

WATERPROOFING BALCONIES AND WALKWAYS: A GUIDE TO SPECIFICATION

There are several different types of balconies and walkways, but each will require a highly durable waterproofing solution. In this guide, the LRWA explains why liquid technologies are ideal for these applications and offers guidance on specification.

Balconies and walkways are often exposed to the destructive forces of the elements, including rain, sunlight and freezing conditions. Furthermore, foot traffic and the corrosive effects of road salt transferred by pedestrians create a hostile environment for the substrate, which is often reinforced concrete or asphalt.

Whether a new build or refurbishment project, waterproofing these structures requires a very robust solution. Liquid systems are ideal as they offer good chemical resistance and excellent durability against long term UV radiation, heat and water ponding. They can protect the substrate, providing a well-adhered skid inhibiting finish, and can also be quickly and effectively applied around complex details such as handrails.

Specification Considerations

Balconies and walkways can be constructed in different forms and this will dictate which type of liquid waterproofing system should be used.

Some balconies can project out from the building so are above unoccupied spaces. Referred to as cantilevered balconies, these will usually require a partially reinforced liquid waterproofing and surfacing system.

Balconies can also form the roof (or part of a roof) to a room below. For these applications, the thermal performance must be considered. A fully-reinforced liquid waterproofing system is usually specified with a trafficable surface layer. There are also specialist systems which can be used beneath coverings and in buried build-ups.

Walkways are areas of communal access to flats. Like balconies, walkways can form part of the roof and can have a wearing surface as part of the liquid applied system or be finished with bonded tiles.

For heavy duty areas such as stairwells, systems with a trafficable surface are available. Some of these feature proprietary or resin-based edge nosings to provide a safe solution for the visually impaired.

Quick Curing Options

The refurbishment of balconies and walkways in larger residential schemes needs to minimise disruption for residents, ensuring people can access their home within an acceptable time period.

Fast application is essential, allowing the contractor to be on and off site in the minimum amount of time, whilst reducing the possible need for temporary access such as HAKI staircases which can be costly.

For these types of projects, PMMA-based systems are a popular choice as they can dry in 30 – 40 minutes even at temperatures of around 0°C.

These systems tend to have a minimum of two components. The cold-applied liquid resin cures following an extremely rapid in-situ polymerisation, which is activated by the addition of a peroxide catalyst.

The membrane is reinforced with a polyester fleece and is installed wet-on-wet. This means that the polyester reinforcing fleece is first saturated with liquid resin, bonding the membrane to the substrate, with the surface layer then applied onto the bonding coat whilst still wet – therefore forming a single seamless membrane of uniform thickness.

Other options include polyurethane liquid systems and flexible polyester.

Polyurethane products are available as both single and twin packs, and may use glass fibre matting or polyester fleece reinforcement. They can be applied wet-on-wet in a single application or multi-layered and can be reactive systems, moisture triggered or moisture cured.

Some polyurethane products are odour free so are well suited for use in sensitive areas such as nurseries, hospitals, and schools causing little disruption to occupiers of the building.

Flexible polyester technology consists of an unsaturated polyester resin reinforced with either fibreglass mat or polyester fleece. The polyester resin incorporated within the system must be specially formulated to provide a high degree of flexibility and elasticity combined with fire performance.

Both flexible polyester and polyurethanes can be applied with an activator or accelerator to speed up cure times in colder weather.

Smaller Projects

For smaller areas, especially in the domestic sector, Glass Reinforced Plastic is often used. Usually referred to as GRP, glass fibre or fibreglass, this system consists of a glass fibre reinforced polyester resin.

The installation of GRP involves preparing and laying the timber substrate to form a structurally sound deck. Then, preformed edge trims are fitted around the perimeter of the roof, at any significant junction or change in pitch.

The waterproof laminate of a GRP system is applied onto the deck, made up of roofing resin combined with a catalyst which is used to saturate a reinforcement mat. Once the laminate has cured, a coloured topcoat, which is mixed with a catalyst, is applied over the surface using a brush or soft roller.

Best Practice

When waterproofing balconies and walkways, liquids offer significant benefits. As highlighted however, there are a number of considerations for specifiers and contractors.

To provide further advice, the LRWA has developed a Roofs, Balconies and Walkways Code of Practice, which offers comprehensive guidance on waterproofing these structures and treatment of associated fittings and constructions,

The Code of Practice and other guidance notes can be downloaded via www.lrwa.org.uk

For more information or advice, please contact us at technical@lrwa.org.uk