $Al_2O_3$  particles TECH Surface is a revolutionary new technology which makes the surface not only extremely hard and wear resistant but flexible so the installation can be carried out easily and quickly. The benefits of TECH Surface technology are the excellent stain and chemical resistance, the abrasion resistance and the easy maintenance.



## EASY CARE

Easy Care PUR makes the product easy to clean, whilst at the same time ensuring the safety properties and other technical performance benefits remain for a very long time.



## CLP SYSTEM

CLP is a complex system built up of PVC and cross linked polymer. Its essentiality is, on one hand - against other technical solutions - that CLP ensures throughout the intensive usage the constant parameters not only on the surface, but in the cross section of the wear layer: the durability of the product increases, which involves that the degree of wear and tear decreases. On the other hand due to the high density of the cross links, CLP diminishes the adhesion of the contamination on the surface, substantially improving the cleanability of the flooring.



## GRABOSAN

No surface is more at risk of contamination than the floor. In healthcare one of the most important steps in reducing the spread of infectious diseases is the cleaning and sanitizing of surfaces. Routine cleaning with detergent and water is useful for removing visible dirt and germs, but floor coverings require an additional performance to reduce the number of germs.

Therefore Grabo invented graboSAN, the anti-microbe additive contained surface treatment against mold, fungi, yeast, algae and bacteria. The result of the test method given in the International Standard ISO 846:1997 certify that no significant microbe growth could be observed on the graboSAN surface treated floors. The tests have been carried out with the *Pseudomonas aeruginosa* bacterium, which is one of the most common pathogens involved in hospital infections causing pneumonia, and with *Aspergillus niger* fungus, which causes a disease called black mold on certain fruits and vegetables.



RECOMENDATION

# Grabo's recommendation

	Homogeneous vinyl sheet floorings					Heterogeneous vinyl sheet floorings			
	Fortis	Fortis 1.5	Triumph	Polis	Conducto S	Silver Knight Diamond Tech	Silver Knight Acoustic 7	Acoustic 43	Acoustic Pro
Healthcare	Entrance area	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Reception/lobby	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Corridors	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Administration offices	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Intensive care	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Treatment rooms	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Waiting rooms	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Patient rooms	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Laboratories	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Operating theatre	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Loungery	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Storage rooms	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Ramps/elevators	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
Bathroom/toilet	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly	
Education	Entrance area	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Corridors	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Staff rooms	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Conference rooms	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Classrooms	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Storage rooms	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Language studios	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Libraries	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Laboratories	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Multipurpose rooms/halls	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Dormitory rooms	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Dining rooms	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Bathroom/toilet	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
Ramps elevators	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly	
Offices	Entrance area	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Reception/lobby	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Meeting/conference rooms	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Offices	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Corridors	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Bathroom/toilet	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Canteen/cafeteria	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
Retail	Entrance area	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Department stores sales floors	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Shops	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Food service areas	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Warehouses	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
Hospitality	Entrance	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Reception/lobby	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Restaurant/bar	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Kitchen	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Cinema, theatre, casino	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Corridors	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Bedrooms	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Bathroom/toilet	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
Other public areas	Airport hall/lounge	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Elevators	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Bus terminals	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Laboratories	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
	Small parts assembly halls	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly

Highly recommended  
(the best flooring choices  
for the space)

Recommended  
(flooring suitable for the space)

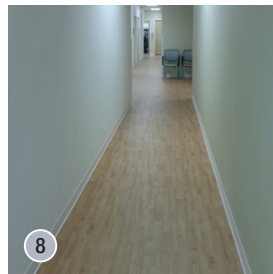
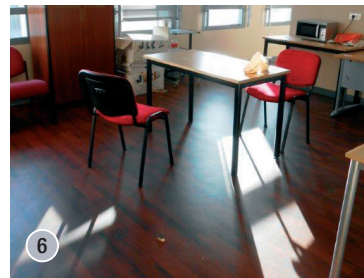
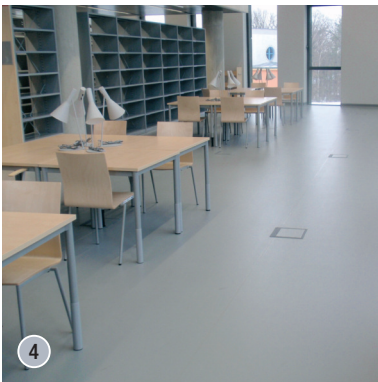
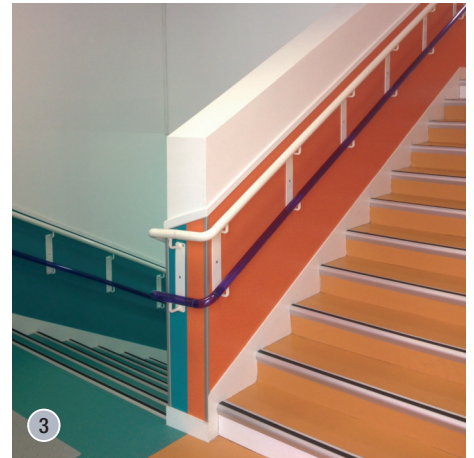


# References



## Acoustic

- 1 KG Private School, *Dubai*
- 2 American University Armenia-Yerevan
- 3 Rueil Malmaison School, *France*
- 4 Library, *Zielona Gora, Poland*
- 5 Hotel Eden Roc, *France*
- 6 Tournan en Brie School, *France*



## Standart

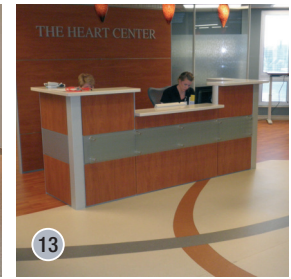
- 7 American Culture College, *Turkey*
- 8 VA Clinic, *Sebring, Florida, USA*
- 9 Natavega Mall playground, *Turkey*
- 10 Bangkok Hospital, *Thailand*



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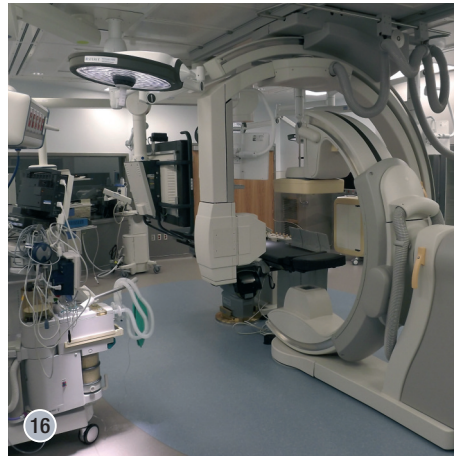
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### Silver Knight

- 11 Hospital, Nitra, Slovakia
- 12 Dentistry, Győr, Hungary
- 13 Parkridge Medical Center, Chattanooga, USA
- 14 Altru Health System's Center, Fargo, USA
- 15 Ho Tung Primary School, Hong-Kong
- 16 Essentia Hospital, Fargo North Dakota, USA
- 17 Ng Teng Fong General Hospital, Singapore



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### LVT

- 18 Dr.Ghassan Najib Pharaon hospital, Jeddah, Saudi Arabia
- 19 STUWO Leoben, Ausztria
- 20 BVH Studentenwohnheim Leechgasse Graz, Ausztria
- 21 Patak Vendéglő, Kismaros Hungary
- 22 Hotel Yacht, Siófok, Hungary
- 23 Biblioteca, Escuela de Ingeniería de Antioquia, Medellín, Colombia



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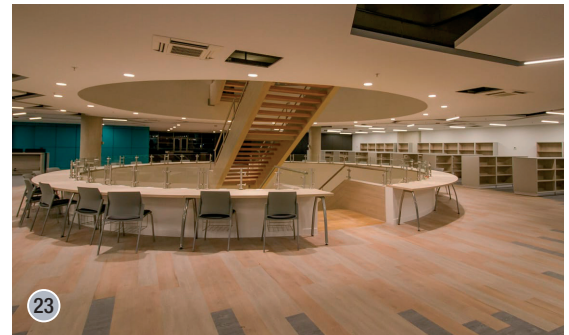
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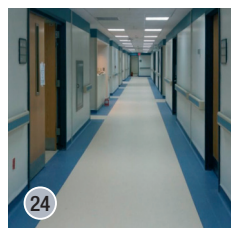
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### Homogeneous

- 24 King Faisal Specialist hospital, Jeddah, Saudi Arabia
- 25 Prizma Dental Clinic, Russia
- 26 Kindergarten, Irpin, Ukraina
- 27 Dr.Ghassan Najib Pharaon hospital, Jeddah, Saudi Arabia



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# Storage and care guide

The Grabo commercial vinyl floorings should be stored in the upright position or on racks in their original packaging in dry, clean and well ventilated premises. Outdoor storage under cover is not allowed. Ensure the storing temperature between +10°C and +35°C. Avoid storage in premises with high moisture content and/or condensation. The relative moisture content in the storing premises should be within 40–75%.

The GraboWeld welding rod used for heat welding should be stored under the same conditions as the flooring sheets, in its original packaging that should not be opened before use.

If stored in heated premises, the PVC products should be protected from heat. The distance between the heat source and the stored products should be at least 1 meter.

The products should be protected from direct sunlight and artificial light with high UV levels. The product should not be exposed to strain, pressure or other load during storing in order to prevent permanent deformation and cracking.

Appropriate storing conditions and adequate handling of the commercial PVC floorings will help to retain their properties till the end of their life-time. In case of extended storing (for more than one year) an adhesion test is recommended prior to the installation of the product. Only the rolls from a similar batch and having the same lot number should be used for the same premises. Prior to installation of the flooring visually inspect the sub-floor for general appearance, color and surface condition. The manufacturer does not assume responsibility for any additional labor or cost expenses resulting from evident surface defects.

## INSTALLATION

### SUB-FLOOR REQUIREMENTS

The contractor performing the installation of the Grabo commercial vinyl floorings must ensure the proper quality of the sub-floor. The sub-floor must be clean, smooth, permanently dry, free of cracks and any contaminants that might affect adhesion (e.g. paint, oil, grease, plaster or adhesive), sufficiently hard and resistant to pressure and tension strain. In case of concrete and sand/cement screed sub-floors, their moisture content should not exceed 2.5%. If the sub-floor moisture content exceeds 2.5%, but does not reach 5%, the damp proof membrane Grabo Vaporex should be installed underneath the PVC flooring system. If the sub-floor moisture content exceeds 5%, do not start installation before it goes below 5% or install a damp proof membrane underneath the commercial PVC flooring system.

It is recommended to check the condition of the sub-floor by performing the required tests and measurements prior to installation of the flooring. Check the surface level (using a ruler or a measuring wedge), as well as the absence of cracks, the moisture content (using a hydrometer) and the surface hardness (scratch test). Document the obtained test results. The sub-floor temperature directly before installation of the flooring should be between +15°C and +30°C.

### PREPARATION OF THE SUB-FLOOR (NEW OR EXISTING BASES)

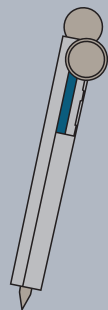
Prepare the new concrete base by stone or power grinding and vacuum cleaning. In case of new gypsum based screed sub-floors remove the loose upper gypsum layer by grinding. In case of existing carpet and rubber flooring, upon removing the old carpet or rubber sheets clean the surface from traces of paint and adhesive, then patch or fill the cracks and hollows, if any, before installing the new floor covering. If the new flooring is to be installed on top of a PVC base or ceramic tiles, thoroughly clean the surface by abrasion and vacuuming, fill the joints with a suitable repair composition and apply an approved primer compound to the entire surface.

If the new flooring is to be installed over existing wooden or laminated floors, confirm that the boards are securely fixed and properly dried. Firmly nail any loose elements to the joists and replace any boards with moisture content higher than required. The surface then should be sanded and cleaned from dust and treated with an appropriate primer compound. These sub-floor preparation and floor laying instructions assume the use of Henkel Thomsit products which can as well be replaced by products of any other brand with similar technical properties.

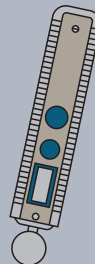
For the pre-treatment of the concrete base use dispersion primer Thomsit R 777 diluted with water by half; apply the primer without dilution on gypsum screed base with the help of a sponge roller and leave to dry for 24–48 hours. Use primer Thomsit R 766 diluted with water by half to pre-treat hard, dense, impervious surfaces. The primer will trap the remaining dust, close the pores in the con-

## Tools and equipments

### SUB-FLOOR PREPARATION



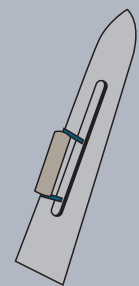
Sub-floor hardness tester



Equipment for structural moisture analysis (Hydromat CM-B or HB30)



Equipment for measuring temperature and relative humidity (Digital Thermo-Hygrometer LVT10)



Flat trowel

crete and make a contact surface for the smoothing compound. After the primer has been completely absorbed, the surface needs to be leveled using a suitable smoothing compound (e.g. self-leveling compound Thomsit). When choosing the self-leveling compound, consider the expected traffic load and the time allotted for the installation of the flooring. Thoroughly mix the powder with water according to manufacturer's instructions and then spread the smooth paste on the surface with a flat trowel. Occasional air bubbles should be removed with the help of a spiked roller. After the surface has completely dried up, it should be smooth-finished and cleaned from dust.

The Grabo commercial vinyl floorings are compatible with underfloor heating. If underfloor heating is used on the site, the heating system must be switched on at least four weeks before installation of the new flooring. Switch off the underfloor heating 24 hours before commencement of work and keep it turned off till installation of the PVC flooring has been completed. Wait 48 hours after the flooring has been installed and then switch on the heating again. Raise the temperature steadily till it reaches its usual value over approximately 5 days. While using underfloor heating, the temperature of the sub-floor must not exceed 28°C.

**In case of installing Grabo Luxury Vinyl Tiles, the suitable subfloor-types of well prepared, levelled plain subfloors:**

concrete / cement • anhydrite • plywood • stone, terrazzo, ceramic • solid PVC  
Do not install over  
carpet • cushioned, very soft vinyl • wooden parquet • laminate or other floating floor • asphalt and bitumen

**INSTALLATION OF GRABO COMMERCIAL VINYL FLOORINGS**

While the measured sub-floor moisture content stays within 2.5–5CM%, the use of damp proof membrane Grabo Vaporex is mandatory. If the measured subfloor moisture content is below 2.5%, the use of damp proof membrane Grabo Vaporex with Grabo commercial vinyl floorings can be waived. The use of Grabo Vaporex underlay is advisable in the case of existing concrete bases, vinyl floorings and metal bases and mandatory for asphalt sub-floors.

Installation of Grabo Commercial Vinyl Floorings with Grabo Vaporex:

The underlay must be unrolled and tempered on the site at a temperature of at least 18 °C for one day prior to installation. The Grabo Vaporex underlay should be placed on the even, dry and clean sub-floor prepared according to instructions, with the pattern side facing down. Fold up the edges near the walls for at least 10 centimeters and trim accordingly. Adjust the underlay sheets edge-to edge and then fasten the edges on the top (of the plain side) with a 5 cm wide vinyl adhesive tape. The underlay should lie flat on the surface. While Grabo Vaporex can be laid both lengthwise and crosswise, the crosswise installation is advised. Make sure the underlay joints do not fall together with the seams between the flooring sheets installed on top of the underlay. The Grabo commercial vinyl floorings should be glued to the underlay using a dispersion contact adhesive (e.g. Thomsit K 188E). Spread the adhesive evenly on the underlay surface using an A4 notched trowel, maintaining the spread rate of approximately 200 g/m<sup>2</sup>. Leave the adhesive to evaporate completely till it changes from opaque to transparent yellow. After approximately 60–90 minutes test it with your finger, and if not anymore

tacky, the adhesive bed is ready to accept the flooring sheets. Further steps (e.g. welding) are the same as described below for the installation of Grabo commercial vinyl floorings without Grabo Vaporex underlay.

**INSTALLATION OF GRABO COMMERCIAL VINYL FLOORINGS WITHOUT GRABO VAPOREX:**

The flooring must be unrolled and tempered on the site at a temperature of at least 18°C for one day prior to installation. Use the flooring rolls from a similar batch and having the same lot number for installation in the same premises. It is advisable to open the rolls in the ascending order of their lot numbers. When laying the flooring with a wood imitating pattern the subsequent strips should point in the same direction, otherwise lay every next strip with the pattern pointing in the reverse direction compared to the previous row. The arrow on the back side of the roll shows the correct laying direction. After tempering the unrolled floor covering trim the sheets to size on both ends with a 5 cm allowance, then place them on the sub-floor and align precisely edge-to edge. The rolls should be installed lengthwise, following the direction of the sunlight as it falls on the floor. Fold back the flooring strips to half of their length before applying the adhesive.

**GLUING**

We recommend using solvent-free low emission dispersion adhesives with Grabo commercial vinyl floorings. Two adhering methods can be advised – based on wet set adhesives and contact adhesives.

**WET GLUING**

In case of hygroscopic sub-floors (concrete, sand/cement screed) the use of dispersion or emulsion acrylic adhesive is recommended. The adhesive should be stored in frost-free environment and tempered on the site at a temperature of at least 18°C for one day prior to installation. Stir up the adhesive thoroughly before use.

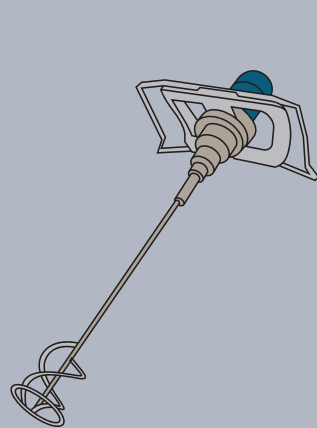
Recommended adhesives: Henkel Thomsit UK 400, Mapei Ultra/Bond ECO 350, F-Ball F/44.

Spread the adhesive on the sub-floor using an A3 or a B1 notched trowel, maintaining the spread rate of approximately 300–400 g/m<sup>2</sup>. Be sure to check the condition of the notched strips regularly and re-cut as necessary. Always follow the adhesive manufacturer's instructions regarding the optimal quantity, the open time and the drying time of the adhesive. A shorter open time will lead to the appearance of air bubbles, whereas a longer open time will reduce the bonding capacity.

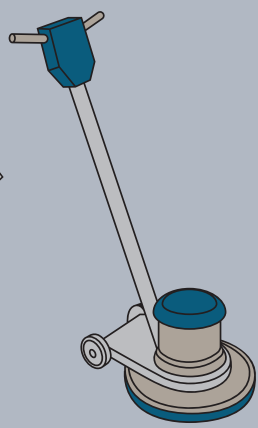
**CONTACT GLUING**

The use of contact adhesives can be recommended for both hygroscopic sub-floors (concrete, sand/cement screed) and impervious (PVC) substrates. Only contact adhesives should be used for impervious sub-floors.

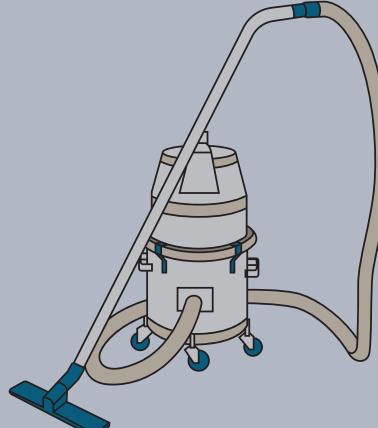
Recommended adhesive: pressure sensitive, water based acrylate glue, like Thomsit K 188E, Uzin KE 2000S, or other brand equivalent with these. Apply the adhesive to the sub-floor and spread evenly using an A2 or A4 trowel and maintaining the spread rate of approximately 200–250 g/m<sup>2</sup>. Leave the adhesive to evaporate completely till it changes color from opaque to transparent yellow. After approximately 60–90 minutes test it with your finger, and if the adhesive is not tacky anymore, you can start the laying.



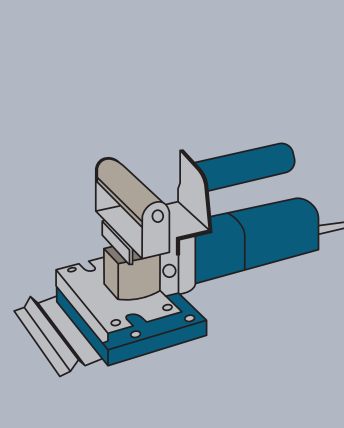
Hand mixer CX10 with suitable mixing blades



Rotary single disc polisher Columbus with accessories



Industrial vacuum cleaner Janvac 1600



Tools for stripping the existing floor covering (Compact stripper, Cosmo stripper)

**IN CASE OF VINYL SHEET FLOOR COVERINGS**

Start to position the folded back flooring sheet onto the adhesive bed. To ensure good bonding, thoroughly smooth the flooring sheet, working from the center outwards, with the help of a manual cork rubber, confirming no air bubbles are trapped underneath. Finally roll the installed flooring using a 50–60 kg roller. Repeat the sequence to install the other half of the flooring sheet. In order to make site formed coved skirting, draw a line on the wall to mark the height the coving will reach and fit the capping strip to the wall using contact adhesive. Attach the cove former in a similar way: using a brush, apply contact adhesive to the back of the cove former and to the wall up to the capping strip and leave both to dry. When completely dry, firmly push the vinyl with the cove former into place and tuck the top edge into the capping strip.

**IN CASE OF LVT**

LVT planks are to be installed generally parallel to the main light source, usually this is the longer side. Carefully determine where to begin tile or plank installation. It is customary to centre rooms and hallways so borders are not less than half a tile or plank. In hallways and small places it is simpler to work lengthwise from one end using a centre reference line. Make sure cut edges are always against the wall.

In case of simple surface pattern, measure the size of the room and mark the straight starting line of the installation. The distance of the starting line from the deepest part of the wall should be minimum the width of the plank minus 2-3 cm, or multiple of the width of the plank minus 2-3 cm. Coat the adhesive on the subfloor with the spatula, coated surface should be max. 3-4 rows at the same time and wait until the adhesive will be dry. Make finger test! Follow always the instructions of the glue manufacturer. LVT should be installed by offsetting method. Starting on the starting line, place the LVT pieces side by side, glue them on the subfloor, and closely fit the edges of the planks to each other. If the last piece of LVT is longer then needed, mark and cut the plank installing the cut end next to the wall. The remainder of the LVT which has been cut off can be used to start the next row as long as it is minimum 20 cm. If the last piece in the row is a full plank, start the next row with a cut piece which has minimum 20 cm length, ideal case is to make half cut piece. Against the wall install cut edge piece. Place each LVT piece tight, against the adjoining element, and well embed in the adhesive. The next rows can be started with the pieces cut from the previous rows, minimum size of these pieces are 20 cm. After gluing roll down well the planks with a steel roller as well (weight 50-70 kg) in all directions, forward and back and diagonally. Prepare the skirting at the walls. Skirting can be made from the same LVT plank or from other plastic or metallic skirting, which is in harmony with the design of LVT. Use silicone seals between the joints of LVT and skirting.

**WELDING**

Welding (in case of sheet vinyl floor coverings) can be performed after no less than 24–48 hours upon installation, depending on the kind of the applied adhesive and the adhesive manufacturer's instructions.

**HEAT WELDING**

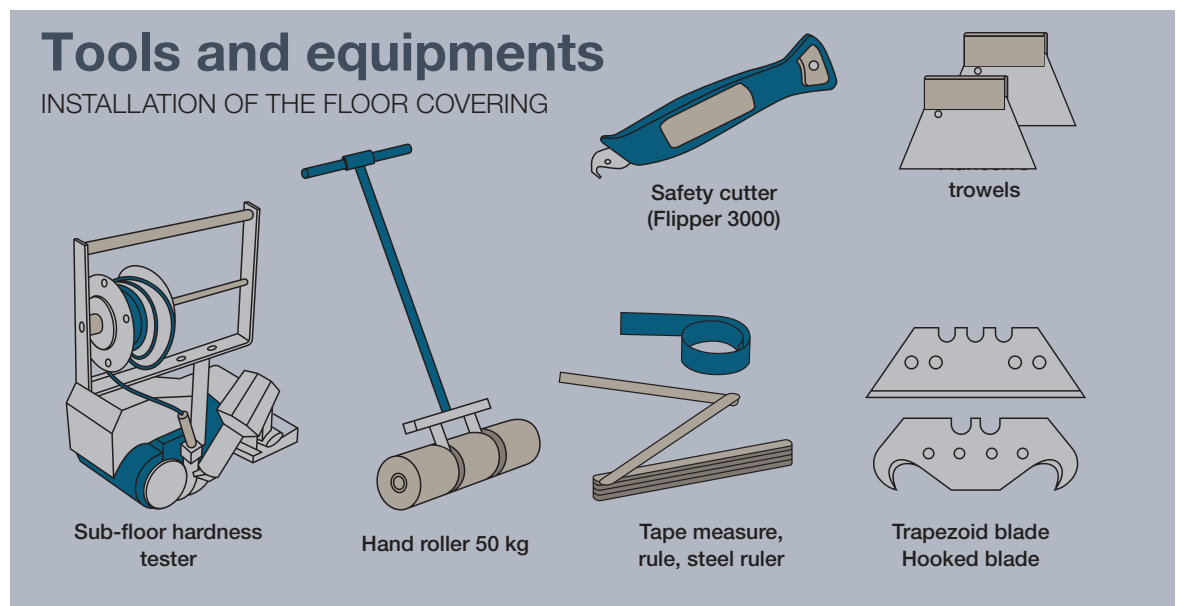
Application of heat welding is mandatory for wet areas and premises with underfloor heating. When the flooring is ready, the joints should be grooved to appropriate depth and width either manually, or with a power tool. For foam backed vinyl floorings the joints should be grooved to the depth of the upper (outer) layer; for firm dense surfaces the joints should be grooved to the 2/3 of the profile; the recommended groove width is 2–3 mm. The joints should be thoroughly cleaned from any debris. Use ø 4 mm GraboWeld welding rod for heat welding of the commercial vinyl floorings. Set the working temperature of the heat welding gun to approximately 300–400 C°. The welding can be carried out with the help of an automatic appliance or with a hand-operated welding set. Before starting the procedure, trial welding is recommended in order to set the optimal welding temperature and speed. After the welding seam has cooled down, remove the excessive welding rod in two steps. First cut off the top half of the welding rod using a quarter moon knife. After the remaining weld has cooled to the room temperature, perform the final trim.

**HEAT WELDING IN THE CORNERS**

From the perspective of the flooring external and internal corners are distinguished. Fitting of welds in internal corners can be performed in two ways: either by precision cutting and subsequent silicon filling of the seam, or by „half-rod” welding. In the latter case, the welding rod cut-offs from the first trim can be used to fill in the vertical seams by pressing them into the vertical grooves with the rounded side down and then applying heat coagulation to the joints. The excess welding rod should be trimmed off. It is recommended to pre-heat the coves before welding the joints. Precision cutting is important for external corners as well. Corner welding should be performed with a welding rod.

**COLD WELDING**

Cold welding is another common technique used for the installation of commercial PVC floorings. This method ensures quick seam closing and is especially suitable for chip floors and all-over surfaces, as it produces an integral seamless covering for large areas. The cold welding technique consists of four steps:



1. Place the PVC flooring strips so as they overlap for approximately 3–5 cm. Cut the sheets lengthwise along a metal rule and remove the cut-off waste from both the top and the bottom layer.
2. Center the masking paper tape over the closely cut joints of the PVC strips and press it on tightly with a roller to stop the cold welding paste from sneaking while being filled into the joint.
3. Cut through the masking tape simply and firmly along the seam with a circular cutter (or a trapezoid blade).
4. Thoroughly shake up the tube with the cold welding paste. Press the nozzle of the cold welding paste tube deeply into the joint with one hand and pull the tube along the joint. Use your other hand to dose the cold welding paste so that an approximately 5 mm wide line appears on the surface of the masking tape. Allow bonding for ten minutes and then remove the masking tape. The result is an almost invisible waterproof seam.

Use Werner Mueller cold welding paste Type A for sealing new PVC floorings and Type C to repair the existing surfaces. Successful cold welding requires the use of the tools and equipment shown in the picture. For details of cold welding technique see your language version of the manufacturer's site: [www.mueller-pvc-naht.de](http://www.mueller-pvc-naht.de)

### SKIRTING

Plastic skirting is recommended for closing the edges along the walls. If Vaporex damp proof membrane has been used, a 5 mm air gap should be left along the walls during installation of the skirting.

### INSTALLATION GUIDE TO GRABO MURAVYL WALL COVERING

The wall surface will be covered by Grabo wall coverings should be clean, dry and dust free. The old wallpaper, old wall covering and old paint should be removed. The holes and hollows should be filled up with gypsum and the unevenness should be diminished. After the gypsum dried out, the surface should be abraded with fine sandpaper and made dust free. The surface should be treated with deep primer, e.g. Henkel "METYLAN". When installing the wall covering, the ideal room temperature is about 18-25°C and the relative humidity is around 50-60%. The installation can be started when the prepared wall (as above) is absolutely dry. The recommended glue type is Henkel Thomsit K 188 E and Uzin KE 2000S or other water based pressure sensitive glue, which has equivalent properties to these brands. The wall covering should be cut in advance into the required length 24 hours before gluing. We recommend installing the wall coverings on the following way: The wall covering can be installed vertically or horizontally as well. The glue should be applied with spatula A2 teeth onto the wall. (Consumption of glue is approx. 250-300gr/m<sup>2</sup>) Before putting on the wall covering, you should make so called finger-press test on the glue. When no any particle of glue remains on your finger it is the right time to put the covering on the wall. Always follow the instructions of the manufacturer of the glue, keep waiting time according to the description. Put the wall covering cut to size beside each other so that the rolls cover/lap each other in a 2-3 cm wide stripe. The hanging should be made with the help of the special brush, smoothing roller, rubber roller. The smoothing always should start from up to down direction and from the middle toward the edges. The air bubbles should be perfectly and carefully smoothed out from under the wall covering.

After this you should cut the middle of the lapped 2-3 cm stripe (where the wall stripes meet) with a very sharp knife and with the help of a steel ruler. The cutting should be carried out on that way that the knife should cut both layers. Then the edges of the wall covering slightly should be raised so that the narrow stripes could be peeled off. This process should be made very carefully and slowly, so that there

must be only 1 cut stripe. Then we smooth down again the edges (from up to down), and remove the residues of the glue if there is any, with a soft, wet sponge immediately. Should there glue residues remain on the surface of the wall covering you should remove it immediately by a wet, soft sponge.

We recommend cold welding or hot welding process to make the joints waterproof. Welding process can be started 24 hours after gluing.

## CLEANING AND MAINTENANCE

### GENERAL NOTES

Regular cleaning and maintenance are crucial for the durability and attractive appearance of your flooring. The floor maintenance schedule is primarily determined by the intensity of the traffic load. Routine (daily) cleaning and periodical general maintenance are indispensable for preservation of the long-term appearance and performance of Grabo floor coverings. Apart from the approved maintenance products listed in this guide, other cleansers with similar parameters (chemical formulation and pH-value) are also compatible for use with Grabo commercial vinyl floorings. Do not use cleaning products that could damage the surface, e.g. abrasive cleaners or organic solvent-based detergents. As a general rule, always follow the detergent manufacturers' instructions and contact them for additional details when required. Cleaning and maintenance procedures for Grabo safety floorings are described in a separate user guide.

### PREVENTIVE MEASURES

Most of the dirt, grit and moisture that will need to be cleaned from the floor surface arrive from the street. The majority of this soiling can be kept outside by using efficient dirt barrier systems of appropriate size. The maintenance regime depends to a great extent on how efficiently the dirt is stopped at the front door. Another point to consider is the use of high-quality heavy-duty plastic pads ("footies") to be attached to furniture legs to protect the floor from scratching. The newly installed floor covering needs a basic cleaning that should be later repeated between certain periods of use.

### BASIC AND PERIODICAL CLEANING BY MACHINE

Remove solid dirt from the surface by sweeping or vacuum-cleaning.

Tools: alkaline cleaning detergent, mono-disc cleaning machine with red pad and damp sweeping equipment.

### TECHNOLOGY OF BASIC/PERIODICAL CLEANING

The cleaning solution should be dispersed on a surface of 5-10 m<sup>2</sup> area and should be scrubbed after an acting time of 10-15 minutes. Then the cleaning agent should be absorbed, the surface should be rinsed with clean water, and lastly, the water should be absorbed again. The periodical cleaning should be done with a frequency according to the grade of use.

### DAILY CLEANING

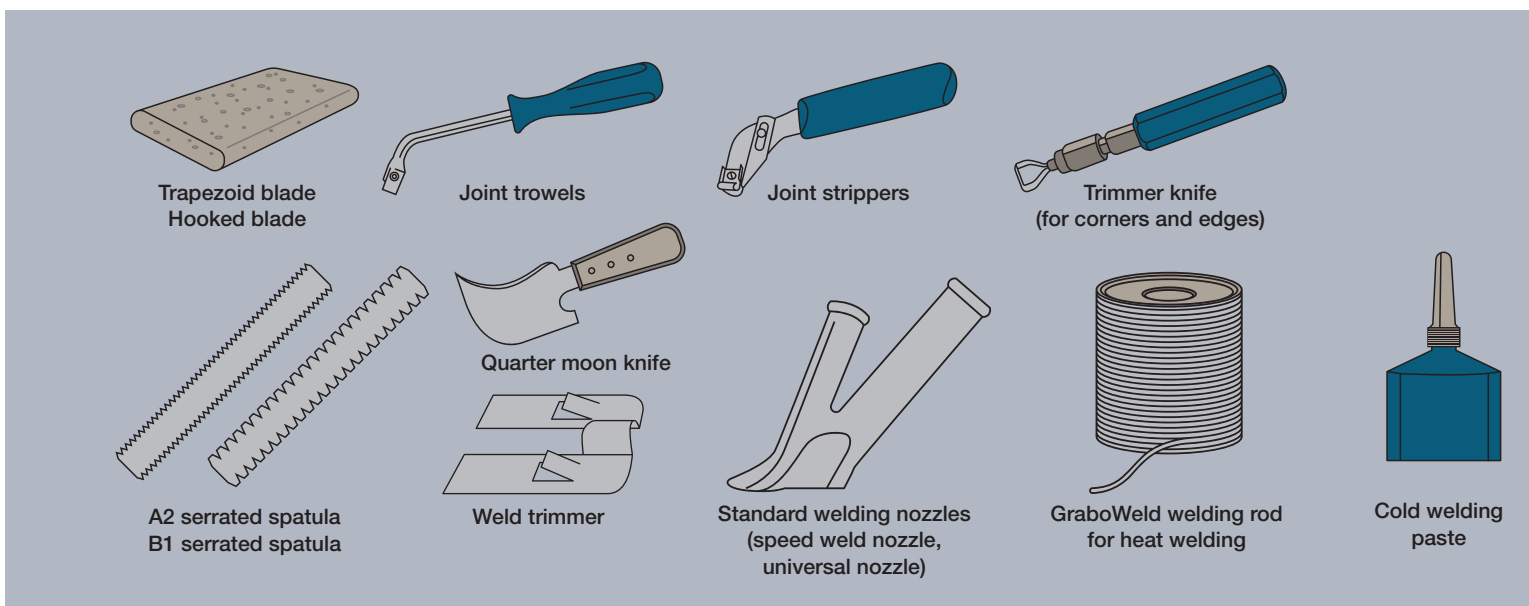
Remove solid dirt from the surface by sweeping or vacuum-cleaning then make wet cleaning manually or with a mono-disc machine with white pad.

### MANUAL WET CLEANING:

Tools: mop, (microfiber mop is the best), damp sweeping equipment, cleaning agent (generally neutral or light alkaline detergent) Cleaning should be performed with the two-bucket method.

### MECHANICAL WET CLEANING:

For daily mechanical cleaning use mono-disc cleaning machine with white pad. Use neutral or light alkaline cleaning agent. Never use abrasive products and any material that risks damaging of the surface. Never use rubber caps on furniture legs in order to avoid discoloration of the floor covering.



COMMERCIAL

