



# BONA RESILIENT SOLUTION

## Best practices for Floor Renewal

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Bona®

# 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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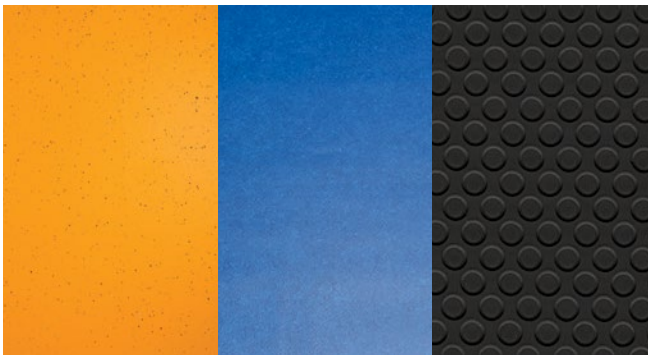
# 1. **INSPECT** CURRENT FLOOR CONDITIONS

## 1. DETERMINE FLOOR TYPE

Before you start the renewal, the floor type needs to be determined. One way to determine the floor type is by making a paperclip test (see instructions below). Proceed with these directions to determine if the flooring consists of PVC/LVT, Rubber or Linoleum.



### PAPERCLIP TEST

Heat the tip of a paperclip and push it into the material.

| FLOOR TYPE | CHARACTERISTICS |
|---|---|
| **LINOLEUM** | The paperclip penetrates easily into the material. The surface around the hole is charred slightly and it smells of burned wood or linseed oil |
| **PVC/LVT** | The paperclip penetrates easily into material. A material bead forms over the hole and it smells strong of chlorine |
| **RUBBER** | The paperclip hardly penetrates the material. The hole is clear of a material bead and smells of burned rubber. |

## 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. **PREPARATION** OF FLOORS

## 1. OLD POLISH OR PUR-COATING

Does the surface have 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.

## 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.

# 3. 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 answered.

1. **What kind of material is on the floor? Use Bona's "Floor Identification Guide" for help with identifying the type of flooring material.**
2. **Decades of traffic can result in significant wear reduction. Evaluate particularly exposed areas to ensure the flooring has enough surface layer 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 color? 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 in the hands of 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 material itself can be heat sensitive and high heat can smear the pattern on 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, use Bona Diamond Blades as a dry method that maintains a cool surface. 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. Finally using very aggressive sanding materials can cause severe scratching that is time consuming to remove afterwards.

Various factors that contribute to higher heat levels are: faster rotation speed of the sanding disc, heavier weight of the machine, and slow movement of the machine. It is recommended to start without extra weights and only increase the load if needed and if deemed safe. Always have a DCS connected when you sand dry. This is good not only for dust removal, but also for increasing air flow thus helping to lower the sanding temperature.

### Work wet or dry?

Using water or a solution of remover while sanding lowers friction and thus allowing 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.

# 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 last residues 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 running 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 |
|---|---|---|---|---|---|
| Especially suited for flat rubber flooring. Aggressive dry sanding followed by finer grits in wet sanding to remove scratches. Move the machine around quickly to keep heat generation under control. | **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:** | NEB Resilient Nylon Brush | Bona Scrad Pad with 23 mm white pad as intermediate | PowerScrubber | |
| | **Extra weights:** | Up to two extra weights | 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 last residues chemically. | **Method:** | Dry sanding | Wet sanding | Neutralization | |
| | **Products:** | Bona Net Ceramic G80 | Bona Diamond Abrasives 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 running 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 |
|---|---|---|---|---|---|
| Especially suited for flat rubber flooring. Aggressive dry sanding followed by finer grits in wet sanding to remove scratches. Move the machine quickly to keep heat low. | **Method:** | Dry sanding | Wet sanding | Neutralization | |
| | **Products:** | Bona 8700 G50 | Bona Diamond Abrasives G80 | PowerScrubber | |
| | **Extra weights:** | Optional | Optional | N/A | |
| | **Disc type:** | PowerDrive | 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 Resilient Nylon Brush | Bona Scrad Pad with 23 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 1:4 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 penetrate the floor surface for at least 20 minutes.  DO NOT ALLOW IT TO DRY.


## 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 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 area needs 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 enter the waste water stream 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.

# **4.** APPLICATION OF **BONA LINOPRIME** **(**ONLY FOR **LINOLEUM)**

## 1. POUR THE PRIMER INTO A MIXING BUCKET

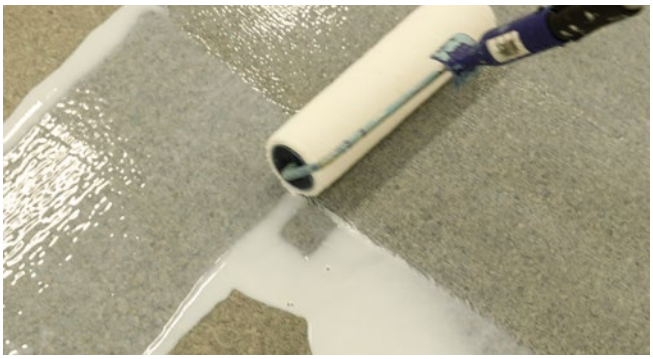
Shake the primer thoroughly and pour the material into a Bona RS Mixing Bucket.


## 2. ADD HARDENER AND MIX

Slowly add one bottle of Bona Pure 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. 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 (5 mm pile). Roll with a smooth flowing motion crosswise, avoiding accumulations of product. The consumption is approximately 20-25 $m^2$/liter.



**FOR LINOLEUM FLOORS ONLY**

# **5.** APPLICATION OF **BONA PURE COLOUR** & **BONA CREATIVE CHIPS**

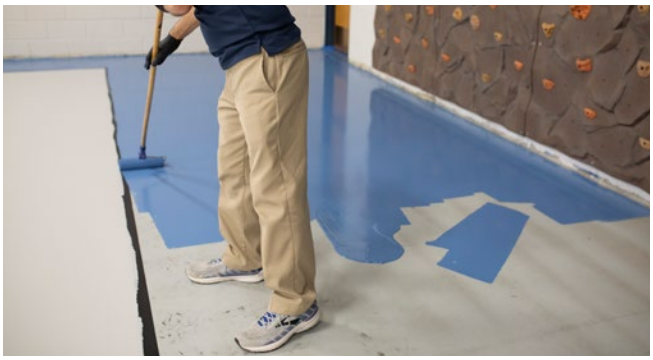
## 1. MIX BONA PURE COLOUR

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 the filter to avoid any dried paint particles.Slowly add one bottle of Bona Pure Colour 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. 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 colour coverage depends on the colour tone and the original surface colour. If a second application of Bona Pure Colour is required (e.g. to achieve a better coverage of the colouration), it should be carried out between 2 and 24 hours following the previous coat. If exceeding this timeframe (> 24 hours) intermediate sanding with a Bona Scrad Pad is necessary prior to overcoating. Clean the surface afterwards by vacuuming and damp cleaning.



## 3. APPLY COLOR CHIPS

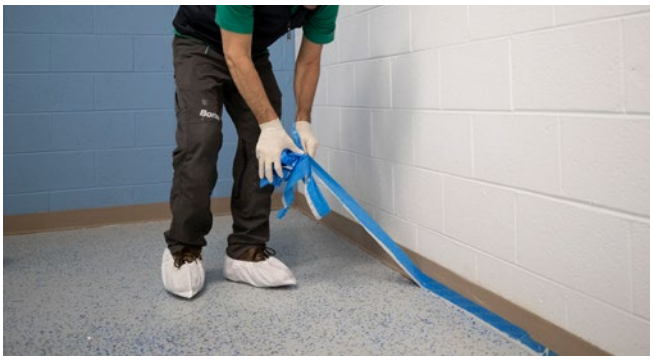
Apply Bona Creative Chips to the wet colour coat as you work across the room by using a spreader.

NOTE: If a second coat of Bona Pure colour will be applied, add the Creative Chips during the second coat of application.

# **6.** APPLICATION OF **BONA PURE HD** & **BONA PURE**

## 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.

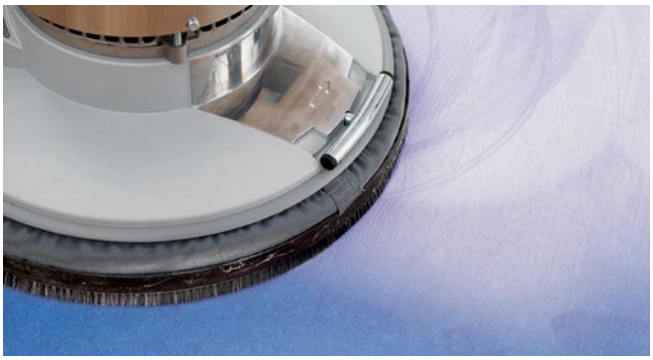


## 2. APPLY FIRST COAT OF CLEAR COAT

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

## 3. LIGHT ABRADING *

When using Bona Creative Chips, there is a risk that the floor surface may become slightly uneven. To create a smoother surface that is easier to clean, light abrading is recommended before applying the second coat of clear coat. Use diamond abrasives grit 240.



## 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 65-80% 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*

## NOTES:

## NOTES:

# Bona®

## 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.