Leeson Polyurethanes

Leeson Waterproofing Systems

The leading manufacturers
of polyurethane adhesives
and coatings

A bond for life

Leeson Waterproofing Systems: from roofs to balconies, we manufacture polyurethane waterproof coatings for all needs.

Established in 1986, Leeson Polyurethanes Ltd is the UK's leading manufacturer of Aliphatic and MDI based polyurethane one and two component coatings.

From domestic to industrial, from roofs to water towers. We are at the forefront of innovation in our sector, partnering with our customers to develop market leading solutions to their unique requirements.

COATINGS

We supply a wide range of coatings, including:

- Waterproofing
- Polyurea coatings
- Stonebinders
- Anti-Skid coatings
- Polyurethane rubber binders

Award Winning Products

It is with great pleasure that we can announce Leeson Polyurethanes Ltd has been awarded the Queen's Award for Enterprise in International Trade for 2019, the highest official UK export award for a British business.

This is in recognition for the exceptional growth in exports in recent years and gives global recognition that the company is outstanding in its field. Since winning the award for the first time in 2007, LPU have seen record sales and trade with new distributors in new countries including South Africa, Australia and New Zealand. We now export to 55 countries worldwide which makes up 25% of all Leeson Polyurethanes' sales and are set to rise further.

THE QUEEN'S AWARDS FOR ENTERPRISE: INTERNATIONAL TRADE 2019

The Queen's Awards for Enterprise were first established in 1966 and have long been the most prestigious business awards given out in the UK. There are certain criteria that the winning company has to achieve in order to be eligible for the award which can lead to further growth and international recognition. Representatives from Leeson Polyurethanes are invited to a reception at Buckingham Palace, but also the successful organisation can fly the Queen's Award flag and can use the Emblem on stationery, advertising and goods.

A bond for life

Leeson Polyurethanes are the leading innovators and manufacturers of Polyurethane Coatings, supplying worldwide.

We develop and manufacture an extensive range of formulated polyurethane products:

- Waterproofing Systems for Roofs & Balconies
- Spray & Hand Applied Polyurea
- LeesonBound®
- LeesonGrip®
- Polyurethane Binders for Playgrounds & Sports Pitches
- Polyurethane Coatings
- Decorative Coatings
- Seamless Industrial Flooring
- 1 & 2 component 100% Solvent Free Adhesives
- PUR Reactive Hot Melts
- Polyurethane Textile Adhesives

We work closely with our customers to deliver formulated polyurethanes of the highest quality.
Our products are tailored for our customer's precise requirements ensuring that they perform at their best.

The applications are infinite, from insulated panel production to textile and kitchen pad lamination, from sports pitches and playgrounds to high friction surfaces.

COATINGS

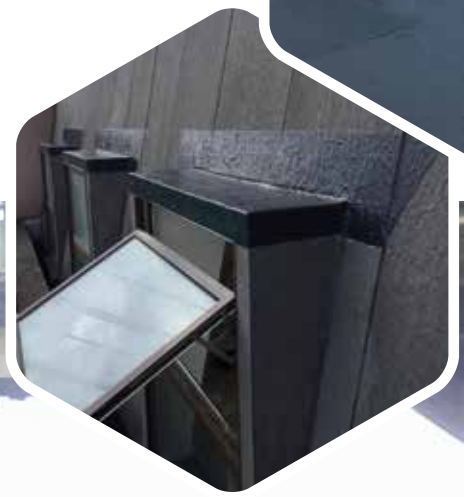
Our innovative Polyurea and Polyurethane Coatings are used in a wide range of applications.

We manufacture and market a leading range of polyurethane based coatings. They are used in a large array of applications, including liquid applied waterproofing (Watertite), polyurethanes for stonebinders (both UV and non UV resistant grades), anti-skid coatings for roads, bridges, and marine, polyurethanes for industrial flooring and decorative applications. Our range of polyurea are used for waterproofing and protection of concrete and metal on large scale projects, as well as decorative, bespoke and OEM applications. Furthermore we are continually developing our coatings to meet the requirements of our customers.

Polyurethane Waterproofing systems used on roofing and balconies are seamless and UV resistant and include grades that are Fire Rated to EN 1187 B Roof (t4) as well as resistant to extremes of temperature. We manufacture coatings for both spray and roller applications.

Waterproofing Product Overview

Seamless, UV resistant, moisture triggered polyurethane technology for superior waterproofing for roofs and balconies.



USES

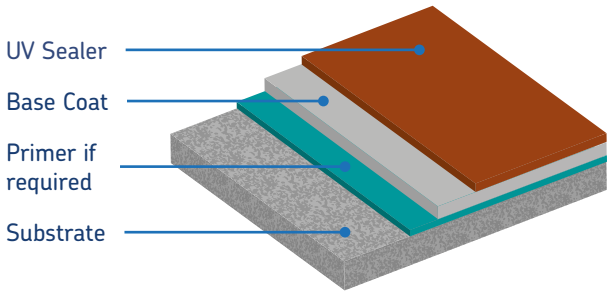
- Domestic Roofs
- Industrial Roofs
- Balconies
- Concrete Protection
- Water Towers

BENEFITS

- Seamless - no joints to leak
- No embrittlement with age
- Fast curing
- Solvent Free

Technical Specification

- Excellent physical properties
- Resistant to temperatures of over 60˚C for long periods
- Resistance to various acids, diesels and petrol as well as strong bases
- Range of colours



BBA Approved Watertite

BBA approved seamless roofing system based on moisture triggered polyurethane technology. The system consists of a chopped strand reinforced base layer sealed with a finish coat.

USES

- Roofs
- Balconies
- Water towers

BENEFITS

- Seamless - no joints to leak
- Excellent waterproofing
- UV resistant
- No embrittlement with age
- Bonds to many existing roof structures
- Range of colours
- Fire rated to EN 1187 B Roof (t4)

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 18/5323

Roofbond Adhesive

One component polyurethane adhesive for bonding insulating materials, e.g. polystyrene, polyurethane and Rockwool.

USES

- Polystyrene
- Polyurethane
- Rockwool
- For bonding insulating panels to general construction materials
- Specially developed for bonding roof insulation boards

BENEFITS

- Single component
- Moisture cured
- Low odour
- Solvent free
- Non flammable

Liquid Waterproofing

Seamless roofing system based on moisture triggered polyurethane technology. The system consists of a chopped strand reinforced base layer sealed with a finish coat.

USES

- Roof Areas

BENEFITS

- Seamless
- One component
- Moisture triggered
- Elastomeric
- High performance

Polyurea Pure and Hybrid

A range of fast setting, spray applied two component pure and hybrid polyurea coatings.

USES

- Concrete protection
- Waterproofing
- Balconies
- Scenography
- Secondary containment

BENEFITS

- Fast curing - 8-10 seconds
- Solvent free
- Excellent physical properties
- Seamless application
- Excellent abrasion resistance

PURA 4421 Balcony System

Fast setting, hand applied two component pure polyurea coating. 100% solids and contains no VOCs.

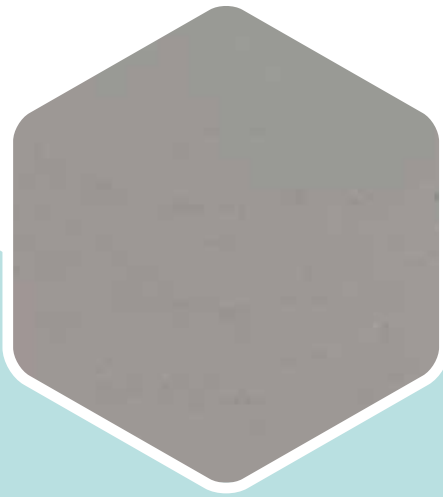
USES

- Prepared concrete
- Balconies
- Roofs

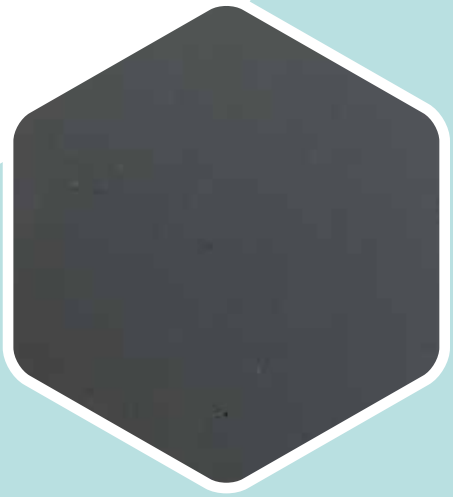
BENEFITS

- Flexible and durable
- High abrasion resistance
- High tensile strength
- Resistant to various acids and alkalis
- 60 minute curing
- Sameday installations

Watertite Range



Light Grey
CM3



Mid Grey
CM4

Dark Grey
CM5

White
CM16

Copper Green
CM21

Terracotta
CM20

Typical BBA Watertite Waterproofing System - 20/25* Year System

Description

High Performance 20/25* Year Waterproofing System for applications on to asphalt and felt roofs.

PRODUCT APPLICATION	
SURFACE PREPARATION AND CLEANING	As required
PRIMER APPLICATION (WHERE REQUIRED)	LeesonPrime PU4922 Primer @ 120µ per coat. Theoretical coverage rate at 120µ is 8m²/litre
DETAILING AND JOINTS	Leeson Watertite EC PU4923 Chopped Strand Reinforcing Mat 225gsm (1m wide)
EMBEDMENT COAT	**Flat Deck:** Leeson Watertite EC PU4923 @ 1.0 litre/m² Chopped Strand Reinforcing Mat 225gsm
	Pitched Deck: Leeson Watertite EC PU4923 @ 0.5 litre/m² Leeson Watertite EC PU4923 @ 0.25 litre/m2
UV FINISH COAT	Leeson Watertite UV PU4924 @ 1.75 litre/m²
WALKWAYS (IF REQUIRED)	Leeson Watertite UV PU4924 @ 0.5 litre/m² Aggregate 0.8-1mm @ 0.75kg/m².

Surface Preparation

Dirt / Soil / Contamination must be removed from the surface prior to installation of the system.

Surfaces should be power washed and rinsed to remove all residual dirt and other contamination after which the surface should be dried.

Surfaces which have been subject to moss and lichen must be treated with a proprietary fungicidal wash and allowed to dry in accordance with manufacturers' instructions.

Adhesion of the existing coating system must be checked and all defective coating removed back to a firm edge.

Any ballast chippings present must be removed with a mechanical flail. Deeply embedded chippings need not be removed if removal would result in extensively damaging the asphalt.

Badly degraded asphalt must be removed.

Failure to remove all loose chippings will invalidate any offer of warranty.

Roofing felt is to be inspected; weak and degraded felt to be replaced. Blisters in the roofing felt are to be star cut, the exposed surface dried and the felt re-bonded to the substrate.

This system can extend up and over brick/concrete parapet walls if required. Any cracks in these surfaces are to be cleaned out and filled with cementitious mortar in accordance with the manufacturer's recommendations and allowed to dry prior to coating with **Leesonprime PU4922** in accordance with the product data sheet.

Corroded metal surfaces are to be thoroughly wire brushed to remove loose corrosion products and then primed with **Leesonprime PU4922** in accordance with the product data sheet.

All wood or wood based materials are to be primed with **Leesonprime PU4922** in accordance with the product data sheet.

Detailing and Joints

All upstands, movement, cracks and expansion joints along with any other areas where movement could occur must first be covered with tape as a bond break detail, care taken to ensure the tape edges are fully adhered.

It is not normally necessary to reinforce felt/carrier membrane overlap joints unless there is doubt about the integrity of the overlap.

Chopped strand reinforcing mat 225gsm must now be used as a reinforcement membrane over treated movement joints together with all angle joints with protrusions and upstands.

Chopped strand reinforcing mat 225gsm must also be used to reinforce all valley gutters with the membrane being overlapped up onto the roof panels.

Leeson Watertite PU4923 is then to be applied to the areas to be treated at a nominal rate of 8 linear meters per litre on joints and 0.7 litre/m^2 in gutters.

Chopped strand reinforcing mat 225gsm should then be laid over the **Leeson Watertite PU4923** and then brushed to totally wet out and encapsulate the sheet, including the edges. Adjacent lengths/sections of the mat are to be overlapped to ensure a minimum 2cm overlap after coating.

Application of Leeson Watertite EC PU4923

Installation - Embedment Coat

Leeson Watertite EC PU4923 is to be applied to the roof surface using a medium pile roller at an application rate of 0.5 lt/m^2 (pitched roof) and 1.2lt/m^2 (flat roofs).

Reinforcement

Pitched roofs

These require local reinforcing, as described in the previous section. No further reinforcing is necessary.

Flat roofs

225gsm Reinforcing Mat is to be applied over the entire roof surface, following the roof contours. Adjacent widths of Chopped strand reinforcing mat 225gsm should be overlapped to ensure a minimum 2cm overlap after coating.

Chopped strand reinforcing mat 225gsm should also be overlapped 3-6cm on to the treated reinforced up stands, parapets, joints and corners to maintain a continuous reinforcement.

Completion of Embedment Coat

After the **225gsm Reinforcing Mat** has been laid out, it should be rolled in to the wet **Leeson Watertite PU4923**.

A further application of **Leeson Watertite PU4923** should be rolled through the **Chopped strand reinforcing mat 225gsm** on any areas not completely wetted to totally encapsulate and impregnate the matting, if required.

For flat roof decks, the coverage rate of the **Leeson Watertite PU4923** will be 1.2 litre/m^2 with 225gsm CSM. This may increase on uneven or porous surfaces.

For pitched roofs, the coverage rate of the **Leeson Watertite PU4923** will be 0.5 litre/m^2.

Leeson Watertite PU4923 can be over coated after a minimum of 16 hours @ 20ºC. At lower temperatures, this time will be increased.

Provided surfaces are clean, there is no maximum over coating time.

Application of Leeson Watertite UV PU4924

Installation - Seal Coat

Prior to application of **Leeson Watertite UV PU4924**, **Leeson Watertite EC PU4923** must be dry and free from contamination.

Leeson Watertite UV PU4924 is a single component high solids colour stable finish supplied ready for use.

Leeson Watertite UV PU4924 should be applied by brush or roller, with rollers being preferred for large applications.

Leeson Watertite UV PU4924 should be applied to give a uniform even coating totally obliterating the embedment coat at a nominal dry film thickness of 1225 microns, this equates to a coverage rate of 1.75 litre/m^2 on smooth surfaces.

Confirmation of Waterproofing

To confirm that the final installation is fully waterproof a fill test should be performed. Once the system is fully cured seal any drainage leading off of the application area and fill with water until a 5mm layer is achieved across the surface of the application area. After 30 minutes the depth of water should be unchanged, confirming that the Watertite has been applied to give a waterproof finish.

This is especially important if more work is to be done on the roof after the installation of Waterite.

Application of Slip Resistant Finish

Where slip resistant walkways are required, this can be achieved by the application of an extra coat of **Leeson Watertite UV PU4924** incorporating an aggregate.

As soon as the final coat of **Leeson Watertite UV PU4924** is dry, approximately 6 hours at 20ºC, a second coat should be applied to the designated area. Aggregate 0.8-1mm should then be broadcast over the freshly applied product at a rate of 0.75Kg/m^2, whilst the **Leeson Watertite UV PU4924** is still wet.

This can further be sealed with a UV stable clear sealer **Leeson Watertite Sealer PU4965** at a typical coverage of 0.5 litre/m2, if required.

Additional Precautions

1. Use industrial safety gloves.
2. Use suitable eye protection.
3. Before use, ensure that you read the relevant Health and Safety Data Sheets for this product.

The company will supply, upon request, individual advice in writing in connection with the use and application of its products in all appropriate cases. Customers are urged to make use of this service. This leaflet is provided for general guidance only. All recommendations and suggestions are made in good faith but without guarantee and are subject to the company's terms and conditions.

* Life Expectancy on a conventional roof with limited pedestrian access. The coverages indicated above will give an expected service life of 25 years on a flat roof, 20 years on a pitched roof.

Case Studies

An industrial warehouse based in the North East of England

The warehouse roof was showing signs of age with the non bonded rubber roof and bitumen felt leaking in a number of locations, plus the sky lights were providing access for a number of thefts. The solution was Leeson Watertite®. Firstly, any loose ballast stone were removed from the bitumen felt, then the 15-year Watertite® base coat was installed followed by the chopped strand matt. The skylights were either replaced with roofing boards and then waterproofed with Watertite®, or coated with Leeson Polyurethanes Anti-Shatter skylight coating. This now provided the warehouse with a fully waterproofed roof with enhanced integrity and security, covered by a 15 year warranty and backed by the British Board of Agrement approval.

Case Studies

Holiday home with a metal roofing system

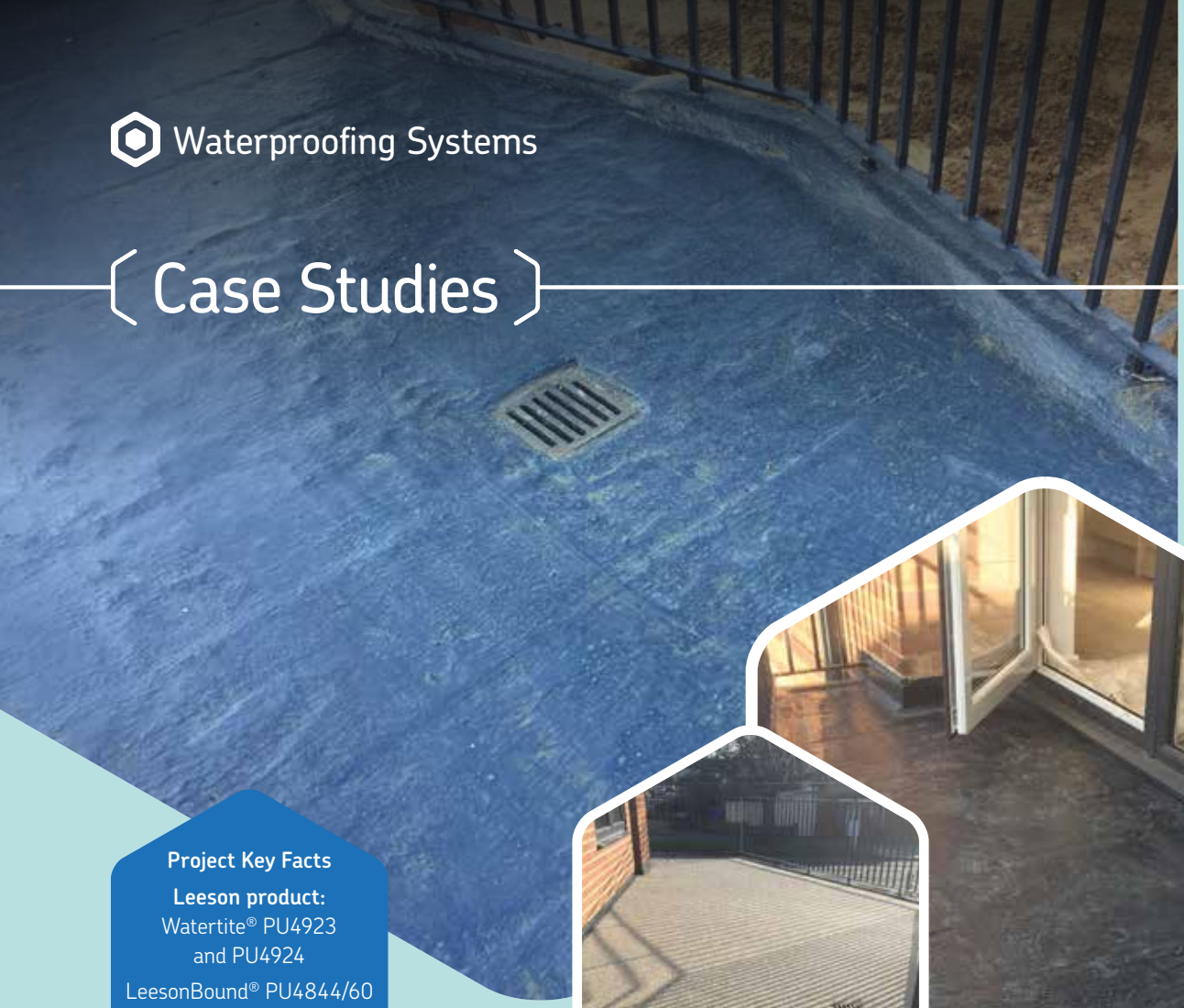
Unfortunately, this roof had been penetrated by numerous fixing plates during its installation, and over time these were providing many routes for water into the structure. The roofs integrity was further challenged by a difficult roof detail around the chimney, and the previous waterproofing solutions to address this had failed. Leeson Watertite® was the ideal solution.

As the roof was pitched, the re-inforcing matt was not required, but the benefit of the cold applied liquid system meant that reinforcing and detailing around the chimney was easily achieved. Finally the UV stable seal coat was applied in “terracotta” colour. The customer now had a water tight roof for the first time and the terracotta colour gave a sympathetic appearance compared to the surrounding holiday homes.

Domestic Garage

A domestic flat roof was leaking into the garage below and Leeson's Liquid Waterproofing was installed to give long lasting protection with no joints. The Liquid Waterproofing was laid onto existing bitumen felt and the detailing around the chimney looks tidy while being shielded from the elements. The PU technology allowed the installation to be completed even at lower temperatures.

Case Studies



Project Key Facts

Leeson product:
Watertite® PU4923 and PU4924
LeesonBound® PU4844/60

Area:
50m²

Raven's Place, Ipswich

Using both the Leeson Watertite® and LeesonBound® systems, the balconies of these new apartments in Ipswich are not only decorative but also waterproof. The former care home on Hawthorn Drive, now called Raven's Place, has been developed into one and two bedroom apartments designed for first time buyers and also gives local people the opportunity to downsize. The balconies were added as the location provides pleasant views of the surrounding area. The area is popular due to its proximity to local amenities, restaurants, the historic town centre and waterfront, and will help ease the demand on the shortage of homes.

Manchester Balcony PURA4421 Polyurea

The balcony of an apartment block in Manchester had been suffering from leaks and standing water making the area difficult and unpleasant for residents to use. Leeson's PURA4421 Polyurea was the perfect solution for its waterproofing and excellent physical properties giving the balcony the protection it needed. PURA4421 Polyurea has been developed as a high strength flexible material for use as a coating onto prepared concrete and is applied by squeegee or trowel. Being fast curing meant that it was back in use in 5 hours and its seamless application meant there were no joints. The balcony benefits from having a product with high abrasion resistance, is flexible and durable to withstand the elements.

Did you know?

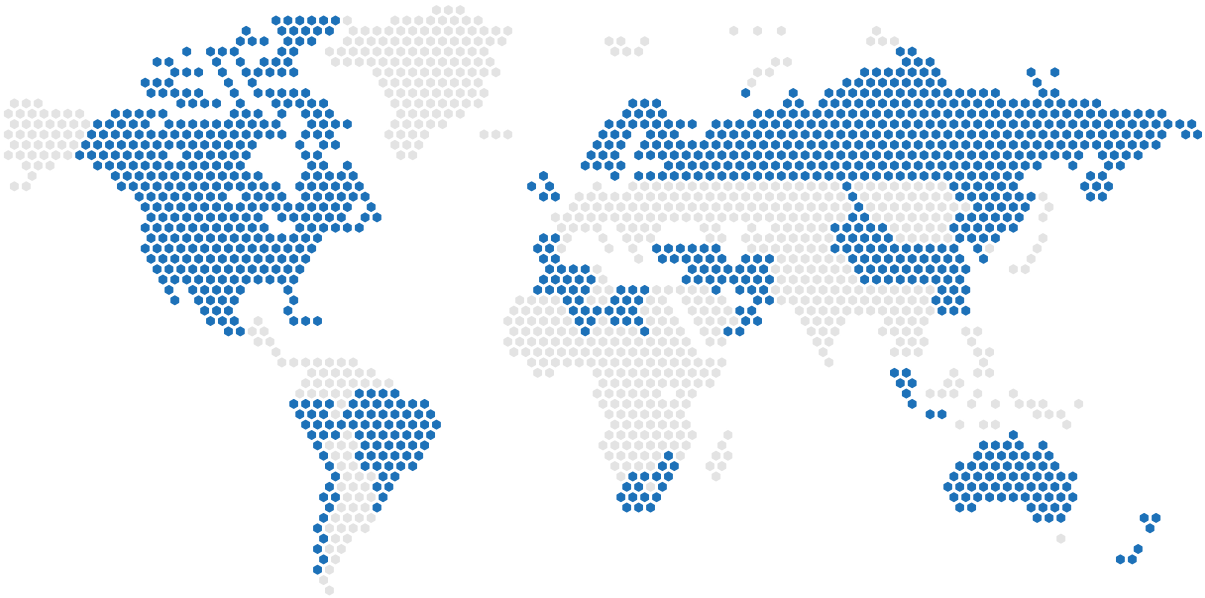
The talented team at Leeson Polyurethanes can manufacture bespoke PU products to perfectly suit your requirements. Whether you require a liquid adhesive, PU Coating or a product made especially for your industry: Leeson Polyurethanes can produce it.

Case Studies

Anaerobic Digester PU5170 Polyurea

A large farm in Ireland constructed an anaerobic digester in order to recycle their waste and cut their carbon footprint. The biomass is placed inside a large sealed tank which is void of oxygen, until a biogas is emitted which can be used as energy to power electricity generators and provide heat. The biogas that rises to the top of the construction can weaken the concrete and PURA5170 Polyurea provides the solution. It has been developed as a high strength material for use as a coating onto prepared concrete and is applied by means of a high pressure impinge mixing system at elevated temperature. The product benefits from fast film build up and quick cure times and contains a UV stabilising package to reduce the effect of UV induced colour change.

Worldwide Distribution



Leeson Polyurethanes export over 25% of our manufacturing output to over 56 countries.

In 2007 and 2019, in recognition of this achievement we were awarded the Queen's Award for Exports. Since then we have continued to promote British manufacturing around the globe.

Across the countries we operate in we have an extensive network of distributors and agents, as well as exporting directly from our UK base. Our polyurethane products have been exposed to many extremes of climate globally, as well as being used in a diverse range of industries. International customers can be assured of the rigorous testing our products are subjected to, ensuring that they perform exactly as specified regardless of geographical location.

How to Order

To find out more about our products, please call sales on:

+(0) 1926 833367

or email:

sales@lpultd.com

Sales / General Enquiry:

sales@lpultd.com

For all worldwide export enquiries please email:

sales@lpultd.com

Visit lpultd.com to view our full product range

Award Winning Products

LeesonBound®

Non hazardous, fast curing, flexible solvent free resin for encapsulation of decorative aggregates. Systems cures to give attractive, durable finish.

USES

- SUDS Areas
- Driveways
- Paths
- Swimming Pool Surrounds

LeesonGrip®

A high performance, flexible polyurethane based anti-skid system for industrial, decorative an functional applications onto asphalt and concrete substrates.

Leeson Grip 2-1

The system gives a hard wearing ant-skid surface approved for all Type 1 Roads by the BBA.

Leeson Grip 3-1 VHB

The system gives a hard wearing anti-skid surface for industrial applications.

USES

- Type 1 Roads
- Cycle Paths
- Pedestrian Areas
- Walkways
- Drives
- Pathways

Adhesives

A broad range of solvent free polyurethane adhesives for structural bonding. Both 1 component moisture cure and 2 component polyurethane adhesives are available for application by roller, bead machine, hand spray and automatic spray.

USES

- Caravan panels
- Mineral wool building panels
- Insulated truck panels
- SIP panels
- Modular (off site) buildings
- D4 wood bonding adhesive
- Architectural honeycomb panels

Rubber Crumb

Non-hazardous, fast curing, flexible, solvent free resin for bonding rubber crumb particles.

USES

- "Wet Pour" safety surfaces
- Children's play areas
- Splash zones

Floor coating

Non hazardous, fast curing PU self smoothing resin for Industrial and commercial flooring providing an attractive appearance and chemical resistance.

USES

- Warehouses
- Factories
- Food preparation areas
- Hospitals
- Hygienic areas
- Laboratories
- Clean rooms
- Demarcation
- Car parks

Leeson Polyurethanes Ltd.

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