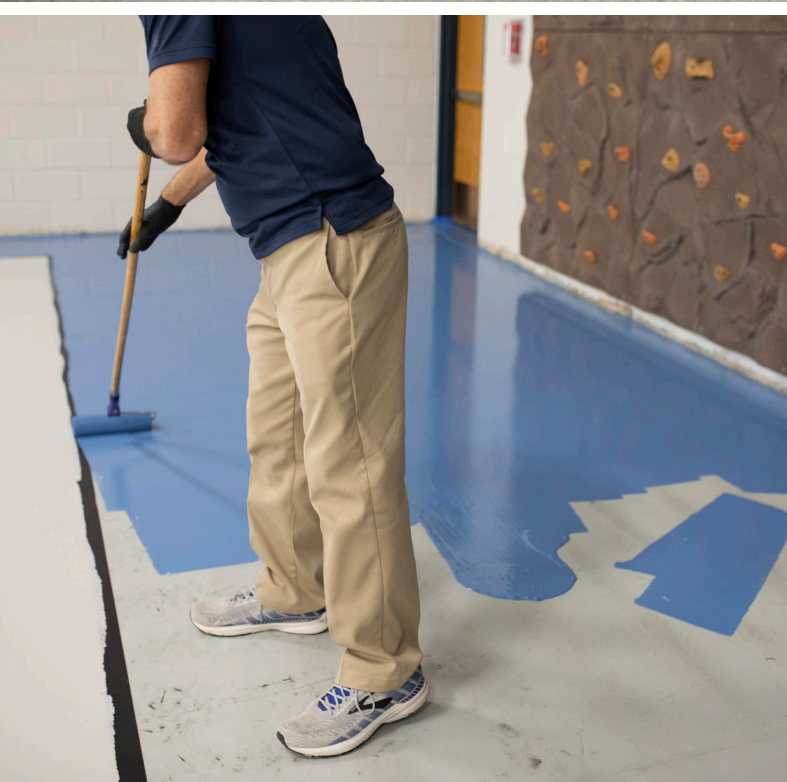




BONA RESILIENT SOLUTION

Best practices for Floor Renewal

RETHINK, RENEW, UPGRADE.

RETHINK RESILIENT FLOOR REPLACEMENT

Struggling with old, worn, and cracked linoleum, PVC, vinyl, rubber or LVT floors? Bona Resilient Solution is an innovative and highly effective system that renews and extends the life of resilient floors. This high-quality, sustainable programme allows you to not just maintain a floor's freshness, but also to totally transform its look, without replacing it. Even in heavy-traffic areas, floors can be sealed for extra durability and long-term protection.





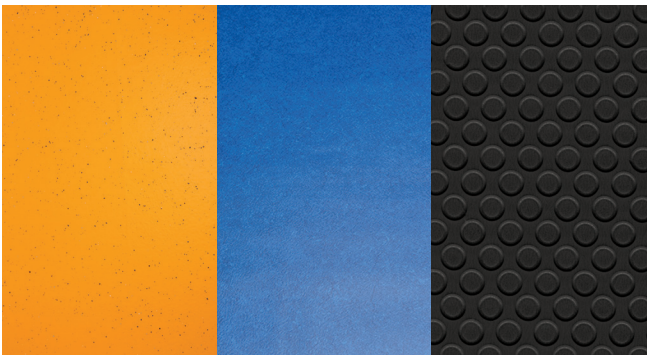
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1. FLOOR ASSESSMENT

1. DETERMINE FLOOR TYPE

Before you start the renewal process, the floor type needs to be determined. With experience it can often be determined with the look of an eye but another way to determine the floor type is by making a paperclip test (see instructions below). Use below directions to determine if the flooring consists of PVC/LVT, Rubber or Linoleum.



PVC Linoleum Rubber

PAPERCLIP TEST

Heat the tip of a paperclip with a lighter and push the paperclip into the flooring material.

FLOOR TYPE	CHARACTERISTICS
LINOLEUM	The paperclip penetrates the material with ease. The edges of the hole become slightly charred and a smell of burned wood, linseed oil, is produced.
PVC/LVT	The paperclip penetrates the material with ease. A bead forms around the hole and a smell of chlorine, is produced.
RUBBER	The paperclip can hardly penetrate the material. The material doesn't melt or form a bead. A slight smell of burned rubber can be noticed.

2. DETERMINE CONDITION OF THE FLOOR

Inspect the floor for scuff marks, delaminations, cupping, loose tiles, bubbles, cracks, salt lines and mastic bleed. Record any observations made. Determine if repairs are needed prior to sanding the floor. If the floor is heavily damaged or poorly attached to the subfloor, a full replacement of the floor covering may be a better option.



The following damages should be professionally repaired prior to treatment.

PROBLEM	ACTION
LOOSE FLOOR MATERIAL	Glue down or replace the piece of material
MISSING WELDS	Re-weld or clean and fill with Bona PU Filler.
CRACKS	Minor cracks can be repaired with Bona PU Filler. Larger cracks in the flooring material may require replacement.

2. KNOW YOUR RESILIENT FLOOR

PVC/LVT FLOORING

PVC, or polyvinyl chloride, is available in sheets, tiles, or click-in tiles. This material is particularly durable and resistant to strong alkalis and mechanical wear. However, acidic cleaning agents may cause discolouration, and care should be taken when using organic solvents. Substances such as shoe polish, soot, or marks from felt-tip pens can migrate into the floor covering. PVC is also sensitive to cigarette ash and flying sparks.

Renovation: PVC can be supplied as a solid or sandwich-layered material. Carefully check what type of mat it is before renovating. On sandwich-layered PVC/LVT you will need to work carefully on the surface so as to not expose softer intermediate layers. On solid PVC it is possible to sand into the surface and reveal fresh material. PVC can usually be sanded with relative ease and tolerate many different sanding materials and methods, both wet and dry.

LINOLEUM FLOORING

Linoleum is an eco-friendly alternative to PVC flooring, as it is made from natural raw materials like linseed oil, ground cork or wood flour, and natural resin. It is often described as warm underfoot due to its slow heat conduction. Unlike PVC, linoleum is sensitive to strong alkaline cleaners (pH value >10) and mechanical wear. However, it is relatively resistant to organic solvents and cigarette ash. Linoleum has moisture-regulating properties but is vulnerable to excessive moisture.

Renovation: Linoleum is provided as a solid material. Compared to PVC and rubber, it is significantly more sensitive to heat, and high temperatures must be avoided to prevent smearing the surface and distorting the linoleum pattern. Wet sanding is recommended for linoleum to help keep the sanding process cool. Certain types of older linoleum may reveal a yellowish tone when sanded deeper into the material. It is important to bear this in mind and plan for the probability of painting the surface to achieve an aesthetically pleasing appearance.

RUBBER/ELASTOMER FLOOR COVERINGS

Rubber floor coverings are uncommon in private homes but are often used in communal areas of buildings, such as staircases and laundry rooms. These floors are highly durable but sensitive to strong alkaline detergents (pH value >10). Acidic cleaners may cause discolouration, though rubber floor coverings are relatively resistant to cigarette ash and flying sparks.

Renovation: Rubber floor coverings are supplied as solid materials and are generally easy to sand, whether wet or dry, due to their high heat resistance. The exception is studded rubber flooring, which should be cleaned using disc brushes to maintain the integrity of the raised studs.

ESD FLOORING

Renovation of Electro-Static-Dissipative flooring is outside the scope of this guide, but it is worth mentioning that this flooring type requires special coatings to preserve the conductive function. See the Bona Pure ESD System products for more information on renovating ESD Flooring.

OTHER RESILIENT FLOORING TYPES

Many variations of resilient flooring exist, and the composition of familiar flooring types can differ between manufacturers and between different time periods when they were produced. It is recommended to always test functionality, particularly adhesion to the substrate, before attempting to renovate. Another relatively common type of flooring, especially in sports halls, is PU flooring. This is a liquid-applied flooring type that is cast in place. This type of flooring can be affected (but not necessarily) by migration issues from the concrete slab or other underlying materials. The migration, often yellow or brown in colour, may not be visible prior to renovation as it is hidden in dark coloured floors, but can become apparent afterwards if the surface is painted with a light colour. While it is possible to paint the surface with darker colours, the risk involved means it is generally recommended to avoid renovating these surfaces.

3. FLOOR PREPARATION

1. OLD POLISH OR PUR-COATING

Evaluate whether the surface has an old layer of polish or PUR-coating? Using Bona PowerRemove R in a small, inconspicuous area of the floor, test what dilution level it will take to dissolve the old coating. A 10% solution is usually a good starting point.



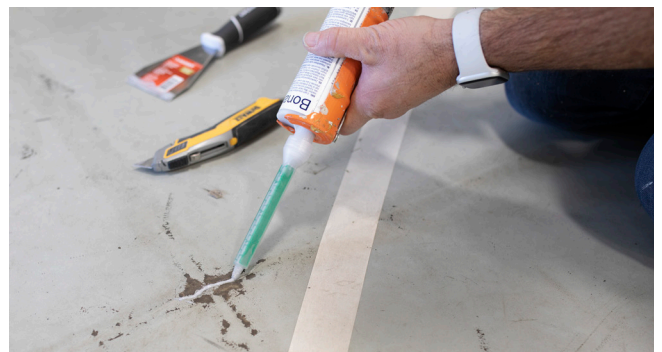
2. SKIRTINGS BOARDS

Can they be taped off or do they need to be removed? Polish removal is a wet process. Do not allow the stripping solution to seep under the skirting boards.



3. FINISH SPOT REPAIRS

If using Bona PU Filler, proceed with this step to fill cracks and other necessary repairs before moving on to the stripping and abrasion steps. See directions on Bona PU Filler for proper usage and dry times. Make sure all repairs are completed and dry.



SUITABLE CLIMATE CONDITIONS

Recommended conditions are between 15-20°C and 40-60% relative air humidity. High temperatures and low humidity reduce the drying time, while low temperatures and high humidity increase the drying time.

4. DEEP CLEANING & NEUTRALIZATION

Resilient flooring is a common term for describing various types of hardwearing flooring such as PVC/LVT, Rubber and Linoleum. Each flooring type has its specific character but in general the renewal process is the same or similar. Below are a few sanding sequences which have proven effective in different situations but to decide which sequence will be the most optimal, i.e., the most time efficient and safe method, the floor must be evaluated on site and the following questions should be answered.

- 1** What material is the floor made of? Use Bona's "Floor Identification Guide" (page 5) for help with identifying the type of flooring material.
- 2** Decades of wear and tear may have worn away a significant amount of material from the floor. Evaluate particularly exposed areas to ensure the flooring is thick enough to handle machine sanding. For example, heterogenous PVC (sandwich PVC) can have a thin top wear layer, that should not be sanded.
- 3** Does the floor have an existing surface treatment or is there a film of polish on it?
- 4** How much polish is on the floor? Try to make an estimate.
- 5** How will the floor be treated after sanding? Will the floor be completely transformed with a new colour? Or will the floor be renewed to its original state?

The following guide will help you answer these questions except for question 5 which is up to the floor owner to decide.

Which sanding method to choose depends mainly on how and with what the floor has been maintained with previously as well as how thick the build-up of polish is. Many polishes are heat sensitive and may quickly clog the abrasive making it inefficient. Also, the flooring material itself can be heat sensitive, something which may smear the pattern of the floor. For example, Linoleum is a heat sensitive type of flooring. To overcome this, often a wet sanding process must be applied or alternatively, the Bona Diamond Blades can be used for sanding dry and cool. It is worthwhile to carefully test dry sanding as a start and check if the surface will allow it. If not, one must turn to wet sanding and/or a chemical removal process. Typically, finding the best method is a trial-and-error process for each unique situation with the main ingredients being abrasives, stripping chemicals and time.

Keeping heat under control

It is important to understand how the different components in the sanding process affect the generation of heat. Keeping heat under control is an important target during sanding and should not be compromised in an effort to sand quickly. Using very aggressive sanding materials can be counter-productive as severe scratching can be time consuming to remove afterwards.

Factors that contribute to higher heat levels are: faster rotation speed of the sanding disc, weight/pressure from the machine. It is recommended to always start without extra weights and to only increase the load if needed and if deemed safe. Always have a DCS connected when you sand dry. This is beneficial not only for dust removal but also for increasing airflow within the drive plate chamber, which helps reduce the sanding temperature.

Work wet or dry?

Using water or a solution of remover while sanding lowers friction which allows for cooler sanding. On the other hand, wet sanding is messier and the process produces a significant amount of a liquid slurry containing stripping chemicals and plastic particles. This slurry should not enter the waste water stream but must be collected and handed over to an environmental station. Dry sanding is a much cleaner and odourless process. With a DCS connected, the sanding dust is safely collected in the dust bag and can be handled as combustible waste. Please note, it may not be possible to complete the entire sanding process dry. However, if the first step in removing old polish from the floor can be accomplished dry, then subsequent sanding steps will result in much less mess.

Which colour is the right colour?

The Bona Resilient System offers the opportunity to completely transform a floor and select a new colour that complements the room's interior design. However, there are also technical aspects to consider. Repainting the floor creates a thin painted layer over a thicker, solid layer in a different colour. Applying 1-2 layers of transparent coating on top provides excellent protection for the painted layer, but deep damage caused by dragging sharp or heavy objects across the floor may expose the underlying layer. It's advisable to choose a colour that is the same or similar to the original, so any deep damage is less noticeable. Likewise, as with painting walls, it's a good idea to keep a small amount of leftover paint for touch-ups in case of accidents.

Light or dark coloured floors?

If we consider extremes such as white and black, they can create a striking effect that complements the overall interior design of the space. However, there is good reason to avoid these extremes, particularly in public environments, and opt for a choice that sits more towards the middle of the colour spectrum. Dirt tends to be highly noticeable on white surfaces, and strong pigments can stain the surface, leaving it looking untidy. The high specular reflectance from white surfaces can also cause issues with light reflectance if sunlight is strong. Black surfaces, on the other hand, are forgiving in that many stains are less visible against a dark background, but regular dust and dirt can become glaringly obvious, necessitating very frequent cleaning. If you are looking for a practical option that makes cleaning easier, choose or suggest a colour from the middle of the colour spectrum.

SANDING SEQUENCES FOR RENEWAL WITH **TRANSPARENT LACQUER**

METHOD 1: HOMOGENOUS PVC AND FLAT RUBBER

ALSO POSSIBLE FOR: LINOLEUM

DESCRIPTION		STEP 1	STEP 2	STEP 3	STEP 4
Start with dry sanding to remove the bulk of polish from the floor. When the original flooring is reached, remove the final remains chemically.	Method:	Dry sanding	Wet sanding	Neutralization	
	Products:	Bona Net Ceramic G80	Bona Diamond Abrasives G120	PowerScrubber	
	Extra weights:	Optional	No		
	Disc type:	PowerDrive	Quattro disc	White, red or green brushes	
	Supporting product:		PowerRemove R Solution	Clean water	

METHOD 2: HOMOGENOUS PVC, LINOLEUM AND FLAT RUBBER

DESCRIPTION		STEP 1	STEP 2	STEP 3	STEP 4
Very effective dry method for removing thick coats of polish. The diamond coated blades ensure cool sanding despite high aggression. Follow with wet sanding in two steps for a flawless finish.	Method:	Dry sanding	Wet sanding	Wet sanding	Neutralization
	Products:	Bona Diamond Blades G100	Bona Net Ceramic G80	Bona Diamond Abrasives G120	PowerScrubber
	Extra weights:	No	No	No	
	Disc type:	PowerDrive Connect	Quattro disc	Quattro disc	White, red or green brushes
	Supporting product:		Clean water or PowerRemove R Solution	Clean water	Clean water

METHOD 3: PVC, LINOLEUM AND FLAT RUBBER

DESCRIPTION		STEP 1	STEP 2	STEP 3	STEP 4
Remover is used to soften polish. Wet sanding is done in the chemical solution.	Method:	Wet sanding	Wet sanding	Neutralization	
	Products:	Bona Net Ceramic G80	Bona Diamond Abrasives G120	PowerScrubber	
	Extra weights:	Optional	No		
	Disc type:	PowerDrive	Quattro disc	White, red or green brushes	
	Supporting product:	PowerRemove R Solution	PowerRemove R Solution	Clean water	

SANDING SEQUENCES FOR RENEWAL WITH **TRANSPARENT LACQUER**

METHOD 4: FLAT RUBBER

ALSO POSSIBLE FOR: HOMOGENOUS PVC

DESCRIPTION		STEP 1	STEP 2	STEP 3	STEP 4
Particularly suitable for flat rubber flooring. Aggressive dry sanding is followed by wet sanding with finer grits to remove scratches. Move the machine around quickly to minimise heat generation.	Method:	Dry sanding	Wet sanding	Wet sanding	Neutralization
	Products:	Bona 8700 G50	Bona Diamond Abrasives G80	Bona Diamond Abrasives G120	PowerScrubber
	Extra weights:	Optional	Optional	No	
	Disc type:	PowerDrive	Quattro disc	Quattro disc	White, red or green brushes
	Supporting product:		Clean water	Clean water	

METHOD 5: RUBBER WITH STUDS

DESCRIPTION		STEP 1	STEP 2	STEP 3	STEP 4
Particularly suited for rubber flooring with studs (knobs) or structured rubber.	Method:	Wet sanding	Wet sanding	Neutralization	
	Products:	Connect Nylon Brush	Bona Scrad Pad with a 25 mm white pad as intermediate	PowerScrubber	
	Extra weights:	No	Possible		
	Disc type:	PowerDrive Connect	Single disc – Pad drive	White, red or green brushes	
	Supporting product:	PowerRemove R Solution	Clean water		

SANDING SEQUENCES FOR RENEWAL WITH **PAINT AND LACQUER**

METHOD 1: HOMOGENOUS PVC AND RUBBER

ALSO POSSIBLE FOR: HETEROGENOUS PVC AND LINOLEUM

DESCRIPTION		STEP 1	STEP 2	STEP 3	STEP 4
Start with dry sanding to remove the bulk of polish from the floor. When the original flooring is reached, remove the final remains chemically.	Method:	Dry sanding	Wet sanding	Neutralization	
	Products:	Bona Net Ceramic G80	Bona Net Ceramic G120	PowerScrubber	
	Extra weights:	Optional	No	N/A	
	Disc type:	PowerDrive	Quattro disc	White, red or green brushes	
	Supporting product:		PowerRemove R Solution	Clean water	

METHOD 2: HOMOGENOUS PVC, LINOLEUM AND RUBBER

DESCRIPTION		STEP 1	STEP 2	STEP 3	STEP 4
Very effective dry method for removing thick coats of polish. The diamond coated blades ensure cool sanding despite high aggression.	Method:	Dry sanding	Wet sanding	Neutralization	
	Products:	Bona Diamond Blades G100	Bona Net Ceramic G80	PowerScrubber	
	Extra weights:	No	No	No	
	Disc type:	PowerDrive Connect	Quattro disc	White, red or green brushes	
	Supporting product:		Clean water or PowerRemove R Solution	Clean water	

METHOD 3: PVC, LINOLEUM AND RUBBER

DESCRIPTION		STEP 1	STEP 2	STEP 3	STEP 4
Remover is used to soften the polish. Wet sanding is done in the chemical solution.	Method:	Wet sanding	Neutralization		
	Products:	Bona Net Ceramic G80	PowerScrubber		
	Extra weights:	Optional	N/A		
	Disc type:	PowerDrive	White, red or green brushes		
	Supporting product:	PowerRemove R Solution	Clean water		

SANDING SEQUENCES FOR RENEWAL WITH **PAINT AND LACQUER**

METHOD 4: RUBBER/HOMOGENOUS PVC, HETEROGENOUS PVC

ALSO POSSIBLE FOR: LINOLEUM

DESCRIPTION		STEP 1	STEP 2	STEP 3	STEP 4
Particularly suitable for flat rubber flooring. Aggressive dry sanding is followed by wet sanding with finer grits to remove scratches. Move the machine around quickly to minimise heat generation.	Method:	Dry sanding	Dry sanding	Dry sanding	
	Products:	Bona Diamond Blades G100	Bona Net Ceramic G80	Bona Diamond Abrasives G120	
	Extra weights:	No	Optional	No	
	Disc type:	PowerDrive	Quattro disc	Quattro disc	
	Supporting product:		Clean water		

METHOD 5: RUBBER WITH STUDS

DESCRIPTION		STEP 1	STEP 2	STEP 3	STEP 4
Particularly suited for rubber flooring with studs (knobs) or structured rubber.	Method:	Wet sanding	Wet sanding	Neutralization	
	Products:	Connect Resilient Nylon Brush	Bona Scrad Pad with a 25 mm white pad as intermediate	PowerScrubber	
	Extra weights:	No	Optional		
	Disc type:	PowerDrive Connect	Single disc – Pad drive	White, red or green brushes	
	Supporting product:	PowerRemove R Solution	Clean water	Clean water	

1. DRY SANDING

As a starting point, use the Bona Flexisand 1.9 equipped with a quattro disc. For increased aggressiveness you can switch to the Bona PowerDrive Connect, add extra weight, or both. Note that higher aggressiveness and speed generates more heat that may clog the abrasives or smear the flooring material. Wet abrasion maintains a lower temperature and allows for higher aggression. Moving the machine around faster also lowers the temperature.



2. MIX STRIPPING AGENT

Mix Bona PowerRemove R according to the amount of contamination. If unsure about the concentration then start with a 1:10 ratio. Dilute or make it stronger as needed.



3. APPLY STRIPPER TO THE FLOOR

Pour the diluted Bona PowerRemove R Solution into a Bona PowerScrubber and spread the solution across the floor. Allow the solution to soften the old care product for approximately 20 minutes. DO NOT ALLOW IT TO DRY, ADD MORE CLEANING SOLUTION IF NEEDED.



4. WET SANDING

With wet sanding, it is important to keep the floor wet at all times. If needed spread more of the diluted Bona PowerRemove R solution onto the floor. Use Bona FlexiSand 1.9 and Bona Quattro Disc with a recommended abrasive. When the sludge turns to the same colour as the mat it is a good indication that the old, protective layer has been removed successfully.



5. EDGE SANDING

Edge areas need to be sanded carefully by hand or with a rotary sander such as the Bona Supraflex machine. When the slurry turns the same colour as the flooring material it is a good indication that the old, protective layer has been removed successfully.



6. REMOVE SOLUTION

Removing the slurry from the floor is a mandatory step before floor renewal can be started. This step must be carried out immediately while the dissolved slurry is still wet. Vacuum the floor with a suitable wet vacuum unit to remove all debris from the wet sanding process. The slurry should not be poured down the drain but must be collected and handed over to an environmental station.



7. NEUTRALIZATION

With the use of a Bona Power Scrubber equipped with white or red brushes, clean the surface with clear water. If necessary repeat the step until the whole floor has been neutralized.



8. DRY FLOOR

You must allow the floor to dry completely before proceeding. Mechanical ventilation can be utilized.

NOTE: Linoleum floors have a very high level of absorbency once the protective wear layer has been removed. Allow linoleum floors to dry at least overnight prior to continuing with floor renewal.



5. APPLICATION OF **BONA LINOPRIME** (ONLY FOR **LINOLEUM**)

1. POUR THE PRIMER INTO A MIXING BUCKET

Shake the primer thoroughly and pour the material into a Bona RS Mixing Bucket.



2. ADD HARDENER AND MIX

Slowly add one bottle of hardener into the bucket while machine stirring the mixture. Stir thoroughly for at least 1 minute. Note: The hardener must not be added directly to the primer bottle. Only external mixing is possible. If mixing smaller quantities of primer make sure that the correct ratio between hardener and primer is observed (1:24). Allow the mixture to react for at least 5 minutes before using. Use the mixture within the recommended pot life (maximum 3 hours).



3. APPLY PRIMER

Apply Bona LinoPrime using a Bona Microfiber Roller (11 mm pile). Roll with a smooth flowing motion crosswise, avoiding accumulations of product. The consumption is approximately 20-25 m²/liter.



FOR LINOLEUM FLOORS ONLY

6. APPLICATION OF **BONA PURE COLOUR & BONA CREATIVE CHIPS**

1. MIX BONA PURE COLOUR

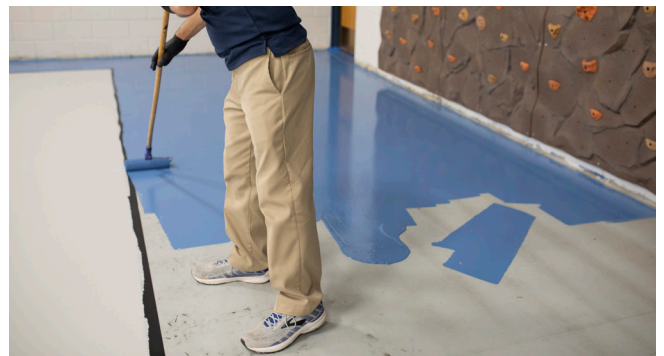
Once the floor has been prepared successfully, you are ready to apply colour and decorative chips. Pour Bona Pure Colour in a Bona Mixing bucket. Use a filter to avoid any dried paint particles. Slowly add one bottle of hardener into the bucket while machine stirring the mixture. Stir thoroughly for at least 1 minute. If mixing smaller quantities of colour make sure that the correct ratio between hardener and colour is observed (1:10). The mixture of hardener and colour should be used immediately or at least within 2 hours.



2. APPLY BONA PURE COLOUR

Apply Bona Pure Colour with the Bona SuperCoat Roller (11mm pile). Roll the Bona Pure colour uniformly, being careful not to leave excess puddles or heavy spots as you work your way across the room.

Note: The level of colour coverage may vary depending on the chosen tone and the original surface colour. If a second coat of Bona Pure Colour is required to achieve optimal results, it should be applied within 2 to 12 hours after the initial coat. If this timeframe is exceeded (i.e., more than 12 hours), intermediate sanding, thorough cleaning, and an additional application of Bona Pure Colour will be necessary.



3. APPLY COLOR CHIPS

Apply Bona Creative Chips to the wet colour coat as you work across the room by using a spreader.

NOTE: If additional coats of Bona Pure Colour will be applied, add Bona R Creative Chips during the final paint application.



7. APPLICATION OF **BONA PURE HD**

1. REMOVE TAPE

Before proceeding with clear coats, it is advised that all tape from skirting boards be removed. Being careful not to get clear coat on other surfaces. Tape is very difficult to remove after clear coat has dried.



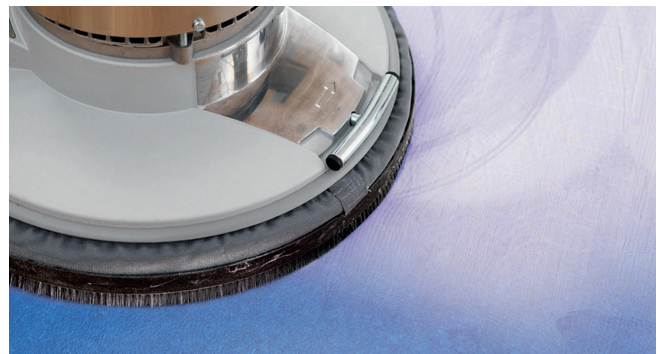
2. APPLY FIRST COAT OF CLEAR COAT

After the colour coats have dried, usually within 1–3 hours, you may begin with applying a layer of Bona Pure HD or Bona SuperSport Pure HD. Mix the product according to instruction and apply it using a Bona SuperCoat Roller (11 mm). Roll with a smooth flowing motion crosswise and avoiding accumulations of product. Normally a single coat of lacquer is sufficient for high wear requirements. If very high wear is anticipated, consider applying a second coat.



3. LIGHT ABRASION *

When using Bona Creative Chips, there is a risk that the floor surface may feel uneven. To create a smoother surface that is easier to clean, light abrasion of the surface with chips is recommended before applying the second coat of clear coat. Diamond abrasives grit 240 are suitable for this.



4. APPLY SECOND COAT OF CLEAR COAT

Before applying a second coat, allow the first coat to dry for 2–3 hours. Mechanical ventilation can be used. High humidity and/or low temperature conditions will extend the dry time (recommended conditions of 15-20 °C, 40-60% RH. relative humidity). Apply clear coat as directed in step 2. If more than 24-hours has passed, light abrading is recommended.



**Optional - only when using Bona Creative Chips*



Bringing out the beauty in floors.

At Bona, we are committed to the lifetime of wood, resilient and hard-surface floors. We are devoted to providing solutions that keep a floor perfect during its entire life. Through our long commitment and constant search for innovation we offer lasting, sustainable solutions for professionals and floor owners.

Bona is a family-owned company founded in 1919. With its headquarters in Malmö, Sweden, Bona is now present in more than 90 countries all over the world through subsidiaries and distributors. We provide products for the installation, maintenance, and renovation of floors throughout their lifetime. Today, we have solutions for professionals, homeowners, and prefinished manufacturers.

