



Installation Guide

High Performance, Quick Cure, Cold Liquid Applied Roofing System



LRS Seamless Waterproofing Systems



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Introduction

LRS are manufacturers of high performance, technologically advanced membranes for the waterproofing of roofs, walls, floors and balconies. Each of our systems are leaders in their respective fields, due to their unique credentials in waterproofing, longevity and application speed, making them the preferred choice of quality, cost effective systems. At LRS, we are dedicated to providing our customers with the support they need through our technical team, by offering specifications, technical data and product guarantees, which come as standard with all our systems. For more information on any of our products, please contact our technical support team on 01948 841 877 or visit our website: lrs-systems.co.uk.

Product Range



RapidRoof is a rapid curing, seamless, fully bonded system that comes in waterproof or anti-skid variants. RapidRoof is suitable for use over many surfaces including asphalt, timber, felt, metal and concrete. Available in either waterproof or Anti-Skid, it has a wide variety of applications - from flat roofs and balconies to stairways and car park decks. For more information on RapidRoof, please contact our technical support team on 01948 841 877, or visit rapidroof.co.uk



FastCoat is our Fast Curing, PURE Polyurethane Waterproofing Range. A Single Component, Roller Applied, Seamless and Fully Bonded, Cold Liquid Applied Membrane. Suitable for Applications on to New Roofs and Refurbishment projects. With 600% Elasticity and cured in under 4 hours per coat, FastCoat leads the way in single component cold liquid applied membrane. Fastcoat Pro can only be installed by registered installers, contact LRS Technical Team for further information.



Liquid Rubber is an instant set spray applied waterproofing membrane that can be applied up to a rate 1000sq/m per day. It is fully bonded to the surface and completely seamless and sets upon contact with the surface. Its elasticity of over 1000% provides a flexible membrane suitable for any surface. For more information on Liquid Rubber, please contact our technical team, or alternatively visit liquidrubber.co.uk



ABOUT LRS SEAMLESS WATERPROOFING SYSTEMS.

LRS Seamless Waterproofing Systems have been manufacturing cold liquid applied liquid waterproofing membranes in the UK for over 12 years.

With sales in over 50 countries of the 5 continents, and an extensive R&D activity, the company designs and produces its own Polyurethane, Polyurea, PMMA, Thermo-Plastic Elastomeric and Liquid Rubber systems through several technologies:

- Single and two component cold applied Polyurethane membranes.
- Two component hot spray applied Polyurethanes, Polyurea's (both pure and hybrid) and Aliphatic Coats.
- Two component waterborne Polyurethane and Epoxy resins for indoor (VOC Free) applications.
- Low Solvent and VOC Free Cold Applied Polyurea.
- Rapid Curing two component PMMA resin systems for waterproofing roofs, terraces, balconies, gutters and cut edge lap treatment.

LRS supports its customers all the way, from designing the right solution for every project, to accreditation and certification of each system by recognized laboratories, and finally with an on-site presence during project execution and quality control at the end of it to ensure customers' satisfaction and peace of mind.

Contractor training

LRS host training programmes every three months to provide contractors with the necessary skills and product knowledge to become fully certified LRS Approved Contractors. For more information please call our technical help desk on **01948 841 877**, or email one of our team on enquiries@lrs-systems.co.uk.

Product guarantee

All LRS products are covered by our standard up to 25-year product guarantee.

We can also offer insurance backed guarantees on request.

For more information, contact our technical support team.

Contact details

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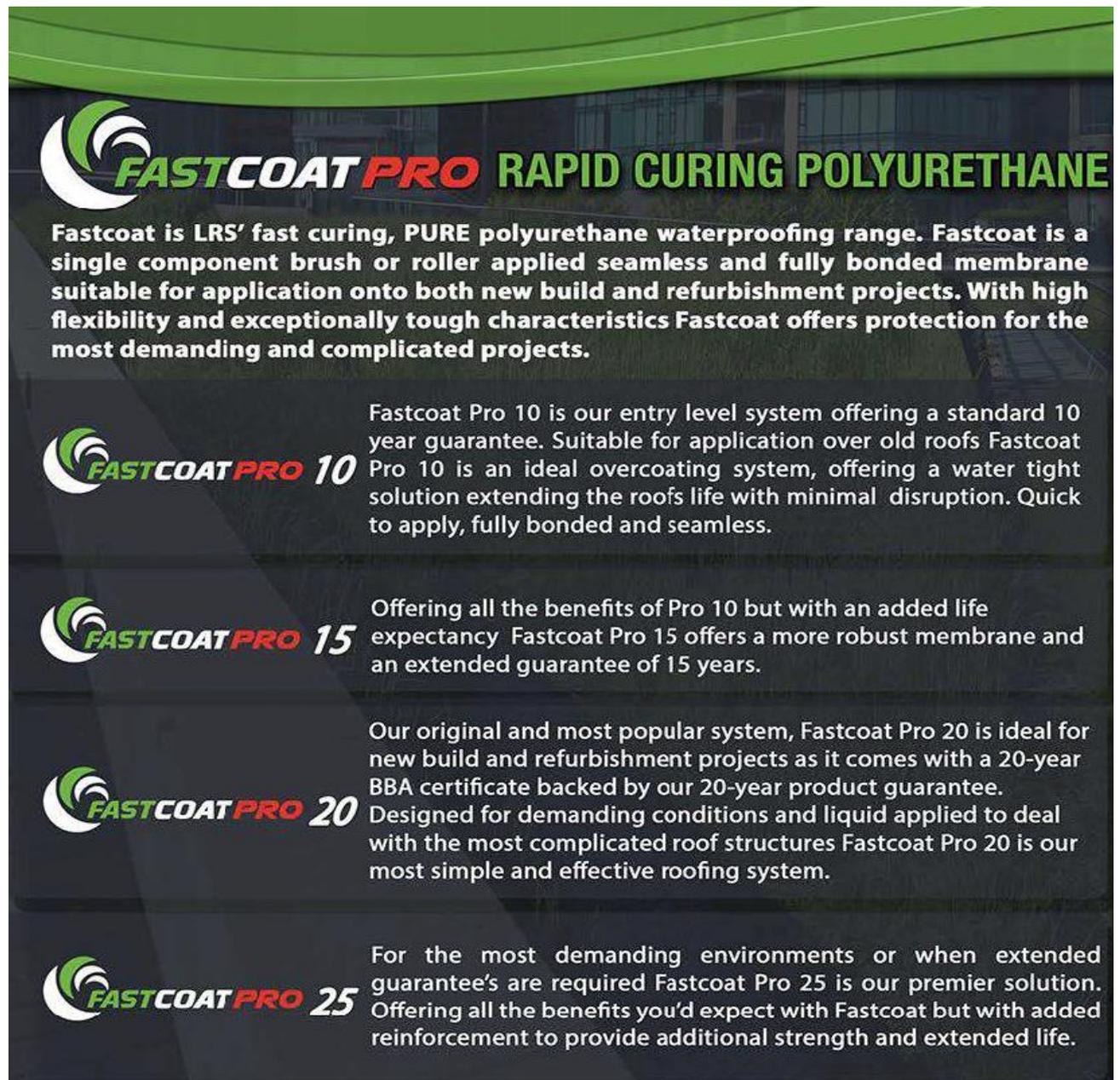
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Product Features

What is FastCoat Pro?



FASTCOAT PRO RAPID CURING POLYURETHANE

Fastcoat is LRS' fast curing, PURE polyurethane waterproofing range. Fastcoat is a single component brush or roller applied seamless and fully bonded membrane suitable for application onto both new build and refurbishment projects. With high flexibility and exceptionally tough characteristics Fastcoat offers protection for the most demanding and complicated projects.

FASTCOAT PRO 10 Fastcoat Pro 10 is our entry level system offering a standard 10 year guarantee. Suitable for application over old roofs Fastcoat Pro 10 is an ideal overcoating system, offering a water tight solution extending the roofs life with minimal disruption. Quick to apply, fully bonded and seamless.

FASTCOAT PRO 15 Offering all the benefits of Pro 10 but with an added life expectancy Fastcoat Pro 15 offers a more robust membrane and an extended guarantee of 15 years.

FASTCOAT PRO 20 Our original and most popular system, Fastcoat Pro 20 is ideal for new build and refurbishment projects as it comes with a 20-year BBA certificate backed by our 20-year product guarantee. Designed for demanding conditions and liquid applied to deal with the most complicated roof structures Fastcoat Pro 20 is our most simple and effective roofing system.

FASTCOAT PRO 25 For the most demanding environments or when extended guarantee's are required Fastcoat Pro 25 is our premier solution. Offering all the benefits you'd expect with Fastcoat but with added reinforcement to provide additional strength and extended life.

Pitched Roofs

Fastcoat Pro's formulation means that when applied as specified it doesn't slump or drip making it ideal for application over corrugated metal or fibre cement boards, asbestos or pitched felt. Furthermore, vertical detailing on flat roofs is simple and slump free.

Flat Roofs

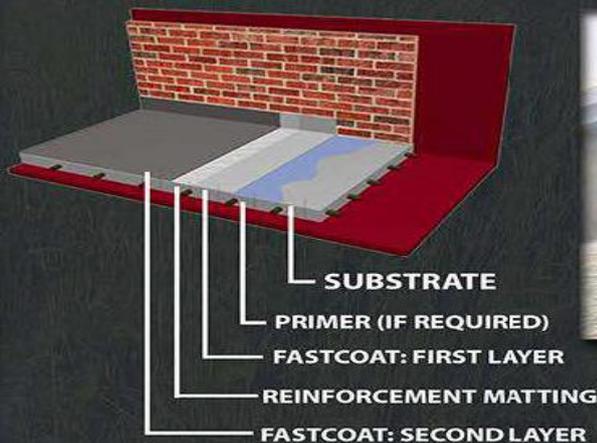
Applied by brush or roller and offering a fully bonded seamless finish Fastcoat Pro is not only quick and simple to apply but also leaves a smooth yet exceptionally tough finish. Whilst typically curing within 4 hours, Fastcoat Pro is normally shower proof within 30 minutes limiting the amount of downtime on site and no risk of wash off. Once cured Fastcoat Pro is ideal protection against ponding water and suitable for maintenance traffic.

Green Roofs

The rise in Green roof applications both initially and retro-fit has increased the demands placed on roofing membranes from both load effects and the risk of root damage. Fastcoat is fully bonded, highly elastic and exceptionally tough but most importantly is fully certified as a membrane for application below green roof installations without any alterations required.

Balconies And Walkways

With the simple addition of Fastcoat Balcony Coat the Fastcoat system becomes a fully reinforced, anti-skid waterproof system for application onto balconies, walkways, terraces and car parks. Exceptionally tough and hard wearing yet still flexible, Fastcoat Pro + Balcony Coat is one of the most robust waterproof protection systems on the market.



KEY FEATURES:

- Fast cure circa 2–4 hours
 - Single component
 - Shower proof typically 30 min
 - Fully Bonded
 - Cures down to 5 degrees
 - Seamless
 - Cold Applied
 - 600% elasticity
- Suitable for: Concrete, Single-ply, Metal, Asphalt, Felt, Timber and many more..



Available **25** Years
GUARANTEE

Key Features:

- Fast Cure circa 2-4 hours
- Moisture Cured
- Single Component
- Shower Proof typically 30 mins
- Fully Bonded
- Cures down to 5 degrees
- Seamless
- Cold Applied
- 600% elasticity
- Full technical support team

Suitable For: Insulation (consult LRS), Concrete, Single-Ply, Metal, Asphalt, Felt, Timber and many more...

Fully Trafficable

FastCoat Pro waterproof and FastCoat Pro Balcony Coat can withstand heavily trafficked areas such as walkways, maintenance routes and balconies.

FastCoat Pro Training

FastCoat Pro training is completed by our regional technical support representative; this usually takes place at our training centre in Prees Green approximately every 6-8 weeks. For more information contact our technical team on **01948 841 877** or email enquiries@lrs-systems.co.uk to find out when the next available course is.

DO

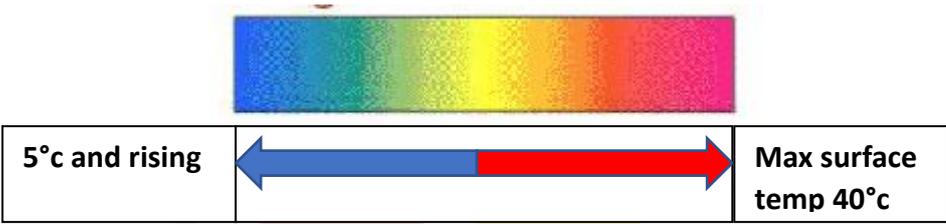
- ✓ Make sure the surface is clean, dry and fully prepared
- ✓ Ensure the Reinforcement Matting is fully worked into the FastCoat basecoat to achieve a “swirly” appearance.
- ✓ Grid out tins. Work out how much your tin will cover in m² at the correct coverage rate and chalk out that area to allow even coverage.
- ✓ Snagging your area: Once the basecoat is fully cured please ensure this is fully snagged by removing any fibreglass wicks or bumps in the coatings, do this by lightly sanding the area with a 60-grit sandpaper.
- ✓ Always follow the spec when applying any LRS product.
- ✓ Include additional material for overuse / wastage, LRS recommend accounting for an additional 10%

DON'T

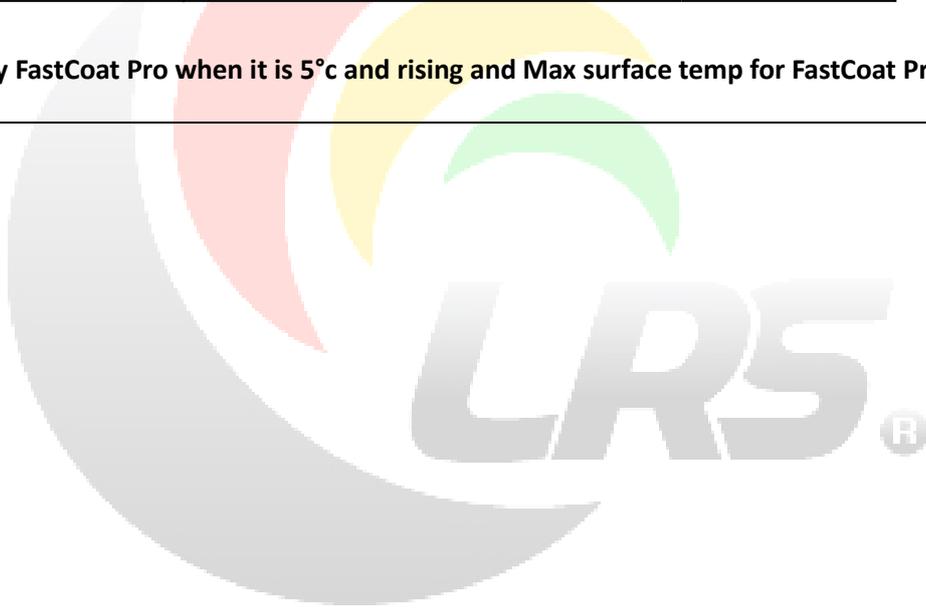
- ✗ **Don't** Overlay an old roof without checking it is in a sound and suitable condition
- ✗ **Don't** apply any LRS product if it is not to LRS specification.
- ✗ **Don't** apply FastCoat Pro if it is not 5°C and rising.
- ✗ **Don't** waterproof over water or a moist surface.
- ✗ **Don't** change the specification without consulting with LRS first.
- ✗ **Don't** apply FastCoat Topcoat without checking for pinholes or snagging the Basecoat first.

Application Conditions;

Application Conditions



Only apply FastCoat Pro when it is 5°C and rising and Max surface temp for FastCoat Pro is 40°C



SUMMARY OF STANDARD LIQUID COLD-APPLIED WATERPROOFING SYSTEMS IN UK

Following steps are needed for a correct implementation of a liquid cold applied waterproofing system:

- Treatment of the surface – surface should be clean, repaired (cracks, loose materials...) even and dry.
- Primer (not always required). Choice of Primer depends on surface condition, its nature and the requirements of the project.
- Detailing (Chopped Strand reinforced) - Application of the main liquid waterproofing membrane - 2 kg/m² always applied in two layers, depending on the requirements of the system and/or each project.
- Aliphatic top coat: protective/decorative/anti-skid (where required).

Shower-proof and waterproof shortly after application.

No CO₂ is released when cured by an indirect FASTCOAT PRO Seamless Waterproofing Systems reaction induced by the moisture of the air. Lower risk of undesirable blistering.

LRS®

INSTALLATION MANUAL: STANDARD FASTCOAT PRO SYSTEM

3.1) Installation overview

FASTCOAT PRO high-performance liquid applied roofing systems meet most budgets and performance requirements, with a 25-year expected durability and 20-year guarantee (following BBA and ETA certificates of the product).

Main liquid applied resins in the system are:

Primers; are required to seal the substrate and extend product coverage. Specified primers vary dependent upon substrate type & condition and are not always required. Please refer to the Ancillary product section (3.4.1), for a detailed overview on primers available, application rates and product information.

FASTCOAT PRO, quick curing; a single component, semi thixotropic cold applied polyurethane resin that cures by Seamless Waterproofing Systems reaction with the moisture from the air. UV and outdoor stable, however the colour is not UV stable.

Prior to the FASTCOAT PRO installation the roof must be fully prepared, cleaned and primed, if required, in accordance with LRS recommendations.

FASTCOAT PRO base coat (first layer) is applied at the required coverage rate @ 1.25kg/m² dependent upon the system. Is reinforced with 225gsm Reinforcement Matting that is fully embedded into the wet base coat. FASTCOAT PRO (second layer) is then applied over the cured base coat @ 0.75kg / m²

Is recommended to apply the FASTCOAT PRO as base coat in RAL 7001 and the FASTCOAT PRO Top Coat in RAL 7011.

Protective over coats are available for walk ways, maintenance routes or when a colour stable finish is required.

FASTCOAT PRO is available as a cold or warm roof overlay or as an inverted roof installation where compliance to current building regulations is required. All installations are cold applied. This eliminates the need for any gas torches or bitumen boilers, thus reducing the risk to health and safety.

System Applications

Over coating

One of the biggest benefits of FastCoat Pro is the ability to over coat existing failing surfaces.

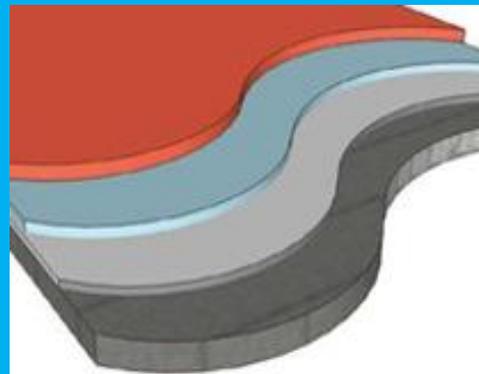
This completely removes the requirement to replace the existing deck, saving cost and time on site.

The substrate must be dry prior and during to application, and inspection of the boards underneath must be undertaken prior to installation by the contractor and must be in good condition (not sodden or rotten).

LRS Recommend that the contractor takes core sample tests to check the substrate integrity and look for any anomalies.

Standard Waterproof Specification

Existing Surface cleaned and prepared
Relevant Primer
FastCoat Pro base coat 1.25kg per m²
Reinforcement Matting: Fully Reinforced 225gsm.
FastCoat Pro Top Coat 0.75kg per m²
Applied as per the FastCoat Installation Guide.

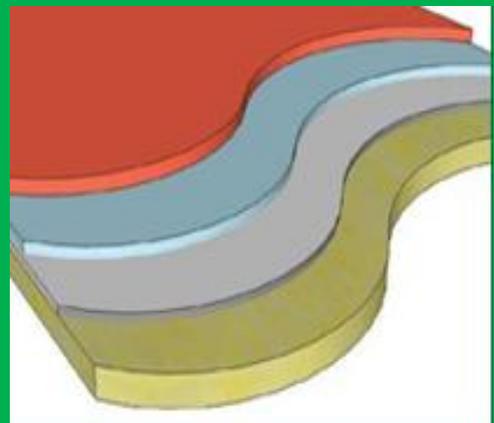


New roofs

FastCoat Pro can be applied directly onto a new timber deck and Insulation (contact Technical for which insulation to use), much like GRP and Single-Ply systems, but in a fraction of the time.

New Roof Specification (Waterproof)

Timber Deck
FastCoat Dry Porous Flex Primer 0.15kg per m²
FastCoat Pro Base Coat @ 1.25kg per m²
Reinforcement Matting Fully Reinforced
FastCoat Pro Top Coat @ 0.75kg per m²

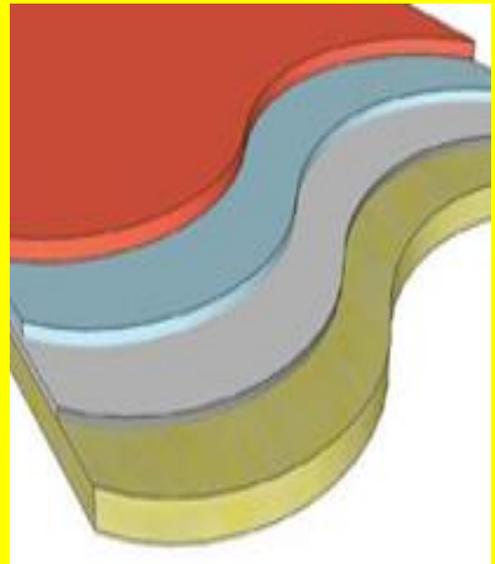


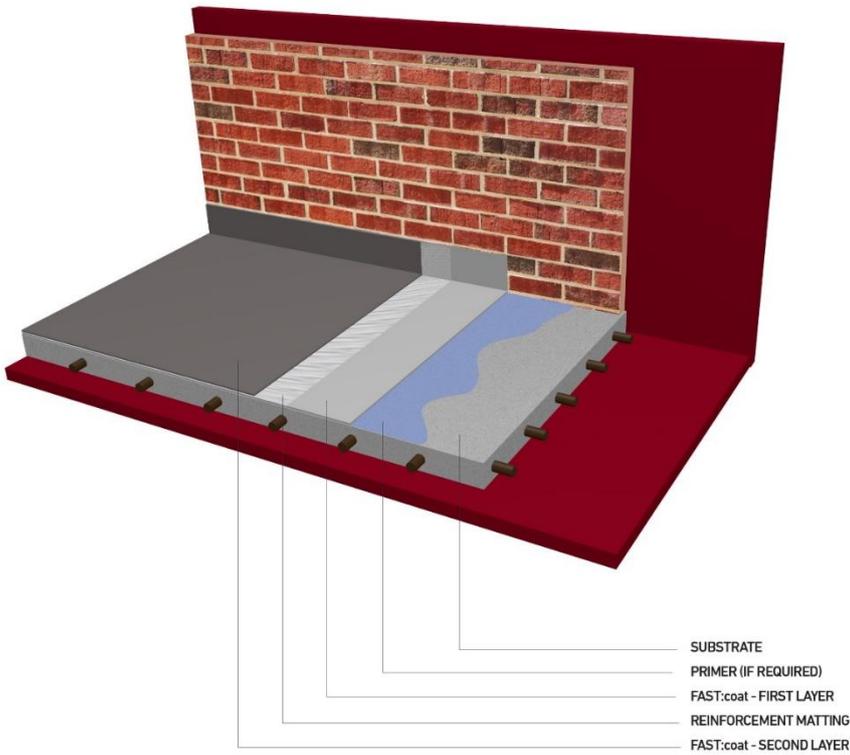
Balcony Coat

FastCoat Pro Balcony Coat is a hard wearing 2 part coat designed for walkways, maintenance routes, balconies etc.

Balcony Coat Specification (Anti-Skid)

Existing surface cleaned and prepared
Relevant Primer
FastCoat Pro basecoat @ 1.25kg per m²
Reinforcement Matting Fully Reinforced
FastCoat Pro topcoat @ 0.75kg per m²
Balcony Coat @ 0.2kg per m²
Whilst wet cast 3kg per m² of Aggregate
Brush of loose then additional 0.2kg per m² of Balcony Coat.





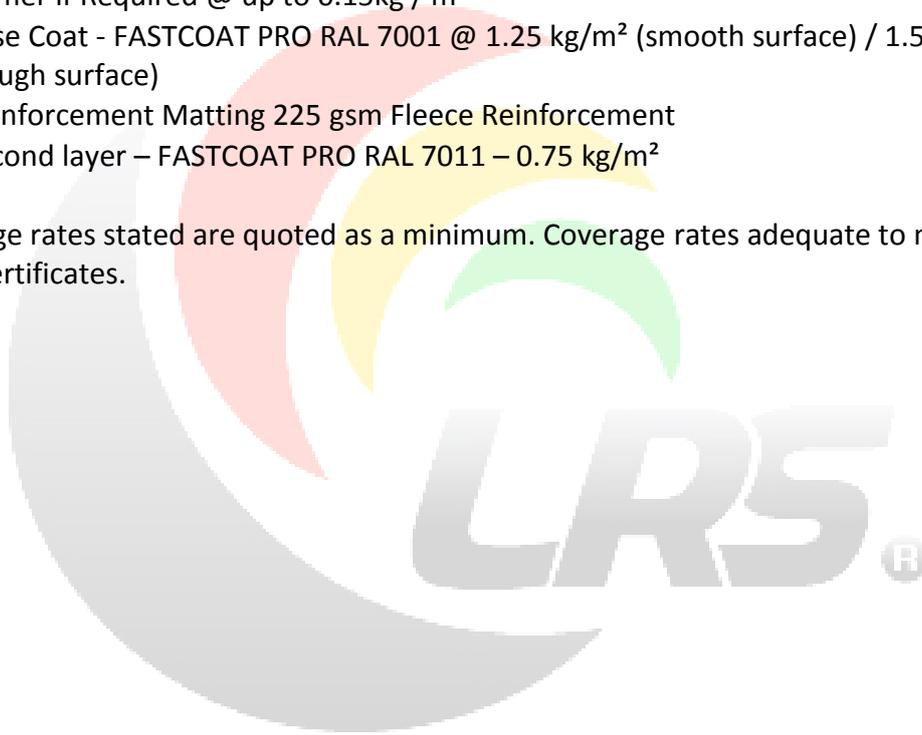
Typical Coverage Rate Table (Flat Roof area):

	Standard FASTCOAT PRO system 25 year expected durability (BBA and ETA certificates)	
Main certificates	BBA 18/523 ETA / CE	
Container Size	5kg / 10kg / 25 kg.	
Colours Available	Light grey (RAL 7001), black and dark grey (RAL 7011). Other colours may be supplied; a minimum order size may apply.	
Substrate condition	Smooth	Rough
Primer	If required	
Base Coat FASTCOAT PRO	1.25kg/m ² (smooth surface)	1.5kg/m ² (rough surface)
Reinforcement	225 gsm fibreglass fleece reinforcement	225 gsm fibreglass fleece reinforcement
Second layer FASTCOAT PRO	0.75kg/m ²	0.75kg/m ²

Standard FASTCOAT PRO system

- 25 Year expected durability - BBA
- 20 Year Guarantee
- Main certificates; BBA (18/5273)
- Container Size; 5kg / 10kg / 25 kg.
- Colours Available; Light grey (RAL 7001), black and dark grey (RAL 7011). Other colours may be supplied; a minimum order size may apply.
- Substrate condition; Smooth or Rough
- Primer if Required @ up to 0.15kg / m²
- Base Coat - FASTCOAT PRO RAL 7001 @ 1.25 kg/m² (smooth surface) / 1.5 kg/m² (rough surface)
- Reinforcement Matting 225 gsm Fleece Reinforcement
- Second layer – FASTCOAT PRO RAL 7011 – 0.75 kg/m²

All coverage rates stated are quoted as a minimum. Coverage rates adequate to meet product certificates.



3.2) Pre-Installation Notes;

The specified LRS FASTCOAT PRO system is only to be laid by a roofing contractor trained or approved by LRS Seamless Waterproofing Systems' Technical department.

Before works commence, the installing roofing contractor should ensure that the surfaces to receive the new roofing system are acceptable and comply with LRS Seamless Waterproofing Systems recommendations and that the application of the specified coating conforms to the requirements of the specification.

Retained components from the existing structure must be sound and capable of accepting the imposed loading of the new roofing system and associated installation procedures. Surfaces must be clean and dry, free from any organics, dust and any other loose materials. New concrete must be well-cured. Defects and sharp projections should be removed or made good and the entire surface must be compatible with the proposed coating system.

Works are to be organised to maintain the waterproofing integrity of the roofing system and to ensure that the finished roof areas are adequately protected from damage by subsequent building operations.

Do not undertake work in wet conditions, the temperature must be 3° degrees higher than the dew point. The installer must assess the temperature on the system application day. Application of the system should not take place when wet conditions prevail, or when condensation is present or will be present on the substrate during application. Unless effective temporary covering is provided, suspend work in severe or continuous wet weather or where wind speeds exceed 7m/s. Temperature should always be above 5°C and rising.

For specific specified materials and installation requirements please refer to the LRS Seamless Waterproofing Systems Technical Services specification and associated build up drawings and specified detail drawings.

3.3) Main components

3.3.1) FASTCOAT PRO Base Coat RAL 7001 (first layer)

FASTCOAT PRO is a cold liquid applied, high performance, high build polyurethane coating for use on most roof surfaces including asphalt, bituminous felt, concrete, single ply and metal surfaces. This forms the first coat for the FASTCOAT PRO liquid applied roofing system.

FASTCOAT PRO is a viscous, semi Thixotropic, high solids liquid polyurethane that cures with the moisture in the air to form a seamless and durable waterproofing coating. It contains an accelerant that reduces its curing time significantly against standard single component polyurethane.

Thoroughly mix FASTCOAT PRO using a paddle mixer at a low rpm. Ensure the product is completely homogenous and then leave to rest allowing excess air disperse before application. This can be checked by waiting until surface bubbles disappear in the drum. This will reduce the likelihood of pinhole formation in the membrane.

FASTCOAT PRO should be applied by brush or short pile roller at a typical coverage rate of 1.25 kg/m² on smooth roof surfaces and rising to 1.5 kg/m² on rough roof surfaces. Coverage must be sufficient to fully embed and saturate the Fleece Reinforcement Mat before application of the top coat.

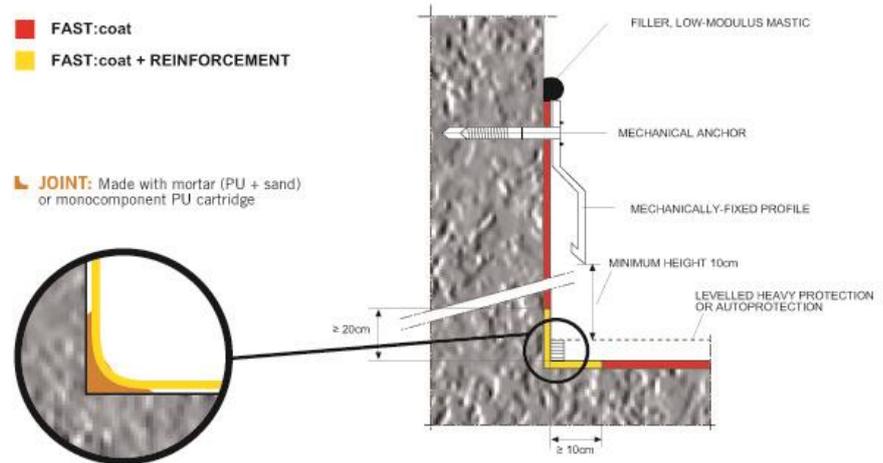
Cure times stated below are approximate. Specific onsite conditions (% relative humidity in the air, direct sun on the roof etc.) may cause variations with cure times.

FASTCOAT PRO Base Coat RAL 7001		
Container Size	5kg / 10kg / 25 Kg.	
Coverage rates (typical)	1.25 kg/m ² (smooth surface)	20m ² / 25 kg. drum
	1.5 kg/m ² (rough surface)	16.66 m ² / 25 kg. drum
Allowance should be made for additional coverage rates for embedment of the reinforcement fabric at low temperatures		
Typical Drying Times at 15°C	Touch Dry	3 hours
	Minimum over coating	4 hours
	Full Cure	7 Days

Detailing;

Upstand;

**CASE 1
 WATERPROOFING
 INSTALLATION**



FASTCOAT PRO should only be applied to structurally sound areas. Areas that do not meet this requirement must be treated accordingly to leave a substrate suitable for liquid application. Dirt, dust, organics and any other loose materials must be removed by scraping or brushing with a stiff bristle brush and power washing with a biocide wash before application of the first coat and detailing (for further information on recommended Biocide contact LRS Technical Support).

Project detailing is to be completed prior to the application of the FASTCOAT PRO base coat. Please refer to section 3.7 for an overview of how to accurately dress areas of detailing. Use a short pile mohair roller to apply and embed the fleece matting into the specified coverage of FASTCOAT PRO.

Ensure full coverage of the surfaces and monitor by taking wet and dry film thickness readings. The coating must maintain its thickness across all details including penetrations and abutments.

Wet and Dry Film Thickness Reading should be obtained ongoing throughout the install.

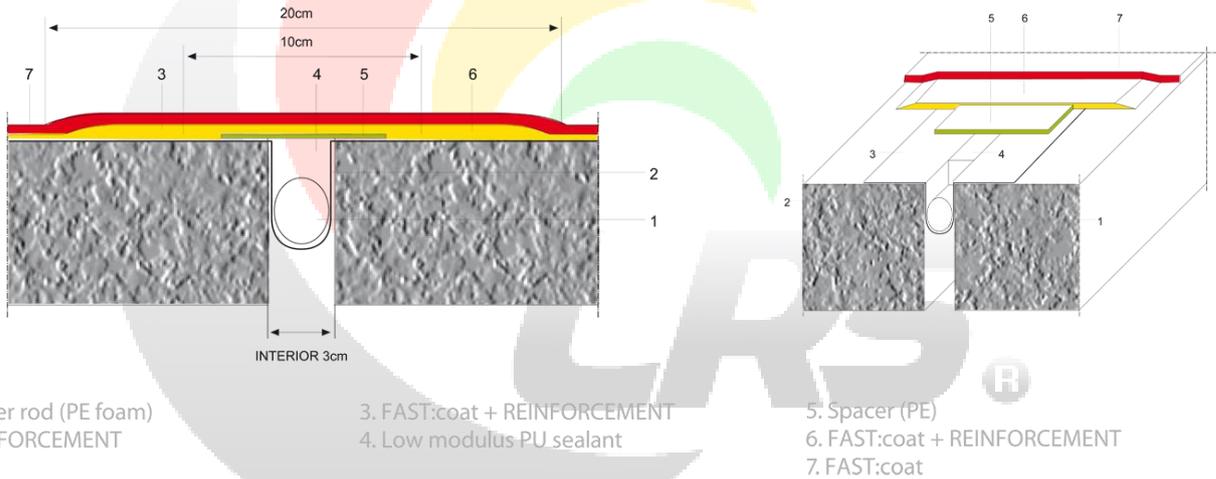
FastCoat BaseCoat is applied @ Wet Film of 1187.5 microns (1.25kg / m²)
 FastCoat BaseCoat Cures @ Dry Film of 1009 microns (1mm)

FastCoat Top Coat is applied @ Wet Film of 750microns (0.75kg / m²)
 FastCoat Top Coat Cures @ Dry Film of 637microns (0.67mm)

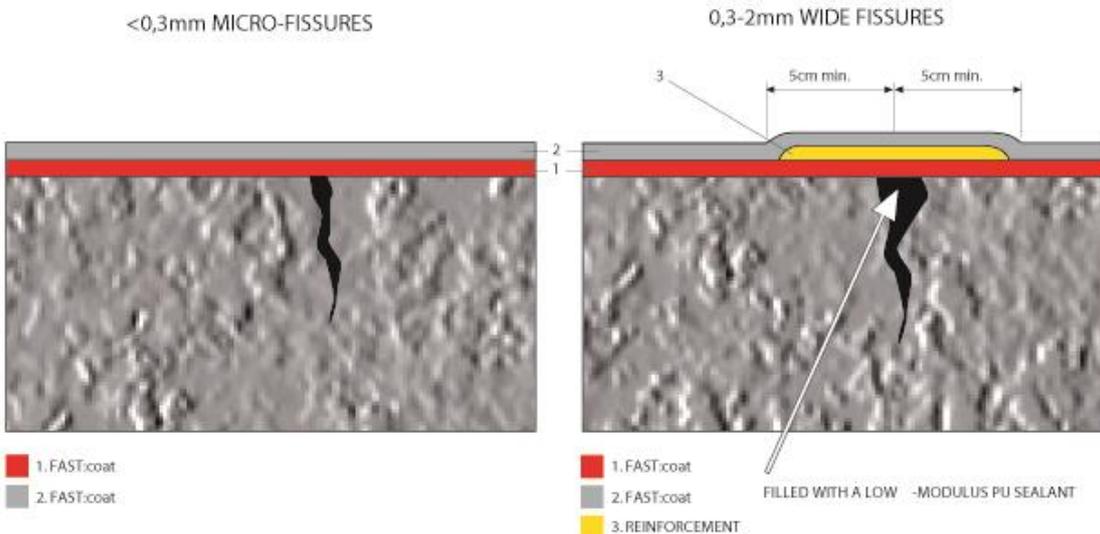
The reinforcement must be applied to follow the contours of the substrate making sure the reinforcement does not tent. If tenting does occur, realign the matting if possible to remove the crease or cut the length of the crease and allow the matting to fold over itself. Treat with FASTCOAT PRO required ensuring full saturation.

Once cured, inspect the membrane for bubbles or fish mouths and any pinholes. If such areas are found, ensure they are cut back and lightly abraded to give a smooth finish. Pinholes should be treated with additional product and left to cure before application of the top coat.

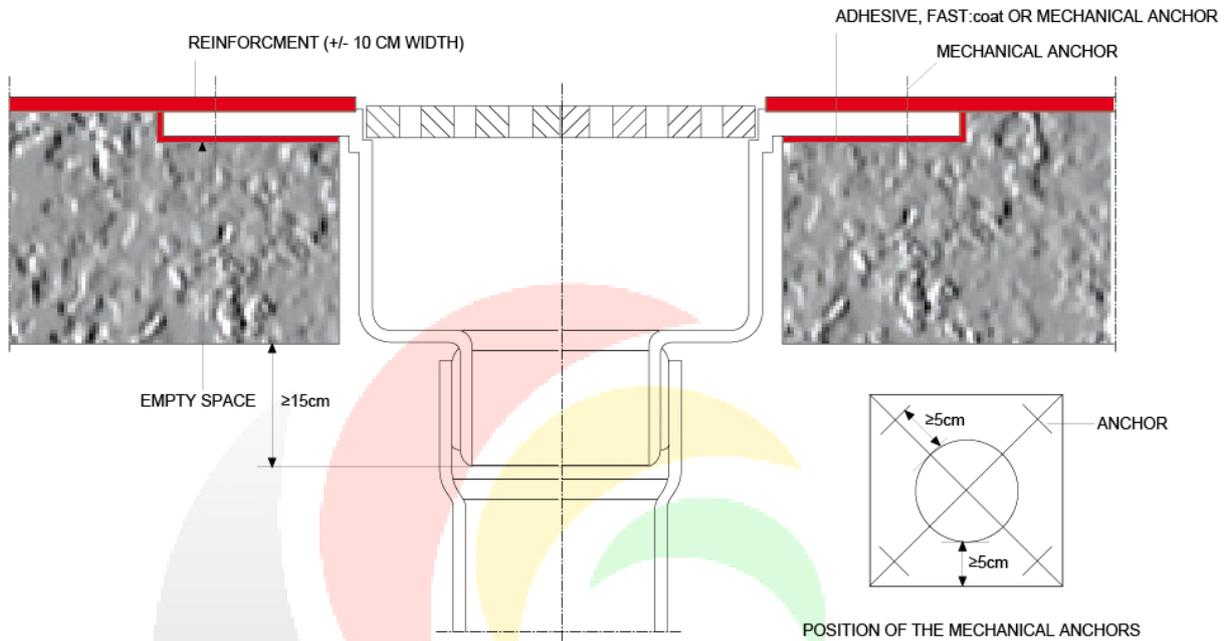
Joint Detail;



Fissure / Cracks / Split Detail;



Rainwater Outlet detail;



■ FAST:coat + REINFORCEMENT

3.3.2) FASTCOAT PRO Top Coat RAL 7011 - second layer

FASTCOAT PRO is UV stable, however colour is not UV stable, the degree of change of colour under the UV radiation is different for each colour. Dark colours (dark grey) have fewer changes.

Thoroughly mix FASTCOAT PRO using a paddle mixer at a low rpm. Ensure the product is completely homogenous and then leave to rest to let excess air disperse before application. This can be checked by waiting until surface bubbles disappear in the drum. This will reduce the likelihood of pinhole formation in the membrane.

Apply the FASTCOAT PRO (second layer) when the base coat has fully cured. FASTCOAT PRO (second layer) should be applied by brush or short pile mohair roller at a typical coverage rate of 0.75kg/m² dependent upon the system being installed. Ensure that the total roof area and base coat have been over coated with the top coat in accordance with the LRS Seamless Waterproofing Systems recommendations.

If the base coat has been exposed for more than 14 days, reactivate the surface using LRS solvent coat (after cleaning it) and afterwards apply PU Primer as specified at 100g/m² with a clean rag or equivalent. Ensure the surface is completely clean, dust free with no sitting water before coating. For larger, flat areas, apply PU Primer with a roller at 100g/m².

Cure times stated below are approximate. Specific onsite conditions may cause variations with cure times.

FASTCOAT PRO Top Coat 7011 (second layer)		
Container Size	5kg / 10kg / 25 kg.	
Coverage Rates (typical)	0.75kg/m ²	33.33m ² / 25 kg. drum
Typical Drying Times at 15°C	Touch Dry	2 hours
	Minimum over coating	4 hours
	Full Cure	7 Days

Visually inspect the wet coating checking for defects such as pinholes, discontinuity and exposed matting. Undertake corrective measures as required.

Once cured, inspect the membrane for gapping or fish mouths and any pinholes. Wicking and proud fibres should be cut back and lightly abraded to give a smooth finish. Pinholes should be treated with additional product and left to cure.



Image 2: FASTCOAT PRO Dark Grey

Allow the membrane to fully cure before reinstating or installing any plant equipment onto the roof area.

3.3.3) FastCoat Pro Balcony Coat

FastCoat Pro Balcony Coat

FastCoat Pro Balcony Coat is a flexible 2 – component, slow reactivity polyaspartic, that, unlike usual polyurea systems, it can be mixed and manually applied due to its moderated reaction speed while retaining a fast curing profile once applied. It is delivered in colourless or pigmented versions. Good chemical resistance. Designed as protective aliphatic topcoat for waterproofing membranes.

UV Protection of waterproofing membranes, LRS FastCoat Pro Balcony Coat is cold applied by brush or roller. Resistant to motor and pedestrian traffic. Also applied as a protective top coat for skylights, rooflights and glass windows.

Advantages;

- Suitable for aliphatic protective topcoat for aromatic PU, polyurea waterproofing membranes.
- Fast Curing.
- Good adhesion properties.
- High hardness and resistance achieved with a single application.
- Excellent gloss and colour retention.
- Aliphatic polyisocyanate basis = No discolouration.
- Good weathering resistance.

Anti-Skid walkway detail using Balcony Coat:

LRS FastCoat Pro Balcony Coat mixing ratio is 2:1

For an anti-skid protection walkway using LRS FastCoat Pro Balcony Coat, mark out the desired walkways using appropriate tapes. Apply FastCoat Pro Balcony Coat by brush or short pile roller at a typical coverage of 200g/m².

Into the wet FastCoat Pro Balcony Coat Broadcast Emery Aggregate at a coverage rate of 3kg / m² until you get an even coverage with no patches.

Leave this to fully cure, typically around 1.5 hrs.

All loose aggregate will need to be removed using a soft brush or something similar.

Allow further 1hr before applying the second coat.

A second layer of 200 g/m² of FASTCOAT PRO Balcony Coat will need to be applied over the Emery Aggregate, typically curing around 1.5 hrs.

Once the second coat has been applied all tape will need to be removed to leave a crisp edge.

Cure times stated below are approximate. Specific onsite conditions may cause variations with cure times.

FASTCOAT PRO Balcony Coat and Walkways			
Container Size		4Kg	
Coverage rates (typical)	Balcony Coat - 200g/m ²	10m ²	
	Balcony Coat - 2 coats each applied at 200g/m ²	5m ²	
Typical Drying Times at 15°C	Touch Dry	1 ½ hrs	
	Light Traffic	2 hrs after touch dry	
	Full Cure	7 days	

Image 3 Anti-Skid FASTCOAT PRO Balcony Coat maintenance walkway.



3.4) Ancillary components

3.4.1) Primers & Treatment of the surface

3.4.1.1) Table of most suitable primers depending on the type of surface

The role of a primer is to seal the porosity of the surface (over a porous surface) and to improve the adhesion mainly over a smooth and non-porous surface.

Good adhesion of a system is obtained by a combination of both preparation and mechanical adhesion (for example anchorage over a porous surface).

Mechanical adhesion over a gloss and smooth surface is always difficult to achieve, however can be improved by abrading that surface.

SCENARIO (TYPE OF SURFACE)	EXAMPLE	RECOMMENDED PRIMER FOR FASTCOAT PRO
Non porous surface. Rough surface	Old torch on membrane/ Asphalt	Normally not needed
Non porous surface. Smooth surface	Old PVC membrane. Old PU/Polyurea coating. Glass	Solvent + PU Primer
Completely dry porous surface.	Concrete	Dry Porous Flex or Humidity Primer
Porous surface with slight moisture content (lower than 6%)	Concrete	Humidity Primer

Notes: This table is only for general guidance.

The most appropriate primer for each individual project depends on the type of surface, specifications and requirements of that project.

Adhesion tests are always recommended for each project. Compatibility between the primer and the surface material should be checked. (For example, Humidity Primer cannot be applied over a surface that was previously treated with hydrophobic additives).

Previous treatment of the surface is always recommended to increase the mechanical adhesion of the primer over the surface. Diamond grinding over concrete, abrade non-porous surfaces.

3.4.1.2) Dry Porous Flex;

Dry Porous Flex is a single component, solvent based low viscosity primer designed for use as a general-purpose primer for most well-dry porous substrates, normally concrete and porous cementitious surfaces. Please refer to LRS Seamless Waterproofing Systems Technical Services for more details.

Dry Porous Flex is a clear liquid with excellent levels of penetration and adhesion to substrates acting as a sealer/primer before subsequent FASTCOAT PRO installation. It should be applied using a brush or short pile roller giving an even coating across the substrate. Take care to avoid excess application or product ponding in certain areas as cure times will be extended.

Dry Porous Flex		
Container Size	20 kg.	
Compatible substrate	Porous substrates Completely dry concrete	
Coverage rates (typical)	Smooth porous 200 g/m ²	100m ² / 20 kg drum
	Rough porous 300 g/m ²	65 m ² / 20 kg drum
Typical Drying Times at 15°C	Touch Dry	5 hours
	Minimum over coating	6 hours
	Full Cure	7 Days

Substrates must always be clean and dry before application of the Dry Porous Flex. Do not apply if it is raining or rain is imminent. Dry Porous Flex should be applied when the temperature is 5°C and rising. Application of the primer should not take place when wet conditions prevail, or when condensation is present or will be present on the substrate during application. Typically surfaces should be high pressure washed with a biocide wash, free from contaminants and dry.

Dry Porous Flex should be applied on smooth porous substrates such as levelled concrete and smooth cementitious materials etc at minimum 0.2kg/m². Substrates that are rough or highly porous require 0.3kg/m². If the coating, when dried does not have a gloss appearance, it means that the porosity of the surface is still not fully sealed and a further layer of resin (0.15kg/m² is required).

The FASTCOAT PRO (base coat) can be applied while the primer is slightly tacky but not wet. The liquid should not lift from the substrate on touch or underfoot.

Dry Porous Flex cannot be used to prime non-porous substrates such as glass, metal, single ply, EPDM etc. and cannot be used to prime damp/wet porous substrates such as Damp concrete & wet wooden decks etc

Dry Porous Flex has a strong odour and can be irritable to bare skin; therefore, the appropriate PPE should be worn. Product should be stored in the original containers at temperatures between 5°C – 30°C. Product shelf life: 1 year, from date of manufacture.

3.4.1.3) Humidity Primer;

Humidity Primer is two-component water-based epoxy primer, used to prime and seal porous substrates including highly porous asphalt, concrete and wooden surfaces, prior to the application of FASTCOAT PRO (base coat).

Humidity Primer is made up of both resin & hardener; once both components are mixed together the primer will change to a white liquid. Designed to seal any pores within the surface of the substrate.

The Humidity primer is compatible with moisture contents on the concrete surface up to 6%. Over a concrete surface with larger content of moisture or with risk of negative pressures, the application of 2 kg/m² of the epoxy-cement resin, should prevent negative vapour drive from rising through the pours.

Once both components of the Humidity primer are mixed they can be applied via manual roller or brush application, ensuring even distribution of the primer to the surface.

Humidity Primer cures in 12 hours' subject to ambient conditions and forms a hard-clear glaze on the surface. Apply the FASTCOAT PRO (base Coat) onto the primed substrate no later than 48 hours after the primer has cured (white coating has become clear).

If the primer is going to be left exposed for longer than 48 hours, broadcast dry 0.1-0.3mm silica sand at 0.5kg/m² into the wet primer during primer application and allows curing as normal

Humidity Primer		
Container Size	5 kg	18 kg
Compatible Substrates	Porous substrates Dry / Damp concrete / Aged Asphalt/ Plywood	
Coverage rates (typical)	300g/m ²	
Typical Drying Times at 15°C	Minimum over coating	12 hours
	Maximum over coating	48 hours

Humidity primer should not be applied to surfaces when the temperature is below 5°C and below the dew point. The temperature must be 5°C and rising.

Application of the primer should not take place when wet conditions prevail, or when condensation is present or will be present on the substrate during application. All surfaces must be sufficiently prepared and cleaned prior application of the Humidity primer.

Typically surfaces should be high pressure washed with a biocide wash, free from contaminants and dry.

Appropriate PPE should be worn when Humidity Primer is applied. Product should be stored in the original containers at temperatures between 5°C - 30°C.

Product shelf life: 1 year, from date of manufacture

Once the Humidity Primer has been opened both components (resin & hardener) must be mixed and applied to the substrate immediately.

3.4.1.4) PU Primer;

PU Primer is a single component, low viscosity primer/activator designed for priming non-porous surfaces such as exposed metal, PVC, old polyurethanes and polyurea coatings, glass, GRP etc. before proceeding with the FASTCOAT PRO system.

PU Primer is a clear liquid, applied manually via roller or brush as a wet film to the surface. The solvents evaporate leaving a matrix of molecules activating the surface of the substrate. After the primer appears dry, apply the FASTCOAT PRO base coat.

PU Primer		
Container Size	20 kg	
Compatible Substrates	Non-Porous substrates Metal/glass/ PVC/old polyurethane and polyurea coatings/GRP	
Coverage rates (typical)	100 g/m ²	200 m ² / 20 kg drum
Typical Drying Times at 15°C	Touch Dry	15 minutes
	Minimum over coating	30 minutes
	Maximum over coating	4 hours

PU primer should not be applied to surfaces when the temperature is below 5°C and below the dew point. The temperature must be 5°C and rising. Application of the primer should not take place when wet conditions prevail, or when condensation is present or will be present on the substrate during application.

All surfaces must be sufficiently prepared and cleaned prior application of the PU primer as per LRS Seamless Waterproofing Systems site preparation recommendations.

Typically surfaces should be high pressure washed with a biocide wash, ensuring it is free from contaminants.

Ensure any oxidation layers are removed before applying the primer. Abrading the surface with a wire brush for example can also help give a mechanical key.

Application of PU Solvent, prior to the PU Primer, will help to activate some non-porous surfaces, and so help to increase the adhesion of the system.

Do not apply PU Primer during rain or when rain is predicted.

3.4.1.5) PU Solvent;

FASTCOAT PRO PU Solvent is a single component, combination of strong organic solvents manufactured specifically for compatibility with FASTCOAT PRO. PU Solvent can be used either as a thinner for FASTCOAT PRO (viscosity modifier, maximum at 10%) or to clean and activate certain non-porous substrates prior to the application of the PU Primer.

PU Solvent is a clear liquid, after cleaning the substrate thoroughly with detergent/ and biocide, the PU Solvent is applied manually by rubbing with a clean cloth or brush and is to be worked into the surface. The solvent helps to finally clean the surface enhancing dirt removal. Once applied the solvent evaporates leaving a clean surface.

When using PU Solvent as a surface activator, apply manually with a clean cloth or brush and work into the surface. Once the solvent has evaporated, immediately proceed with the PU PRIMER application.

PU Solvent should not be applied to surfaces when the temperature is below 5°C and below the dew point. The temperature must be 5°C and rising. Application of the PU solvent should not take place when wet conditions prevail, or when condensation is present or will be present on the substrate during application. If using PU Solvent as an activator, all surfaces must be sufficiently prepared and cleaned prior application of the PU Solvent as per LRS Seamless Waterproofing Systems site preparation recommendations. Typically surfaces should be high pressure washed with a biocide wash, ensuring it is free from contaminants.

Do not apply PU Solvent during rain or when rain is predicted.



Fleece Reinforcement embedded in to FASTCOAT PRO

Storage

225gsm Fleece Reinforcement must be stored under cover and in the dry. The rolls are supplied in a plastic film and then in a cardboard box. Do not get the Fleece wet prior to or during installation.

3.4.2.3) Butyl Tape (self-adhesive bond bridging tape)

Bond Bridging Tape is a non-bituminous tape to bridge all gaps, joints, weak points etc. where movement is likely to occur. The bridging tape self-adhesive backing should be pressed firmly onto the substrate surface and care should be taken to ensure that the edges are firmly pressed down flush with the surface profile.

Butyl Tape (Self-adhesive bond bridging tape)		
Roll Size	20 m x 0,15 m	20 m x 0.075m
Coverage rates	20 linear metres/roll	20 linear metres/roll

Apply onto clean dirt-free substrates that are dry.

3.5) Installation of the waterproofing system

Ensure that all surfaces have been suitably prepared and are clean and dry. Apply primers where required. Form all detail areas before applying FastCoat Pro on the main area.

3.5.1) FASTCOAT PRO Base Coat 7001

Cut the Reinforcement Tape to the required length and width for the proposed detail about to be completed. Consider the wind when cutting the Reinforcement Tape so as not to leave unmanageable sections of tape.

Detailing –



Apply FASTCOAT PRO to the detail area ensuring works are progressed to the point of egress. Immediately lay the Fleece Matting into the wet coating and begin to embed with a suitable roller.

Use a loaded roller to ensure full saturation of the reinforcement. Coverage rates are governed by the substrate. Refer to the specification and/or LRS Seamless Waterproofing Systems technical department for more details.



Overlaps between strips of Reinforcement Tape must be at least 50mm with feathered edges. Ensure there is sufficient material to saturate these overlap areas.

Keeping the container warm at room temperature will assist with the application and coverage rates of the embedment coat. Cold containers will make the product thicker and more difficult to apply and therefore a reduction in coverage rate will occur.



Once the detail areas are complete, begin installation on to the main roof area. Ensure overlaps onto the existing reinforced FASTCOAT PRO sections are by at least 50mm. Apply a layer of FASTCOAT PRO and embed into this the Fleece Reinforcement. Apply additional material where required.

Insufficient coverage of the FASTCOAT PRO material may make it difficult to embed the Fleece. Flooding of the area may cause the Fleece to tent.



Monitor application and check for fish mouths or pinholing and apply more product where required. Allow to cure in accordance with LRS Seamless Waterproofing Systems Technical Services recommendations prior to application of the top coat. Once the membrane has cured, check for pinholes and any surface defects. Fish mouths should be trimmed back and lightly abraded to provide an even surface prior to application of the top coat.

3.5.2) FASTCOAT PRO Top Coat RAL 7011



After application of the base coat, ensure full coverage and encapsulation of the reinforcement in accordance with LRS Seamless Waterproofing Systems Technical Services and the specification for that project. Any defective or loose areas should be cut out and replaced with new material to ensure the coating is fully bonded to a sound substrate.

Prepare the specified FASTCOAT PRO (second layer) and apply to the detail areas first before the main area. Ensure upstands are a minimum of 150mm above the finished roof level.

Apply the top coat at the coverage rate specified by LRS Seamless Waterproofing Systems; run a spike roller slowly over the freshly laid FASTCOAT PRO to burst any bubbles and release any trapped gas before the FASTCOAT PRO skins over.

Use volume to area calculations to work out the coverage per drum prior to application. This will ensure the correct coverage rate is achieved. Wet thickness readings will also achieve the same result but is limited to the area chosen to test.

Check all details and main roof areas for snags and treat accordingly. Any pinholes should be treated with FastCoat Mastic leaving a smooth homogenous finish. Allow to cure in accordance with LRS Seamless Waterproofing Systems Technical Services recommendations. Designated walkways should be marked out and installed only after the top coat has cured. Ensure the membrane has reached full cure before reinstating any proprietary components or plant work upon the roof.

All liquid details must be suitably terminated with suitable materials such as termination bars, flashings, trims etc. Refer to the specification or LRS Seamless Waterproofing Systems Technical Services for details.

3.6) Snagging of the systems

Insufficient Coverage Rate



Insufficient coverage rate of the embedment coat has resulted in sufficient saturation of the Fleece Reinforcement. The coverage of FASTCOAT PRO has not satisfied the specified amount and more material must be applied. This ensures full encapsulation of the reinforcement preventing any loose fibres.

Additional coverage of the specified FASTCOAT PRO base coat should be applied prior to the application of any top coats.

Sagging product on upstands -



Sagging & pooling of the product at upstands is not desirable, trapped gases can cause a spongy membrane; this is not detrimental to the system provided there is still adequate saturation of the reinforcement on the upstand itself. This can be caused by surplus application of the product prior to laying the Fleece or post Fleece installation. Extended cure times in colder temperatures will also allow the product more time to sag.

Apply a tack coat of FASTCOAT PRO rather than a thick coat. Tack the Fleece onto the upstand and the resin will start to saturate the tape. Using a loaded roller, overcoat the Fleece evenly until full saturation, taking care not to apply excess product which could later sag. Monitor the formation of the details periodically. If any areas appear to be sagging during the curing process, treat by rolling the material back across a larger surface area of the upstand.

Pinholes –



Pinholes can be rectified by the application of additional top coat. Ensure the area is clean and dry before application.

The formation of pinholes can be minimised by ensuring the material is left to settle after mixing.

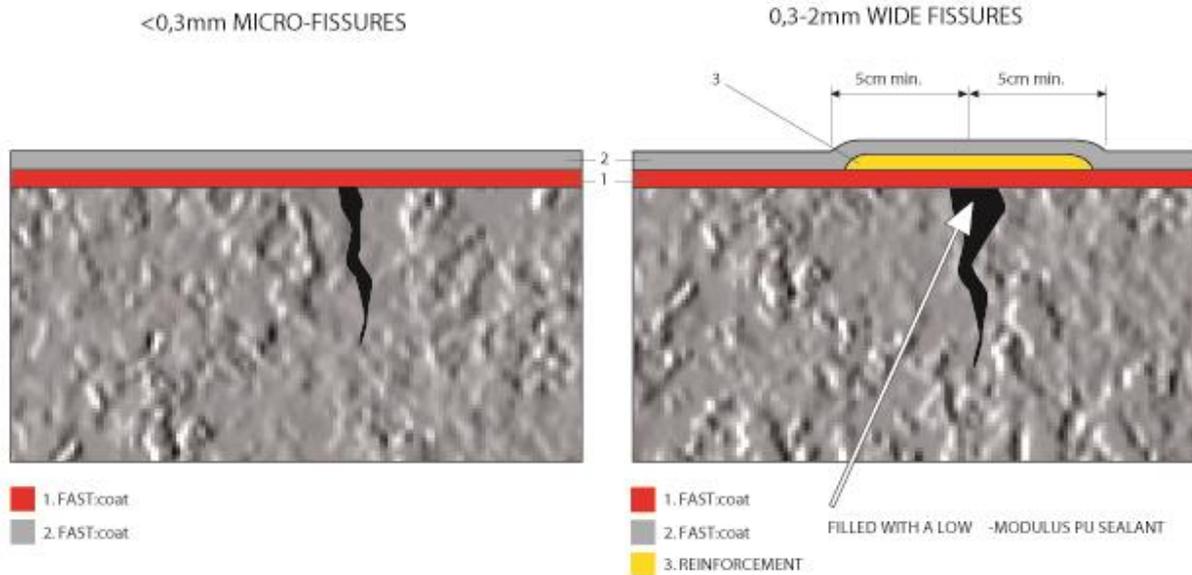
Installation under rising temperatures can also increase the likelihood of pinholes. If required, pass a spiked roller over affected areas while the coating is still wet, this will help release any

trapped air.

Fish mouths

Fish mouths occur through over rolling of the reinforcement with the base coat. On application, if these areas seem to appear, break down the fibres with the edge of the roller and overcoat accordingly with suitable product. Continuous overworking will make the area worse.

If an area has cured, the area must be cut out and repaired with additional material. Individual fish mouths can just be trimmed back and gently abraded to leave a smooth surface prior to the application of the top coat.



3.7) HEALTH & SAFETY;

Material Safety Data Sheets are available upon request; please contact LRS Seamless Waterproofing Systems UK Ltd.

3.8) TECHNICAL SUPPORT;

Technical advice is available from the LRS Seamless Waterproofing Systems UK Technical Service at:

Telephone: 01948 841 877

Email: technical@lrs-systems.co.uk

Installation manual is subject to change; please apply to LRS Seamless Waterproofing Systems UK for the updated version prior to commencement of the project.

LRS Seamless Waterproofing Systems undertakes continual product development and therefore all product data and information is subject to change without notice. Customers are responsible for ensuring and checking that the product is suitable for the proposed application and conditions for use are appropriate and meet the required standards. Please refer to the LRS Seamless Waterproofing Systems Terms and Conditions.

Storage

All materials must be stored undercover and storage areas must be kept between 5°C and 25°C. Materials should never be exposed to freezing conditions or excessive temperature changes.

Rainfall

If it begins to rain at any stage during application or if rainfall is imminent, stop work immediately. Reseal any open containers and store all equipment adequately to keep them dry.

Work should not be resumed until it has completely stopped raining and the surface to be coated is completely dry and free from any sitting water. Preferably, works should be discontinued in advance of possible rainfall to allow the product to cure and be rainproof.

A curing membrane subject to rainfall is only aesthetically damaged. Rainfall can cause pits in the membrane, but the quality of the membrane is not affected. These pitted areas should be overcoated accordingly to satisfy the aesthetics of the whole system.

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