The Use of Resin Flooring in the Public Sector

The Public Sector environment requires a variety of performance criteria from its chosen flooring. As the name denotes, these areas are in buildings which are trafficked regularly by the public, and therefore the requirements are not just based on aesthetics, but more importantly on performance and cleanability. Due to the complexity of the areas involved, differing types of flooring are often selected to suit specific environments within a public sector building such as a hospital or school. Seamless resin floors, with a proven track record of over 30 years, are available in a wide range of finishes and can provide the ideal solution for public sector flooring.

What Is a Seamless Resin Flooring System

Resin flooring is applied in situ to a prepared concrete surface either as a flowing or trowelled mortar or as a surface coating. A polymerisation or curing process then takes place to produce the final synthetic resin finish. Large areas of seamless flooring can thus be installed without the need for any joints other than where there are movement joints in the base concrete. The lack of joints is beneficial since such recesses are more difficult to clean and risk harbouring harmful bacteria. The fully cured Resin flooring is impervious, non-absorbent, washable and non-toxic.

Let's look at a typical example of a public sector building such as a hospital where hygiene and cleanliness are of paramount importance. The areas involved could be split into public and private, or more likely to be front of house and back of house. Typically, the areas involved would be:

Reception areas, waiting rooms and corridors
Wards, staff rooms, stock rooms
Theatres, X-Ray rooms, lntensive care units
Laboratories, Mortuaries
Kitchens, canteens, plant rooms

With the wide range of conditions to be encountered, it is important to identify the specific environment in each case to choose a suitable flooring material. To give good service, the flooring material must satisfy all the mechanical, chemical, physical, biological, and practical requirements of the user:

- Mechanical—to support machinery and to withstand impact and abrasion;
- Chemical— to be resistant to (and protect the substrate from) chemicals to be encountered;
- Physical—to withstand temperature changes (thermal shock) and prevent ingress of contaminants;
- Biological—not to support biological growth
- Practical—to be easy to clean, to be hygienic, to be slip resistant, to be aesthetically pleasing, and to be durable.

RESIN FLOOR FINISHES

The types of resin flooring systems available and their area of use are described in detail in FeRFA's RIBA CPD Approved Guide to the Specification and Application of Synthetic Resin Flooring, but basically comprise:

Table : 1 — Types of synthetic resin flooring

TYPE	NAME	DESCRIPTION	DUTY	TYPICAL THICKNESS
1	Floor seal	Applied in two or more coats. Generally solvent or water borne.	light	up to 150 µm
2	Floor coating	Applied in two or more coats. Generally solvent free.	light to medium	150 µm to 300 µm
3	High build floor coating	Applied in two or more coats. Generally solvent free.	medium	300 µm to 1000 µm
4	Multi-layer flooring	Aggregate dressed systems based on multiple layers of floor coatings or flow-applied floorings, often described as 'sandwich' systems.	medium to heavy	> 2 mm
5	Flow applied flooring	Often referred to as 'self-smoothing' or 'self-levelling' flooring and having a smooth surface.	medium to heavy	2 mm to 3 mm
6	Resin screed flooring	Trowel-finished, heavily filled systems, generally incorporating a surface seal coat to minimize porosity.	medium to heavy	> 4 mm
7	Heavy duty flowable flooring	Having a smooth surface.	heavy to very heavy	4 mm to 6 mm
8	Heavy duty resin flooring	Trowel-finished, aggregate filled systems effectively impervious throughout their thickness.	very heavy	> 6 mm

Many of these types of flooring may be produced with special decorative effects by the incorporation of coloured particles or flakes in the surface. Terrazzo-like finishes (ground exposed aggregate) may be produced from certain trowel-applied floorings of Types 6 and 8. A variety of colour options are available to suit any design option. Slip resistant or anti-static/conductive versions of all these categories may also be available for use in sensitive areas such as operating theatres, X-ray suites and laboratories.

Joints are a point of weakness on any floor, not only from a design point of view, but also from a hygiene and maintenance point of view. Seamless resin floorings therefore have an edge over other types of flooring since joints can be kept to a minimum. By contrast, ceramic tiled floors may have more than 10 m of joints per m^2 of area.

CONCLUSION

The public sector environment presents a very wide range of diverse requirements for any flooring system. Often regulated under tight budgetary controls, it is important that the correct selection is made to provide a cost effective and practical solution. A damaged floor can reduce efficiency, cause personal injury, and lead to unpleasant and unhygienic working conditions. The high cost of reinstalling a floor, in terms of disruption, inconvenience, and loss of practical use of a sensitive area such as an operating theatre, or the closure of a school, makes it important to get the floor right the first time. This requires a thorough understanding of the environment, the best possible design, and the choice of the most suitable product for the job. Even with the correct floor design and the correct floor finish specified, the correct installation is still needed to make the floor work.

In summary, resin floors are :

Attractive and decorative: Innovation in product manufacture has led to the introduction of a new range of decorative resin flooring systems. Colour, texture and design are now key considerations, with products available to suit every design concept, from attractive terrazzos to contemporary creations.

Easy to clean and disinfect: As with all floors, good housekeeping and the correct cleaning regimes are important, but a dense, seamless, resin flooring will facilitate easier cleaning.

Durable: The minimum requirement for joints in resin flooring reduces the possibility of mechanical breakdown and facilitates maintenance. As a consequence, there are resin floors in arduous environments still giving good service after 15 to 20 years.

Resin floorings have amply demonstrated over many years their capability to satisfy all the demanding requirements of industrial environments such as food or pharmaceutical, and now with decorative commercial options available, resin flooring makes the ideal choice for any public sector environment.

Resin flooring should be provided and installed by experienced manufacturers and specialist contractors, such as those who are members of FeRFA, the UK Resin Flooring Association, to ensure the best possible results.

References:

FeRFA publications: all freely downloadable from www.ferfa.org.uk
- Guide to the Specification and Application of Synthetic Resin Flooring
- Guide to the Selection of Synthetic Resin Floors
- Minimising slips in the workplace with the use of industrial resin floors
- Anti-Static Flooring
- Chemical Resistance of Resin Flooring
- Guide to Cleaning Resin Floors

British Standards: available from BSI, www.bsi-global.com
- BS 8204-6: "Synthetic resin floorings – Code of practice"
- BS EN 13813: "Screed material – Properties and requirements"

FeRFA

FeRFA, the Resin Flooring Association represents resin flooring product manufacturers and specialist contractors, and allied trades. Established in 1969, FeRFA currently represents over 80 based companies. The Association has established Codes of Practice for each of its categories of member. It takes an active role in promoting resin flooring and in developing both national and international standards.

All FeRFA publications are available to download free from www.ferfa.org.uk
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