



## Guide to Floor care



# Introduction

The appearance of hard floors is one of the most significant in the make up of the overall appearance of a building's interior. However, no area of building maintenance takes as much time and effort as the correct care of floors. Consequently everyone who is responsible for the care and maintenance of buildings faces a problem – how to keep the floors clean and attractive, an outward sign of care taken of staff, patients, pupils and customers. Failure to correctly maintain hard floors will lead to rapid deterioration and expensive replacement costs. The difficulty for many people is how to achieve the desired results in terms of appearance, protection and safety with diminishing budgets, shortages of staff and lack of time.

The purpose of this book is to help everyone achieve the best possible results from the resources at their disposal.



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# 1. FLOOR TYPES

*There are numerous different types of floor available, but in general these can be divided into three specific groups:*

- (i) resilient flooring
- (ii) stone flooring
- (iii) wooden flooring, including wood composition, cork flooring and laminate flooring

Each type exhibits specific features and requires specific methods of maintenance. A basic understanding of these features and maintenance requirements will simplify the choice of maintenance system for your floors.

## (i) Resilient flooring

Resilient floors are undoubtedly the most common “hard” floor types in use today. Their popularity is unquestionably as a result of a number of factors, their durability, aesthetic qualities, ease of maintenance and economy versus other floor types.

The most popular types of floors are vinyl, vinyl composite, and linoleum. However, other floor types are also available. Reviewing each of these floor types individually:

### Linoleum (or marmoleum)

Sometimes referred to as lino floor, it consists of linseed oil, finely ground cork or wood flour, some mineral fillers, pigments and a resin binder. These are mixed together, heated under pressure and then bound onto a Hessian or cardboard backing. Linoleum is relatively flexible and is therefore available in either sheet or tile form. Due to its natural constituent material, care has to be exercised with linoleum, particularly in terms of stripping as it is susceptible to high pH and the use of highly solvent strippers which can soften and oxidise the linseed oil. The process for stripping these floors is discussed later.

It is also a unique surface in that it can be maintained with either a solvent wax polish or a water based emulsion polish. However, the use of solvent wax polish on these floors is diminishing as it is considered an old fashioned method. Once you have embarked on a maintenance programme of solvent wax polishes you cannot successfully change to a water based emulsion polish, whereas it is possible to change from a water based system to a solvent wax system.

### Vinyl

“Vinyl” is the commonly used term for polyvinyl chloride (PVC) flooring. Pure vinyl, as it is sometimes referred to, is actually a mixture of polyvinyl chloride polymer or copolymer, blended with pigments, plasticisers and stabilisers. These are available in either sheet or tile format.

The plasticiser used in the manufacture of the flooring is an essential ingredient. However, over time, the plasticiser can migrate to the surface of the tile. As plasticiser is an oil-like substance, plasticiser migration can cause problems; either the floor or a polish will not adhere or stains can travel into the surface of the floor and be difficult to remove. This phenomenon usually disappears after the floor is 3-4 years old. To identify plasticiser migration excessive swirl marks, following dry buffing, will be noticed, in these circumstances these should be sealed with 2 coats of Carefree Undercoat prior to polish application.

### Vinyl composite

Pure vinyl tiles are relatively expensive, a cheaper option is to reduce the level of PVC in the tile, which is made up with fillers. The original filler used was an asbestos fibre, nowadays, given the health concerns over asbestos, the fillers used are usually inorganic clays. The filler makes the vinyl brittle and this flooring material is thus only available in tile form.

Essentially, vinyl composite floors may be treated as the same as pure vinyl. However, frequent stripping of old vinyl composite tiles can cause the filler to be removed. This can cause the tile to become porous and thus needs to be sealed with a suitable seal.



## Safety flooring

This covers a variety of different types ranging from studded and ribbed rubber and textured vinyl to studded ceramic tiles used in shower rooms. Probably the most common is 'Altro' vinyl safety flooring which consists of carborundum chips embedded in a vinyl sheet. Safety flooring is designed to "grab onto" the foot and thus prevent slipping in wet conditions, this makes them difficult to clean as the dirt gets trapped in the uneven surface.

The type of floor cleaner used will depend on the area. In washrooms a good washroom cleaner disinfectant is normally suitable and periodic use of a limescale remover. In kitchen area's a suitable cleaner and degreaser product should be used.

Safety flooring should never be polished as this would negatively affect the ability of the floor to prevent slip.

## Wear layer / low maintenance flooring.

A broad class of flooring, usually having a clear wear layer over a vinyl backing, or polyurethane reinforced surface. This type of flooring can have different thicknesses of wear layer and some have polyurethane coatings on top to give them more durability.

They are available in tiles and in sheets (or rolls), they are a sandwich of a plastic base, a paper design, and a top clear layer of vinyl with or without a polyurethane coating. The best quality wear layer tiles use photographic quality prints on their paper designs, which are actual photographs of real marble or wood etc. This type of flooring is only available in tile form, either square or "wood planking".

Much of this flooring is marketed as low maintenance flooring due to its durability, however in heavy traffic situations polishing the floor would improve the lifetime of the floor, if that is the case then treat the floor as a vinyl floor in terms of choosing the right products.

## Conductive or ESD flooring

Flooring material that will conduct electricity, to reduce the hazards from static electricity. These are typically found in large computer rooms or factories where electronic devices are made. They can either be static dissipative flooring or conductive flooring. For these floors, consult your local Diversey representative for advice on Jontec ESD floor polish emulsion and Jontec Destat cleaner.

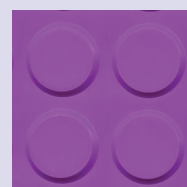
## Rubber

Rubber floors are available in either tile or sheet form. Nowadays, most "rubber" floors utilise synthetic rather than natural rubbers. Some rubber floors have ridges or other raised features to improve their slip retardancy. Consequently, it is not recommended that these floors be polished. In general we would not recommend applying a polish to a rubber floor and if a polish is desired, advice should be sought from your local Diversey Representative and the flooring manufacturer.

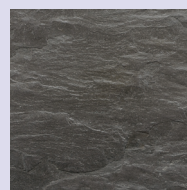
Neutral detergents should be used for mopping because rubber does not respond well to strong alkaline solutions.



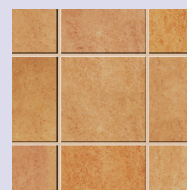
Safety



Rubber



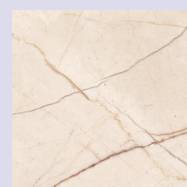
Slate



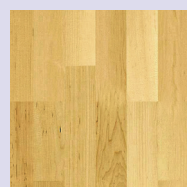
Ceramic



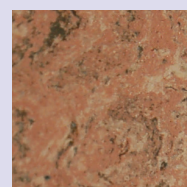
Terrazzo



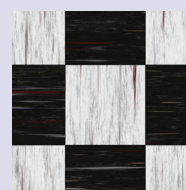
Marble



Sealed wood



Lino



Vinyl



## (ii) Stone flooring

Stone floors are increasingly popular as a result of their durability, aesthetic qualities and because they impart a prestigious quality to the establishment. Compared to resilient flooring they are very expensive and is therefore most important that the floor be adequately protected and maintained.

### Stone hardness

The hardness of materials is commonly determined relative to the Mohs Scale. This scale is based on the hardness of diamond given the arbitrary hardness of 10. That is a material having a Mohs hardness of 5 is half as hard as diamond and so on. As might be expected, a material having a given Mohs hardness will scratch or be scratched, by another material having a lower or higher Mohs hardness respectively.

Looking at a range of hardness values for some typical materials we find:

Graphite (pencil lead)	0.5
Talc	1.0
Fingernail	2.5
Marble (typical)	3.0
Terrazzo	3.5
Fluorite	4.0
Glass	5.5
Granite	6.0
Sand	7.0
Quartzite	7.0
Topaz	8.0
Corundum	9.0
Diamond	10.0

We can divide stone floors into 2 classes, those that are acid sensitive and those that are acid resistant.

## Acid sensitive stone:

### Marble

- A natural stone quarried from the ground, the principal constituent of marble is calcium carbonate ( $\text{CaCO}_3$ ). Marble requires the minimum of maintenance and is normally laid in slabs rather than tiles. Being a natural material, marble is subject to enormous variations in grade and colour, this can cause uneven wear on floors of a mosaic or chessboard pattern over time.

Marble is resistant to water but is readily attacked by even dilute acids, which can etch and roughen the surface, causing dull patches and making the floor very porous. Strong acids can dissolve the marble causing holes in the floor. Harsh alkaline materials are also detrimental to marble as they can penetrate and form crystals under the surface and causing the stone to disintegrate into dust. This can happen particularly in winter when roads and walkways are salted, as well as use of incorrect maintenance products. As we can see from the Mohs Hardness table, sand is much harder than marble so sandy conditions can cause marble floor to wear and/or scratch excessively.

### Terrazzo

Often found in halls, lobbies, entrances and washrooms it consists of a mixture of marble chips set in a bed of Portland cement or resin matrix. Terrazzo can be laid in situ in panels of 1.2m<sup>2</sup>, separated by strips which may be plastic, brass or aluminium alloy. After the floor has been laid for 4 days the mixture is then ground to a smooth, even finish. Alternatively terrazzo is also available in the form of tiles, the quality of the tiles is more reliable but normally more expensive.

Terrazzo is slightly harder than marble, but is susceptible to damage by acids, which attack both the marble chips and the cement matrix where applicable. Terrazzo like marble can be damaged or stained by harsh alkaline materials, salt, sand, oils etc.

### Limestone

Limestone is essentially a soft marble. It consists primarily of calcium carbonate with some impurities. It is generally light grey or parchment colour, with occasional cream, yellow and pale brown shades.

Limestone will resist water and alkalis, but is damaged by acids and stained by oils and other highly coloured materials.

All the above can be crystallised (also known as vitrification) or maintained using diamond pads such as TASKI Twister as well as traditional floorcare methods.

## Acid resistant stone:

### Granite

Typically, 70 – 80% of granite is made up of Quartz silicon dioxide (SiO<sub>2</sub>). Granite is extremely hard and is available in a range of colours from white and silver to dark grey, with occasional shades of green, blue and black. Although granite is hard, it is softer than sand, which can excessively wear or scratch a granite floor.

Granite is resistant to water, acids, alkalis and oils.

### Sandstone

Being almost entirely sand grains, sandstone is resistant to water and acids, but can be damaged by strong alkalis. As sandstone is made up of relatively loosely packed sand grains, it is prone to staining by oils, grease and other highly coloured materials. Typically, sandstone floors are red/brown, but some are pale yellow with occasional blue or grey shades.

### Quartzite

Like sandstone, quartzite is formed originally from sand grains. Nature cemented these together with silica and then under tremendous heat and pressure, transformed this mixture into one of the hardest rocks known. The presence of mica in the structure causes the floor to sparkle (similar to “Altro” floors), and colours range from silvery grey-green to olive and gold shades.

Quartzite is virtually unaffected by acids, alkalis and other chemicals in general use.

### Slate

Slate is produced as a result of clay and shale deposits being subjected to great heat and pressures by earth movement. Slate is practically immune to all common chemicals. It is completely resistant to water and not affected by alkaline materials.

### Ceramic

Increasingly popular due to their variety, durability and aesthetics. They consist of vitrified tiles normally popular in large areas such as Shopping centres and entrance foyer's also found in kitchens, bathrooms and restaurants. Ceramic tiles can be smooth or textured.

They are very resistant to chemical attack and may be scrubbed with neutral to strong alkaline and acid cleaners. The application of any polish is not normally recommended as the chance of success is slim, due to their low porosity surface.

### Quarry tiles

Quarry tiles are manufactured by burning untreated clay in moulds and are laid on a cement bed. They are commonly found in kitchens and changing rooms as they are resistant to most spillages and give reasonable slip resistance

They are resistant to chemical attack and may be scrubbed with neutral to strong alkaline cleaners, care should be taken when using acid cleaners as they can dull or whiten the appearance of the floor. The aesthetic appearance of the tiles can be improved by applying a water based emulsion polish, although adherence problems can sometimes be encountered. Polishes should not be applied to kitchen areas.

### Concrete

Usually found in factories, entrances and on stairs, It is prone to dusting and therefore must be sealed. Sealing is usually of the acid hardening type, the acid hardening process is commonly carried out by builders before they leave, making the floor relatively dust free without enhancing gloss.

### Epoxy resin and seamless floors

Epoxy resin floors are a type of seamless or “poured” floor. That is, a mixture of the appropriate materials is laid in liquid form, which rapidly hardens (24 hours before trafficking, 5 – 30 days for maximum hardness). As well as epoxy resins, polyester and polyurethane mixtures are sometimes used, but their care and treatment is identical.

Epoxy resin floors are extremely hard, chemically resistant, and non-porous. Under light to medium traffic levels it may not be necessary to polish this type of floor. If, however, this is a requirement, then the floor may be treated as a vinyl floor. It may be beneficial to apply one or two coats of Carefree Undercoat to aid adhesion of the polish.

In some instances aggregate is added to give surface texture and therefore provide improved slip resistance in wet conditions. The downside, to this is the textured surface will soil faster and be more difficult to clean. We would only expect to see a textured surface in areas likely to be wet eg Kitchen / food prep areas and washrooms.

### (iii) Wood, wood composition and cork flooring

#### Cork

Cork flooring is made by compressing and heat curing ground cork into the finished product. It is extremely porous as 50% of the tile is air. Cork is chosen mostly for its beauty and sound deadening properties

As cork is so porous sealing of the floor is essential. It can be sealed with either an epoxy or polyurethane seal such as Bourneseal Natural.

#### Granwood

A specific type of floor manufactured by a firm called Granwood. It is a composition of wood flour and cement and consequently requires sealing. It is normally found in grey, black or brown colours, and is often located in schools, gymnasiums and sports halls. It is very porous and requires sealing and polishing to get the best appearance.

#### Wood

Wood floors are normally manufactured from either hard or soft wood and are laid in strip, herring-bone, or block parquet flooring. Soft wood such as spruce is generally very porous and is consequently rarely used in an industrial environment. Conversely, hard wood floors such as maple, teak or oak are typically used in an industrial environment.

There are various maintenance options for wooden floors with the main criteria being whether or not the floor is sealed.

(i) For an old floor which has never been sealed and has been treated with a solvent wax polish such as Bourne Traffic Liquid wax the recommended maintenance is to continue with the same method.

(ii) The second option is to seal the floor. Unless the floor is new it would have to be sanded and then sealed with either a polyurethane seal such as Bourneseal Natural or a 2 part epoxy seal. If using Bourneseal Natural then either leave the Bourneseal as the final finish or alternatively you can use it as a seal only and put a water based emulsion polish over the top of it, depending on the type of appearance you require.

#### Laminate flooring

This type of flooring has become extremely popular over recent years, it consists of a wear layer (deco paper steeped in melamine resin), a carrier layer of either MDF/HDF or particle board and a counteracting paper or laminate. All of the aforementioned materials are either pressed in one operation during manufacture or the wear layer is pressed separately and then pressed again with the carrier and carrier layer.

The joint areas of laminate floors are very sensitive to moisture, thus penetrating water can cause the underlaying carrier to swell and become visible in the area of the edges, this will normally remain as permanent damage. These types of floor should only therefore be cleaned with a well wrung out mop or cloth, puddles and standing water should be avoided. Emulsion floor polishes or waxes should not be used on laminate flooring as they will be difficult to remove.





## The selection of floor type

*There are a number of criteria involved in the decision of which floor type to purchase:-*

**Cost:** Evaluations should be made of the costs of material and installation from the viewpoint of initial outlay, the life of the investment, the maintenance expense and the replacement cycle.

**Availability:** Is the product likely to be available for a reasonably long time should replacement or expansion be required? Are there several sources available to ensure a competitive price?

**Maintenance characteristics:** What are the possible maintenance problems, costs and achievable appearance levels?

**Replacement:** How soon and how often will replacement be required?

**Area of use:** Certain types of floor lend themselves to being used in specific areas e.g. quarry tiles in kitchens. In Hospitals low noise flooring is typically used such as Linoleum or rubber.

*Having considered the above criteria what should the objectives be in the choice of materials:-*

**Economy:** Is the lowest initial cost the primary objective?

**Safety:** This must be a major objective which should take into account slip, fire hazards and vandalism. Slip resistance in wet conditions is the main concern for washroom, changing rooms and kitchens. Floors in these areas tend to have a surface texture/ roughness and should not be sealed/ polished.

**Aesthetic appeal:** What is the objective of using various interior finishes?



## 2. FLOOR MACHINES

*There are four basic types of machine used in the care of hard floors:*

### 1. Vacuum cleaners:

These are used to remove dry soilage and dust from a floor.

### 2. Wet pick up machines:

These are used solely as a means to remove water, cleaning and stripping solutions from a floor.

### 3. Rotary floor machines:

There are three basic types which are differentiated by the speed of rotation:

- ▶ a. Standard speed – up to 200 R.P.M.
- ▶ b. High speed – 300 to 500 R.P.M.
- ▶ c. Ultra high speed – 1,000 to 2,000 R.P.M.

Certain rotary buffing machines offer the option of a vacuum unit, which reduces the degree of dust contamination whilst the job is being carried out. When burnishing, the dust generated from pad wear and abrasion of the floor surface will be fully controlled by the vacuum unit, thus ensuring that dust does not settle on other surfaces.

### 4. Scrubber driers:

These are designed to scrub and dry a hard floor in one operation. They are mainly designed for use on large floor areas.



## Which rotary machine for which task?

Each machine has different benefits making it suitable for different tasks. There are a number of floor care tasks for which a machine may be used:

1. **Stripping** – This is the thorough 'deep' cleaning of a floor prior to the application of a fresh coat of polish.
2. **Scrubbing** – This is the process used for removing heavy soilage from a floor.
3. **Spray cleaning** – A maintenance procedure whereby a solution of maintainer is sprayed onto the floor and again buffed until it is dry.
4. **Spray polishing** – A maintenance procedure whereby a solution of polish maintainer is sprayed onto the floor and again buffed until it is dry.
5. **Dry buffing** – This process involves simply buffing the floor without the use of any liquid. It is sometimes conducted as part of a damp mop and buff operation.

	Standard speed	High speed	Ultra speed
Stripping	●		
Scrubbing	●	●	
Spray cleaning	●	●	
Spray polishing		●	
Dry buffing		●	●

(a) **Standard speed machines** (below 300 rpm) are ideal for scrubbing and stripping i.e. tasks where a lot of liquid is used. If a standard speed machine is used for spray cleaning or dry buffing reasonable results will eventually be attained, but it will take much longer than when using a high speed machine.

(b) **High speed machines** (400 – 1200 rpm) are designed for floor maintenance procedures such as spray cleaning or dry buffing, and also offer good cleaning action. The heat produced from the speed of rotation hardens the polish film increasing gloss, durability and resistance to scuffs. If a high speed machine is to be used for stripping or scrubbing a protective skirt must be fitted to the base of the machine to avoid the solution being splashed onto walls and paintwork.

(c) **Ultra high speed machines (UHS)** (Over 1200 rpm) offer the ultimate gloss and durability, however due to their lower pad pressure they are not as effective in terms of cleaning as the slower machines. It should be noted that some UHS machines should only be used on dry floors. UHS Machine can be mains, battery or propane powered

## How to choose which machine to buy

There are a number of criteria involved in the decision regarding which machine to buy:

- ▶ What will the machine be used for?
- ▶ The initial cost of buying the machine
- ▶ The economy in terms of the cost in use of the machine
- ▶ The degree of operator training required to use the machine
- ▶ The availability of the machine, parts and back-up service











## Why use machines?

1. By using the correct machine it is possible to reduce the time required to maintain a floor and therefore reduce the labour cost.
2. The final results are improved through machine use.
3. When used correctly, machines ensure the most efficient consumption of chemicals.

## Pad choice

It is essential that the correct pads or brushes are used for each specific task. Pads are typically colour coded as follows

	BLACK	Stripping / Heavy duty Scrubbing ( do not use on Linoleum)
	DARK BROWN	Dry/ Spray Stripping
	GREEN	Wet Scrubbing / Stripping ( ideal for Polish removal on Linoleum)
	BLUE	Daily cleaning (autoscrubber / wet scrubbing / Top stripping
	RED	Daily cleaning (autoscrubber) / Spray Cleaning
	TAN	Traditional Pad for Solvent based wax systems on wood floors
	WHITE	Dry Buffing
	GOLD/ CHAMPAGNE	Ultra High Speed buffing (requires dedicated pads)



The general rule is the darker the pad the coarser it is and the more heavy duty the operation it is suitable for.

The choice of pad is also dependent upon the machine speed. Generally the faster the machine, the coarser the pad needed to achieve the same results. Generally for Linoleum floors black pads should be avoided even for stripping as they may damage the surface of the floor, a green pad would be more suitable.

Brushes perform better than pads on uneven floors because they penetrate into the undulations where a pad would not reach, making them particularly effective on safety flooring.

## How to use a rotary machine

There are some simple rules to follow when using rotary floor machines.

1. Keep the mains lead well behind you so there is no danger of tripping over it.
2. When starting a machine it is essential to ensure that the pad is located centrally on the pad drive plate. If the pad is not located correctly vibrations will occur, making the machine difficult to operate and cause operator fatigue.
3. Unless specifically designed to do so, do not put the machine on top of the drive plate to locate it by starting it up, as the drive plate could break, and in severe cases fly out from under the machine. Always properly locate the drive plate before starting the machine.
4. When using either a high speed machine or ultra-high speed machine do not keep the machine in one spot for any period of time as there is a risk of burning the floor. This is especially so if a liquid is not being used a lubricant, e.g. when dry buffing. In any case, new pads should be dampened before use.

When actually using a machine, most work is basically the same way. Consequently the method of use is common across most machine types, be they standard or high speed.

- ▶ Adjust the handle to around waist level, with arms slightly bent.
- ▶ Take the weight of the machine and balance it in your hands
- ▶ Raising the handle very slightly makes the machine move to the Right
- ▶ Lowering the handle very slightly makes the machine move to the Left.

Most ultra-high speed machines have three or four wheels and do not operate in the manner outlined above. Rather than moving from side to side and ultra-high speed machine simply requires straight line walking.

## 3. MAINTENANCE METHODS

*Floor care really can be as simple as 1, 2, 3 – it is not something to be feared. The method used and equipment required for each step is outlined on the following pages.*

There are three basic steps in floor maintenance which remain valid irrespective of the type of flooring:

- 1. Prepare** – to produce a suitable surface for polish adhesion or impregnating sealers for stone
- 2. Protect** – to protect the floor, improve the appearance and make the maintenance of the floor more cost effective.
- 3. Maintain** – to retain the appearance of the floor and minimise the need for the reapplication of polish

There are, however, a number of other factors which should be taken into account when considering floor maintenance:

**Floor type:** Different floor types require different maintenance methods. For example, porous floors require sealing prior to any maintenance being carried out.

**Traffic:** The degree of traffic across a floor influences the maintenance required

**Standards:** Certain maintenance methods will offer better appearance standards than others.

**Machine availability:** There are maintenance systems which require the use of a machine

**Labour:** Availability of labour is important as some maintenance systems are more labour intensive than others.

Detailed task cards on how to carry out the procedures for maintaining floors are available from Diversey training solutions website, this site allows detailed tasks to be downloaded in your choice of language and colour coding as well as the ability to choose your Diversey product. To access this account then please contact your Diversey Sales Representative who will explain how the site works.



## 1. PREPARE

### Floor polish stripping

This is to be used where water based floor polishes have previously been applied to the floor and is NOT to be used on lino or wood floor where WAX based products have been used.

Floor strippers work by removing the polish film on the floor, the way in which this is done depends on the type of stripper used, however in both cases the floor will become slippery once the stripper starts to work and the polymer/wax film is removed. This is a good indication of how much polish is being removed.

Refer to the table to determine the best Diversey Stripper for your floor type/situation.

### Alkaline floor strippers: Carefree Stripper, Jontec Futur

These strippers typically have a pH of between 12 -13 diluted and contain alkaline builders, they work by breaking the cross-linking in the polymer of the polish. These strippers will need mechanical action to aid the removal of the floor finish and therefore have to be used with a low speed machine and a suitable grade pad. It is essential that the floor is not allowed to dry out during this process as this can cause problems with the polish film re-depositing on the floor and leaving patches which have to be re-stripped.

Once the stripper has been applied and scrubbed to remove the polish the slurry should be removed via a wet pick up and the floor rinsed with water to ensure all the residual stripper is removed. This stage is essential in particular on marble or terrazzo floors.

The floor is then damp mopped and allowed to air dry.

### Solvented floor strippers: Carefree Speed Stripper, Jontec No. 1, Jontec ProStrip

These strippers typically have a pH of between 12 – 13 when diluted but in this case contain solvents that work by swelling the polymer in the floor polish. These strippers can be used with or without machines to help remove the floor polish, use of a machine will of course speed up the process however if no machine is available then using a mop and a doodle bug with the correct grade pad will be sufficient. As with the other type of stripper it is essential the solution is not allowed to dry out during this process. For marble and Terrazzo floors Jontec Prostrip is preferred due to its low alkalinity.

Once the stripper has been applied and scrubbed to remove the polish the slurry should be removed using a wet pick up machine, the floor can then be damp mopped and allowed to dry.

This considerably speeds up the process of stripping a floor as no flood rinsing is necessary, however depending on the solvents used in the stripper some are **NOT** recommended to use on Linoleum, Asphalt, rubber floors or unsealed wood floors.

Jontec Prostrip however has innovative technology which means that it can be used on linoleum without any negative effects which is perfect for sites where there is a heavy build up of polish on linoleum.





## Spray stripping method

This method can be used using the solvented floor strippers such as Carefree Speed Stripper, it is particularly useful when only a small area needs to be stripped, for example patch repair work.

The stripper solution is made up the usual way, according to the manufacturers instructions, and then sprayed onto the area to be stripped and immediately scrubbed using a black or green pad on a slow speed machine. The pads need to be checked often to ensure they are not clogging up.

## Top stripping method

### CAN USE ON ALL FLOORS

This method can be used when the floor needs to have a fresh coat of polish but does not require a full strip and seal. This is achieved by using Alkaline Cleaner such as Jontec Forward which have low residual alkalinity, it is important that only a product endorsed as a top stripper be used. The top layer of floor polish is removed by diluting the Jontec Forward at 1:50 in water and scrubbing the floor with a scrubber drier fitted with a blue pad, or a deck brush/doodle bug, contact time should be 5 minutes and then floors can be rescrubbed and solution removed. The floor can then be damp mopped and allowed to dry.

### Floor type

	Vinyl	Linoleum	Marble	Terrazzo	Rubber	Sealed wood
Carefree stripper	✓	✓✓	✗	✗	✗	✓✓
Carefree Speed Stripper	✓✓	✗	✓✓	✓✓	✗	✗
Jontec No 1	✓✓	✗	✓✓	✓✓	✗	✗
Jontec Futur	✓	✓	✗	✗	✗	✓✓
Jontec Prostrip	✓✓	✓✓	✓✓	✓✓	✗	✓
Jontec Forward	✓✓	✓✓	✓✓	✓✓	✓	✓✓

 ideal product for floor type
  suitable product for floor type
  unsuitable product for floor type

## Deep cleaning stone floors

Some stone floors can become very impregnated with dirt over time which is difficult to remove, in order to prepare the floor for a sealer or polish, or indeed even just to give it a deep clean there is a specialised product available from Diversey called Jontec Clearout L.

This product is used as a 2 part system with water, applied to the floor and scrubbed with a low speed machine and suitable pad, usually green or blue, for a minimum of 20 minutes up to 40 mins. It is very effective at removing stains in particular wine and drinks stains which have etched the marble in the floor due to their acidic nature. However it will not bring back the gloss, for that you will need to use our range of Crystallisation products.

## 2. PROTECT

Once the floor has been adequately prepared (stripped/ deep cleaned), it is now ready for protection with the application of a floor polish.

If the floor is porous, i.e., worn vinyl composite, linoleum, asphalt, pitch mastic and thermoplastic, or epoxy resin, it is advisable to seal the floor with one or two coats of Carefree Undercoat or Jontec Technique. NB Carefree Undercoat is NOT suitable for wood floors, see separate note on sealing wood floors.

Once the floor has been sealed, if required, apply at least two coats of your chosen floor polish emulsion such as Carefree Eternum or Jontec Resitol, depending on the finish you require. (see Jontec/Carefree brochures for full product choice).

The method for applying Undercoat or Emulsion floor finish is the same, the seal or polish is applied using a clean mop or applicator to a clean dry floor, thin even coats are applied in a figure of 8 motion. The floor is then allowed to dry for a minimum of 30 minutes.

The second coat is then applied beginning 6 inches from the wall, allow to dry completely.

Repeat as necessary

N.B. To remove the polish use Carefree Stripper or Jontec Futur, which will not affect the seal. To remove the seal as well as the polish use Carefree Speed Stripper.

## Wooden floors

### SOLVENT WAX POLISH

A solvent wax polish is a wax or blend of waxes dispersed in a solvent which assists the flow of wax and cleans the floor as the wax is applied. Solvents are harmful to a number of floors and consequently solvent wax polishes are only recommended for use on wood, wood composition, cork magnesite and linoleum. There are a number of old wooden floors which have never been sealed and have been maintained for a long period using a solvent wax polish. With such floors the only option is to continue maintaining the floor with a solvent wax polish. The other option is to



seal a wooden floor, which would unless the floor is new require it to be sanded.

Bourne Traffic Liquid wax is an efficient cleaning agent because the solvent components loosen the dirt on the floor as the wax is applied. The loosened dirt is retained in the applicator whilst a thin film of wax is deposited.

Liquid wax can be applied in several ways, by mop, applicator or spray unit. Whichever method is chosen, a thin coat of liquid wax should be applied and when dry should be buffed to a shine using a tan pad. For ongoing maintenance, floors should be swept daily and buffed to remove scuff marks. Frequency of application depends on the type and volume of traffic.

### Properties of solvent wax polish

When applied properly and buffed they have good slip resistance properties. However this is reduced if a build up of wax is allowed to occur. Slip resistance may also be reduced if there is insufficient wax on the floor.

Resistance to carbon black heel marks is good. Any scuff marks which may occur can be readily be removed and the gloss restored by buffing.

### Removal of solvent wax polish

Solvent wax polish is easy to remove when required, using either a solvent based detergent wax remover or white spirit. The clean floor should be mopped with warm water and allowed to dry before applying wax in a thin coat.

### Sanding and sealing of wooden floors

The sanding of a wooden floor is usually left to professionals, as it requires the use of specialised machinery. Care must be taken when sanding floors, because each time the floor is sanded the wood becomes thinner with one sixteenth of an inch being lost. This may result in some floors, particularly parquet, only withstanding one or two sanding operations before being abraded away. When sanding, the floor should be first stripped of any old polish, then sanded with progressively finer abrasive paper or discs until a smooth unsealed wood surface results.

The objective of sealing a wooden floor is to protect it from water, chemicals and stains. Of all the wide range of seals available today, one of the most popular types for sealing wood is the Polyurethane seal such as BourneSeal Natural. Having sanded the floor as above, all traces of dust must be removed before the floor can be sealed. The seal is applied thinly using a suitable applicator (usually lambswool roller, flat mop or brush) working with the grain of the wood. Allow to dry (minimum of 2 hours) the floor should be lightly abraded to ensure a good key or the second or subsequent coats of seal, remember to remove all dust before re-applying subsequent coats. Allow the seal to harden fully before treating with any detergents or emulsion polish, Allow at least 8 days before application of any detergent or polish over the BourneSeal Natural.

## Marble, limestone and terrazzo vitrification (crystallisation)

Vitrification or Crystallisation is a procedure involving a combination of specific chemicals and buffing machines used to produce a hard, often glossy, crystallised finish on bare stone floors, such as marble and terrazzo. Crystallisation does not involve coating the surface of the floor. It actually provides a new surface to the stone. This is achieved by means of a chemical reaction which converts the dull soft minerals in the surface of the stone into hard glossy crystals.

For more details on the Diversey range of products for Vitrification of stone floors please contact your local Diversey sales representative.

## Stone floor impregnating sealers

After preparing the floor if you do not wish to apply an emulsion based sealer or polish then another option to protect the floor is to use an impregnating seal such as Jontec Repello.

These seals impregnate the floor to give them an invisible coating which protects the floor from damage, as they do not coat the floor (like the emulsion sealers/polishes) the protection is limited. The advantage of their use is that they do not change the appearance of the natural stone and can be used in areas where we would not recommend water based emulsion polishes such as washrooms.

For more information on these products contact your Diversey Sales representative.

### Floor type

	Vinyl	Linoleum	Marble	Terrazzo	Rubber	Sealed wood
Carefree Undercoat	✓	✓✓	✗	✗	✗	✗
Jontec Plaza	✗	✗	✓✓	✓✓	✗	✗
Bourneseal Natural	✗	✗	✗	✗	✗	✓✓
Carefree or Jontec Eternum	✓✓	✓✓	✓	✓	✗	✓
Carefree Emulsion	✓✓	✓✓	✓✓	✓✓	✗	✓
Carefree Satin	✓✓	✓✓	✓✓	✓✓	✗	✓
Jontec Resitol	✓	✓	✓	✓	✗	✓
Jontec Repello or Prevento	✗	✗	✓	✓	✗	✗



ideal product for floor type



suitable product for floor type with restrictions – see product information sheets



unsuitable product for floor type



### 3. MAINTENANCE

Once the floor has been protected, a routine maintenance programme should be adopted. The types and frequencies of the maintenance is highly dependent on traffic and dirt levels, equipment availability etc. but all floors should be dust mopped daily. Following are a number of maintenance techniques which details their relative benefits and typical frequencies.

Process	Frequency	Benefits
Dust mopping	Daily	<ul style="list-style-type: none"> <li>Improves appearance</li> <li>Reduces polish wear</li> <li>Removes soil</li> <li>Keeps adjacent areas cleaner</li> </ul>
Damp mopping	Daily (or spot mop daily and 1-2 times per week mop whole floor)	<ul style="list-style-type: none"> <li>Efficient cleaning and removal of spillages</li> </ul>
Spray cleaning	1-2 times per week	<ul style="list-style-type: none"> <li>Fast and Efficient</li> <li>Increases polish durability</li> <li>Enhances gloss</li> <li>Low chemical usage</li> </ul>
Dry buffing	1-2 times per week (must dust sweep after if no vacum on machine)	<ul style="list-style-type: none"> <li>Hardens polish film</li> <li>Increases polish durability</li> <li>Fast and Simple operation</li> <li>No need to close off area</li> </ul>
Autoscrubber	Daily	<ul style="list-style-type: none"> <li>Fast and simple operation</li> <li>No need to close area</li> <li>Low chemical usage</li> <li>Can be used with pads to improve gloss.</li> </ul>
Machine scrubbing	Weekly/Monthly depending on soilage	<ul style="list-style-type: none"> <li>Removes dirt from safety floors.</li> <li>Allows longer contact time</li> <li>Improves appearance</li> <li>Can be used with pads of brushes depending on floor type.</li> </ul>

#### Tips:

- ▶ Dust mop dry floors only avoid liquid spills or sticky residues
- ▶ Always use a leading edge and never lift mop off floor.
- ▶ Never leave a pile of soil from dust mopping, in a high traffic area.
- ▶ For very heavy soilage use the double scrub method where you apply the chemical solution and scrub the floor twice before collecting the solution to give greater contact time.



## 4. FLOOR CARE CLINIC

The following guide is designed to diagnose and overcome the most commonly occurring floor care problems.

### 1. Preparation

PROBLEM	POSSIBLE CAUSE	SOLUTION
Poor polish removability	Incorrect dilution and/or hot water used	Check dilution of stripper, always use cold water.
	Insufficient contact time	Allow minimum of 5 mins contact time before scrubbing
	Heavy Polish Build up	Repeat stripping process or use Jontec Prostrip
	Incorrect or worn pad	Check pad for wear and change for new or correct one
	Seal present	Use Jontec Prostrip at 1:5 with black pad or green pad for lino.
Colour loss/change or floor softening/damage (lino floor)	Use of Carefree speed stripper instead of Carefree stripper	Colour loss/change irreversible. Sealing and polishing of a softened floor is usually satisfactory
Strong odour during use	Poor Ventilation	Improve ventilation, or use at a weaker dilution, or use Carefree stripper rather than Speed stripper.
	Using hot water instead of cold	Make up solution in cold water



## 2. Protection with polish

PROBLEM	POSSIBLE CAUSE	SOLUTION
Poor gloss	Incorrect preparation. Alkaline residue remaining following previous stripping operation.	Strip polish ensuring floor is neutralised. Apply a fresh coat of polish.
	Dirty equipment used to apply polish.	Clean all equipment. Strip polish and apply a fresh coat.
	Polish applied too thinly.	Check coverage does not exceed manufacturer's recommendation. Ensure polish has not been diluted.
	Insufficient number of coats	Apply further coats as necessary.
	2nd coat applied before 1st is dry	Top strip and re-apply polish.
	Porous floor	Strip polish and apply 2 coats of Carefree Undercoat followed by 2 coats of polish.
Floor appears slippery	Polish applied too heavily or too frequently	Strip polish and reapply a fresh coat.
	Contamination from Oil, solvents or dust	Correct use of barrier mats, remove any source of contaminants.
	Incorrect product used e.g. application of solvent wax polish to a vinyl floor.	Strip incorrect polish and apply correct one.
	Insufficient buffing if polish is buffable type.	Buff regularly after application of a fresh coat.
Poor Flow (patchy finish)	Incorrect preparation	If appearance is reasonable finish may be improved by buffing followed by application of a fresh coat. Alternatively strip and re-apply
	Polish applied to dirty floor.	Strip and reapply
	Contaminated equipment used	Clean all equipment. Strip and reapply polish
	Polish applied too thickly.	Strip polish and reapply
	2nd coat applied before 1st is dry	Top strip using Jontec Forward and re-apply polish.
Powdering (white powder on the surface of floor after traffic)	Inadequate preparation.	Strip polish and reapply.
	Excess polish on floor.	Strip polish and reapply.
	Excess use of alkaline detergents causing floor to remain alkaline.	Neutralise floor using vinegar solution and reapply polish.
	Humid and / or cold conditions.	Ensure humidity and temperature are not abnormal.
	Use of poor quality polish	Use a good quality polish such as Carefree Eternum
Slow drying	High humidity, low temperature or poor ventilation.	Adjust temperature and humidity, and ensure adequate ventilation.
	Damp floor caused by poor damp course.	Installation of a good damp course.
Poor durability	Incorrect detergent or over concentrated detergent solution used for daily maintenance.	Use correct detergent at appropriate concentration.
	Incorrect pads being used for buffing or scrubbing.	Used finest grade pad to achieve the desired results.
	Abrasive material carried on floor by traffic.	Remove abrasive material. Use mats to remove grit from footwear.
	Inadequate preparation	Strip and re-apply.
	Polish applied too thinly	Apply further coats as necessary
Poor remove ability	Wrong product used for stripping polish.	Use correct product at appropriate concentration.
	Excessive polish build up.	Repeat stripping procedure as required. Check maintenance procedure to prevent build-up.
	Incorrect pads being used.	Use stripping grade pad.



## Floor seals – suitable for wood floors

PROBLEM	POSSIBLE CAUSE	SOLUTION
Slow drying	Incorrect preparation	Remove seal from a small area and strip it again. Apply a fresh coat of seal; if satisfactory treat the whole area in the same way.
	Low temperature	Raise temperature
	Poor Ventilation	Improve Ventilation
Poor adhesion	Incorrect preparation	Complete removal of seal by sanding
	Seal incompatible with previous seal	Sand to remove old seal
Poor finish or poor durability	Incorrect preparation	Lightly sand and reapply seal
	Inadequate number of coats	Apply further coats as necessary.
	Seal applied too thinly	Apply further coats as necessary

## Solvent wax for wood floors

PROBLEM	POSSIBLE CAUSE	SOLUTION
Floor appears slippery	Insufficient wax	Reapply a thin coat of wax and buff well.
	Excess wax caused by: (a) Build up over long period (b) Too frequent application (c) Too heavy application	Remove excess wax, re-apply a thin coat and buff well
	Insufficient buffing	Buff regularly especially after a new application
	Under floor heating softening wax	Water based emulsion polish preferred on floors with under floor heating
Machine swirls (marks remain after buffing)	Buffing before polish is dry	Apply a thin coat, allow to dry and buff thoroughly
	Too heavy application of wax	Apply a thin coat, allow to dry and buff thoroughly
	Dirty brush or pad	Clean brush or pad and re-buff.
	Incorrect grade of pad used	Fine grade pad should be used for buffing
Blooming (white haze)	Presence of water on the floor prior to waxing or applied to the floor before the wax is dry.	Strip wax and reapply under dry conditions.
Wax being walked off	Wax build up or insufficient buffing	Strip off wax build up, reapply fresh wax and buff.
Slow drying	Inadequate ventilation, or low temperature.	Provide adequate ventilation and raise the temperature.
	Wax applied too thickly	Allow to dry and buff. Always apply two thin coats rather than one thick one.

### 3. Maintenance

PROBLEM	POSSIBLE CAUSE	SOLUTION
Slippery floor	Inadequate preparation.	Repeat preparation process
	Adjacent to wax (wood) area	Install sufficient, suitable barrier matting between areas.
	High Levels of dust	Dust sweep, preferably with TASKI microfibre floor mop
	Excessive polish	Spray strip to remove excess. Review re-application frequency
	Contamination	Remove contamination
	Plasticiser migration (vinyl floors only)	Strip the floor using carefree speed stripper, apply 1 or 2 coats of Carefree Undercoat and protect with suitable Carefree polish
Powdering	Inadequat preparation	Repeat preparation process
	Excessive polish	Spray strip to remove excess, review re-application frequency.
	Slow/Fast drying	Ensuring adequate ventilation/heating
	Worn or no seal	Strip off all polish and seal as necessary
	Plasticiser migration (vinyl floors)	Strip the floor using Carefree speed stripper, apply 1 or 2 coats of Carefree undercoat and protect with a suitable Carefree polish
	Poor Adhesion to Floor	Some wear layer vinyl floors have smooth surfaces which are difficult for the polish to “key “ to, consider spray maintenance with Carefree Maintainer instead of sealer/finish.
Does not respond to maintenance	Insufficient or worn polish	After preparation, re-apply polish as necessary, a seal may be required if floor is porous.
Poor durability (does not last long)	Inadequate preparation	Repeat preparation process
	Polish applied too thinly/insufficiently	Apply further coats of polish
	Incorrect/inadequate maintenance	Review type and frequency of maintenance
	Abrasive materials	Install sufficient, suitable barrier matting and ensure good dust control
	Unrealistic expectations	Review entire maintenance procedure, including frequency and level of polish application, versus traffic and dirt levels
	Plasticiser migration (vinyl floors)	Strip the floor using Carefree speed stripper, apply 1 or 2 coats of Carefree Undercoat and protect with a suitable Carefree polish.



## 5. HEALTH & SAFETY

### Equipment:

- Ensure equipment cable, plugs and casings are checked before and after every use. If defects are found isolate equipment immediately.
- Always wipe down equipment after use and store safely.
- Keep electrical cable behind machine and operator when in use.
- Always work standing on dry flooring e.g. mopping, machine scrubbing.
- Never allow electrical cables to overlap or tangle or come in contact with water on floor.
- Always rinse mopping equipment thoroughly and store mops upright.

### Products:

- Do not mix products together.
- Always read label on container and follow recommended dilution.
- Allow adequate ventilation while cleaning
- Always add product to water when preparing cleaning solution
- Never return unused product to the container
- Always ensure that containers are permanently labelled – no milk bottles, mineral water bottles or unlabelled hand sprays.
- Store products safely after use. Keep cleaning cupboard or store tidy at all times.

### Personnel:

- Ensure all skin cuts and abrasions are covered by medical dressing provided.
- Maintain first aid kit with appropriate medical dressing provided
- Always use and wear protective gloves and clothing provided.
- Report faulty or dangerous defects immediately e.g. worn flooring, loose carpet, broken electrical points.
- Ensure warning signs are displayed when cleaning is in operation.
- Never over reach when cleaning



## Notes



Diversey's purpose is to protect and care for people every day. Diversey has been, and always will be, a pioneer and facilitator for life. We constantly deliver revolutionary cleaning and hygiene technologies that provide total confidence to our customers across all of our global sectors, including: cleaning products, systems and services that efficiently integrate chemicals, machines and sustainability programs. This makes us unique among leading global hygiene and cleaning companies. Everything we do has our customers' needs at its heart and is based on the belief that cleaning and hygiene are life essentials. With over 95 years of expertise, we safeguard our customers' businesses, contributing to productivity improvements, lower total operating costs and brand protection. Headquartered in Fort Mill, South Carolina, USA, Diversey employs approximately 9,000 people globally, generating net sales of approximately \$2.6 billion in 2017.

For more information, visit [www.diversey.com](http://www.diversey.com) or follow us on social media

