



PO Box 24
Balaklava SA 5461

Telephone 08 8862 2078
Facsimile 08 8862 2033

FLOOR TYPES

Hard floors are divided into three main types – porous, semi-porous and non-porous or dense. They are categorized as follows.

1. POROUS FLOORS

Floor types – wood, cork, granwood, magnesite, concrete.

These floor surfaces are absorbent and susceptible to becoming ingrained with dirt particles, liquid, grease, etc., and should be treated with a semi-permanent seal.

2. SEMI-POROUS FLOORS

Floor types -

(a) PVC (vinyl asbestos).

(b) Vinyl (or flexible PVC).

(c) Thermoplastic – rubber, and linoleum.

These floors do not have the same dirt-absorbing properties as the porous floors and it is not necessary to apply a semi-permanent floor seal, which could damage the floor when removed.

3. NON-POROUS OR DENSE FLOORS

Floor types - Terrazzo, Quarry Tiles and Marble. These floor surfaces require less specialized treatments than those recommended for the porous and semi-porous groups.

POROUS FLOORS

Wood

Wood floors are found in almost every type of building, particularly in schools, gymnasiums, dance halls etc. Wood is usually laid in strip and board or wood block. Wood loses its colour if treated with water over a period of time and in dry conditions water will evaporate from the wood. This causes the wood to swell and shrink and cause gaps to appear in the floor. It is best therefore to protect the wood with a semi-permanent seal. Wood floors that have previously been treated with liquid or paste wax should have all the existing wax removed with a solvent based cleaner before applying a semi-permanent seal. This is sometimes very difficult to achieve and unfortunately if there is any residual wax this will prevent the seal from "keying" properly to the floor. Under these circumstances it is better to use a quick drying barrier seal prior to sealing with a semi-permanent seal.

Cork

Cork is normally produced for floors in the tile form and because it is very quiet to walk on is found in a wide variety of industrial areas like libraries, art galleries, museums, hospitals etc. It is not generally suitable for areas subjected to heavy industrial traffic because the tiles have limited resistance to pressure and heavy furniture can cause indentations which can only be removed by sanding.

Cork tiles are made from granulated cork bark with natural or synthetic resins moulded into blocks under pressure at a very high temperature and then cut into tiles. Cork is extremely porous and will readily absorb dirt, oil and stains. It is essential therefore that cork should be sealed with a semi-permanent seal. If the cork has been treated with a manufacturer's dressing, this should be removed with a solvent based wax remover before sealing.

Cork tiles that have become discoloured or worn can be renovated by using a fabricut abrasive mesh disc under a black pad and a scrubbing machine. These discs are graded according to their harshness, 60 grit, 80 grit, 100 grit and 120 grit, 60 grit being the most abrasive and 120 grit being the least. For cork renovation an 80 grit is recommended followed by a 120 grit for finishing off and giving a nice smooth surface. These fabricut abrasive mesh discs are very expensive and if they are used without a black pad between the machine and the disc, they can very quickly be torn to shreds.





WAREHOUSE MATRIX

A.B.N 29 764 742 043

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Granwood

Granwood is made of a mixture of Portland cement with fillers of wood flour or sand and sawdust. It is usually found in schools and colleges. The small, oblong tiles are often laid in basket weave or herringbone pattern, and the colours are red, cream, light or dark brown. It is a very porous floor and dusts badly. New Granwood will usually be sealed by the flooring contractor, but if not should be sealed with a semi-permanent seal.

Magnesite

Magnesite is also known as magnesium oxychloride, joint-less flooring or composition flooring. It is laid in situ and one advantage is that it can be laid over an existing rough floor. This type of floor is resistant to oil and grease and is therefore used in the type of areas where this is important, e.g. kitchens. It consists of magnesium oxychloride with fillers of wood flour, sawdust, or ground silica or powdered asbestos. Pigments can be added to make them coloured and plasticisers are also added sometimes for flexibility. Because of the wood flour and sawdust magnesite is hygroscopic (readily absorbs water) and if the floor is unsealed and washed regularly with water will swell and crack. It is essential therefore to seal with a semi-permanent seal. Most flooring contractors, however, seal magnesite floors soon after they have been laid. Because magnesia, which is the main component of magnesite, is an alkaline material, acids must never be used on the floor as they may scar the floor permanently. Strong alkalis should be avoided and also sweeping compounds.

Concrete and Granolithic

The advantage of concrete is that it has the ability to support considerable weight and this has made it a popular flooring for industry where heavy machinery is present. It is also relatively low if cost.

Granolithic floors have a normal concrete base with the addition of granite chips to give them a less porous surface. Both concrete and granolithic floorings tend to be noisy, cold and prone to dusting which makes them difficult to keep clean. It is preferable to seal these floorings with a semi-permanent seal. Various pigmented seals are available usually red, grey or green and have either a gloss or matt finish. Both types, concrete and granolithic - should be "acid etched" prior to sealing to give better adhesion and durability.

SEMI-POROUS FLOORS

PVC (Vinyl Asbestos)

PVC (vinyl asbestos) consists of a blend of polyvinyl chloride polymer, asbestos fibre, fillers and pigments plus plasticisers and stabilisers. It is available in tile form only. The tiles are moderately hard, with more flexibility than thermoplastic tiles, but have less flexibility than flexible PVC.

Flexible PVC or Vinyl

Flexible PVC or pure vinyl as it is sometimes called is made of basically the same materials as PVC (vinyl) asbestos but without the asbestos fibre and is sometimes finished with a coating of PVC to give it a smooth surface. Solvent based seals or polishes should never be used on PVC because of detrimental effects. Both kinds of PVC can be polished with a water based emulsion if desired or spray buffed. Some of the latest kinds of flexible PVC do not require polishing because of the manufacturer's dressing previously mentioned.

Thermoplastic tiles

These tiles are amongst the cheapest types of resilient flooring and are therefore quite popular. They are made from asphalts or synthetic resins, asbestos fibres, pigments and mineral fillers. Thermoplastic tiles are rather hard and noisy to walk on. They have a moderate resistance to dilute acids and mild alkaline detergents, but can be affected by alcohol that can give the floor a bleached appearance. Very hot water should not be used on thermoplastic tiles as it could soften them and similarly solvent based polishes or strippers should never be used.



Main Office: 27 Gwy Terrace, Balaklava SA 5461
Email: info@warehousematrix.com.au



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Rubber

Rubber is made from natural or synthetic rubber or a mixture of the two with mineral fillers like china clay and pigments. It is usually laid where quietness is desired like hospitals and libraries etc. Ribbed or ridged rubber is used in places like shopping precincts and airports and studded rubber is used extensively in new buildings to give a slip resistant surface.

Solvent based polishes or seals must never be used on rubber as the solvent will soften the rubber. Also excess water should be avoided as penetration of water between the seams could cause lifting at the joints. A fully buffable water based emulsion is recommended for rubber as they contain a higher proportion of wax. The dry bright or metallised types of polish dry to too hard a finish and do not bend with the movement of the rubber thus resulting in the polish flaking and chipping off.

Linoleum

Linoleum is made of linseed oil, cork or wood flour with mineral fillers, pigments and a resin binder compressed on to a hessian backing. It is available in sheet or tile form. Specially hardened linoleum which is resistant to stiletto heels was made under the trade names Armourflor and Armourtile, Heelmaster and Heelguard. Excess washing and using strong alkaline-solutions on linoleum should be avoided, as washing removes the oil leaving the surface bare, allowing dirt to penetrate the floor. Strong alkalis will remove the oil causing the linoleum to become hard and brittle, and can also make the colours "bleed". It is better to seal linoleum with a water based acrylic seal and then two coats of a water emulsion polish. Solvent-based seals are not recommended because they tend to react with the manufacturers' dressing and sometimes chip and flake off the surface of the linoleum after-a very short period.

NON-POROUS OR DENSE FLOORS

Terrazzo

Consists of marble chips set in a matrix of Portland cement. It is widely used in operating theatres, toilets, halls, lobbies and entrances. Neither acid nor alkaline cleaners should be used on terrazzo. Acid cleaners dissolve the cement matrix leaving a pitted appearance, alkaline cleaners leave a fine dust layer on top of the terrazzo. Therefore a neutral detergent only should be used. Responds well to buffing.

Quarry tiles

These are moulded from clay and fired in kiln, then laid on a cement bed and grouted. Found extensively in kitchens, toilets and changing rooms. Are very easily maintained by mopping with water and correct detergent.

Marble

Marble is limestone hard enough to take a polish. It is resistant to water but like terrazzo does not like acids or alkalis. Should be mopped with a neutral detergent and buffed.



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