



Rubber Crumb

Installation Guide





[Installation of Rubber Crumb Binder Systems including PU4223CS/PU4232CW/ PU4517](#)

Introduction

Leeson Polyurethanes have been supplying rubber crumb systems since the early 1990's and over that time the systems have demonstrated their quality, durability and ease of maintenance. When used as described in the installation guidance, the rubber crumb systems retain their integrity and typically have a service life in excess of 10 years. A maintenance guide is provided to keep the surfacing in optimum condition.

Rubber Crumb is a high-performance polyurethane based, rubber granule system incorporating binder and a range of rubber granules. Rubber Crumb, when cured, gives excellent strength and elongation performance and is therefore an exceedingly durable system.

Rubber Crumb is available in a number of grades including PU4232CW and PU4223CS for Wet Pour, PU4517 high tensile, PU4751 aliphatic and PU5380 mulch grade.

Surface Preparation

Ensure the ground to be coated is well prepared. All loose material should be removed. Ensure the surface is free from contamination such as oil and grease. The surface should also be dry. Concrete, asphalt or compacted hardcore is ideal.

Priming of surfaces

Primer is required for concrete; PU3922 is advised for this application. Other surfaces may require priming especially if they are porous. Consult Leeson Polyurethanes for more information.

It may also be necessary in certain instances to prime surfaces prior to laying the binder e.g. around concrete kerb stones.

PU3922 is a PU based primer that can be applied with a ragged roller to the surface.

Allow the primer to become touch dry, and then lay the rubber surface onto it.

Typical coverage would be 8-10sqm per kilo of primer, depending on the porosity of the surface.



Shock Pad Base Layer / Top Coats

Before proceeding, ensure the substrate is at least 3°C above the dew point and rising and will remain that way until the polyurethane is cured. Condensation on the uncured surface can cause surface foaming / milky surface appearance.

Mix rubber granules and binder at desired ratio, referring to the levels below:

The rubber crumb (either recycled SBR or virgin EPDM) should be mixed with the PU binder using a cement mixer action until all the rubber is covered with binder. BINDER PART C Accelerator is available which can be added to the mix to increase the rate of cure e.g. for use in low temperatures. The accelerator should be added to the binder.

The shock pad thickness will be determined by the application and/or the required critical fall height.

Layer Type	Rubber Particle Size	Thickness	Rubber Type	
			SBR	EPDM
Wear Layer (Top surface)	2-3mm	15-20mm	27%	18%
Shock pad (Lower surface)	5-10mm	3-50mm	10-12%	N/A

*e.g. 100 grams of rubber 27grams PU is 27% addition

If adding by volume, consider the type of rubber being used e.g. EPDM or SBR as the bulk density of rubbers will vary. Rubber granules should be dry in order to stop accelerated cure times and foaming of the binder.

For adequate mixing, a slow speed, high torque rotary mixer should be used. Rubber and binder should be mixed for 2-3 minutes ensuring all the rubber is coated.

The product can then be laid out on a prepared surface and compacted using a hand trowel or weighted roller. Ensure an even compaction of the rubber.

A release agent (we recommend water and detergent) should be used on all tools to avoid adhesion of the binder to the tools. Ensure all equipment is cleaned well after use.

In some cases, particularly low temperatures, accelerator Part C, may be needed to increase the cure rate.

BINDER PART C addition levels

	5°C	10°C	15°C
0% Accelerator	10 hours	8 hours	6.5 hours
0.01% (1 ml in 9 Kg)	6 hours	5 hours	4.5 hours
0.02% (2 ml in 9 Kg)	4 hours	3 hours	2.5 hours
0.03% (3 ml in 9 Kg)	3 hours	2 hours	1.5 hours

The system should then be left to cure overnight before opening to light foot traffic. The product will take longer to cure at lower temperatures and Relative Humidity.

The finished PU bound rubber safety surface is hard wearing, shock absorbent and porous floor. Also, the lack of joints prolongs the life of the surface and minimises any potential for injury due to movement of the flooring. The system can be laid in a variety of colours depending on the requirements of the end user.

Summer/ Winter Wet Pour Grades

PU4232CW is suitable for use at temperatures between 5-20°C, PU4223CS is suitable for use between 15-40°C.

UV

MDI polyurethanes are subject to colour changes during exposure to ultra violet light. This will not affect the mechanical properties of the binder.

Rubber surface consolidation

It is unlikely but possible that a rubber surface may 'shed' after application. This is most commonly caused by either insufficient resin addition or inadequate packing of the surface during the installation.

The surface can of course be re-laid, but an alternative remedy is to coat the surface with our top coating product PU4292. This product can be applied by ragged roller, and should be used at a coverage rate of 5-8sqm/kg, depending on the particle size and compaction of the rubber surface it is being laid on to.

Application at this rate will maintain the porosity of the surface allowing it to drain.

Maintenance Schedule for Rubber Crumb Surfacing

Leeson Polyurethanes have been supplying rubber crumb systems since the early 1990s. Over that time the systems have demonstrated their quality, durability and ease of maintenance. With some simple routine procedures, the surfacing can be kept in optimum condition.

General

The rubber crumb surface should be regularly swept clean, removing leaves and detritus material in order to prevent moss growth. In order to keep the surface looking its best and to prevent staining any moss or weed growth the surface should be treated using an appropriate herbicide or weed killer. Any ingrained algal growth can be removed using an appropriate paving cleaner.

Please note that staining may occur from tanning if surfaces are not kept clean from leaf debris, twigs, seeds etc.

Heavy goods vehicles should not be permitted to park on, or regularly traverse resin bound surfacing, unless this has been allowed for in the overall construction. Heavy objects such as skips should not be dragged across the surface.

Periodic Cleaning

General cleaning of the surface can be carried out by cold pressure washing up to a maximum 150 bar rating to remove dirt and grime. The water should be applied using a fan type lance which should be kept 200mm above the installed surface. Care should be taken however to prevent damage to the surface with excessive water pressure. Pressure washing can also be used to remove tyre marks.

Spillages

Please note it is important that any spillages or contamination are dealt with promptly otherwise permanent staining, marking or physical damage to the surfacing and underlying materials may result.

Sand/Soil

Shovel up material and sweep surface clean with a stiff brush. Pressure washing up to 150 Bar can also be used to clean sand from the surface.

Chewing Gum

Removal of individual pieces of chewing gum, can be achieved by treating each piece with a freezing spray and then scraping off the gum with a suitable scraper. For more extensive gum removal, contact a specialist-cleaning contractor.

Ice and Frost

Salt can be used on the surface to help eliminate ice and frost. Once weather conditions return to normal the salt/grit needs to be washed off thoroughly to remove all salt traces.