

LiquiTEC Balcony & Walkway System Installation Guide



INTRODUCTION

This manual provides important guidelines for Approved Bauder Contractors and their operatives in the recommended preparation and application requirements for installing the Bauder LiquiTEC Balcony, Walkway & Terrace system. Information also includes a guide to safe handling and storage of the various products and the related installation equipment required.

The information contained within this technical guide is designed to be used in conjunction with a Bauder specification. Bauder continually updates and reviews both the technical guidance and installation techniques to ensure the most up-to-date methods are employed.

Bauder technical department provides support to answer any queries which may not have been covered in this guide, or on matters relating to general flat roof construction.
technical@bauder.co.uk Tel: +44(0)1473 257671

Some of the information contained within this document is taken from BS/EN standards and is correct at the time of production, however, confirmation should be sought from the correct authority if using the quoted standards in this document.

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SYSTEM OVERVIEW AND MAIN ATTRIBUTES

What is Bauder LiquiTEC Balcony, Walkway & Terrace System?

The Bauder LiquiTEC Balcony, Walkway & Terrace System combines catalyst activated PMMA based liquid resins and polyester reinforcement fleece to form a fast curing, tough and durable waterproofing / surfacing membrane, which can be used in both new build and refurbishment applications over a variety of substrates and existing waterproofing materials.

Three main variants are available;

1. A reinforced system with wearing surface, for use where the area to be treated is above occupied premises.
2. An unreinforced system with wearing surface, for applications such as cantilever balconies.
3. A reinforced system without wearing surface, for all buried applications (eg. under tiles, paving, timber decking etc.)

SYSTEM COMPONENTS :

- **LiquiPRIME 1** (if required) – resin for priming timber and asphalt.
- **LiquiPRIME 2** (if required) – resin for priming cementitious materials, brickwork and blockwork etc.
- **LiquiPASTE** (if required) – resin for repairing cracks and holes in the substrate.
- **Bauder PMMA Cleaner** – for cleaning metal and plastic substrates, re-activating previously applied resin and cleaning tools. Supplied in screw top metal containers.
- **LiquiDETAIL** – resin for waterproofing upstands and details.
- **LiquiFIBRE** – resin for waterproofing awkward shapes and areas where access is restricted.
- **LiquiBALKON** (if required) – resin for waterproofing main flat areas, when a reinforced system is specified.
- **Bauder 110g reinforcement fleece** – reinforcement fleece for LiquiBALKON and LiquiDETAIL, available in various convenient widths of 50M long rolls.
- **LiquiPAVE RF** – This trowel applied, thick layer product comprises **LiquiPAVE R** resin and **LiquiPAVE F** powder to provide a hard-wearing bedding layer for the Bauder quartz. Not to be used where the structure is timber.
- **Catalyst** – powder to be added to resins prior to application to trigger the curing process. Supplied in small polybags or larger bags (0.1kg, 1.0kg and 25kg).
- **Bauder Quartz** – to be broadcast into the **LiquiPAVE RF** to provide a heavy duty wearing layer.
- **LiquiFINISH** – finish coat resin, used to provide the finished colour and a seal coat over the Bauder Quartz. Available in Blue Grey (RAL 7031), Traffic Grey (RAL 7043) and Stone Grey (RAL7030).
- **Liquid Thixo** (if required) – Thixotropic agent for use as an additive to LiquiPRIME and LiquiFINISH when treating upstands over 250mm high. Supplied in screw top metal containers.

The resins are packaged in re-sealable metal containers which will be supplied separately or on pallets.

SYSTEM OVERVIEW AND MAIN ATTRIBUTES

What is PMMA?

PMMA is an abbreviation for Poly Methyl Methacrylate. Methyl Methacrylate (MMA) was first synthesised in 1903, with the first practical and commercial applications coming in the early 1930's. It was originally used for dentures due to its low water absorption, lack of toxicity and dimensional stability, and then during the Second World War for aircraft windshields (Plexiglas). Plexiglas and its derivatives are still used today - half the weight and 17 times stronger than glass. MMA has been used since the 1950's for bone cements, dental cements and fillings, and was later used to make contact lenses.

In construction, the development of MMA for use in flooring goes back to the 1960's. The resins and systems were designed to be:

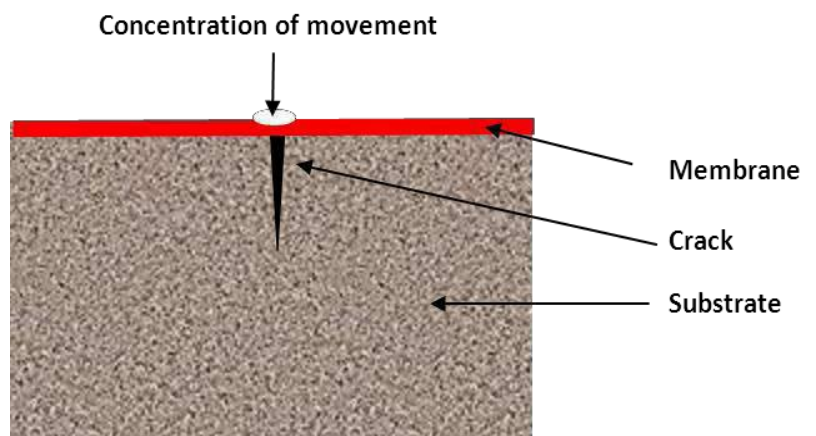
- Impact resistant;
- Abrasion resistant and resistant to mechanical wear;
- Impermeable to liquids;
- Hygienically safe;
- Highly durable;
- Resistant to chemicals and weathering;
- Non-sensitive to humidity;
- Easy to overcoat;
- Variable in colour and design characteristics;
- Usable over wide temperature range.

By introducing flexibility and other properties into the MMA (PMMA) resins, flooring systems were developed into other applications in the 1970's. PMMA roofing systems now have a greater than 25 year track record.

Why use a reinforcement fleece?

Whatever the elastomeric properties, any un-reinforced, fully bonded liquid applied material will have difficulty in bridging unforeseen cracks. As movement occurs, the system remains fully bonded either side of the crack. The movement must be accommodated within the free width of the membrane over the crack and within the thickness of the system. See diagram below.

- Membrane remains fully bonded either side of crack
- Membrane will thin out over crack prior to failure
- Elastomeric properties will become irrelevant






The unique elastomeric waterproofing resins, LiquiDETAIL and LiquiBALKON, in conjunction with the special Bauder 110g reinforcement fleece provides the system with:

- Exceptional long-term resistance to regular and unforeseen movement.
- Exceptional long-term resistance to flexural fatigue.

SYSTEM OVERVIEW AND MAIN ATTRIBUTES

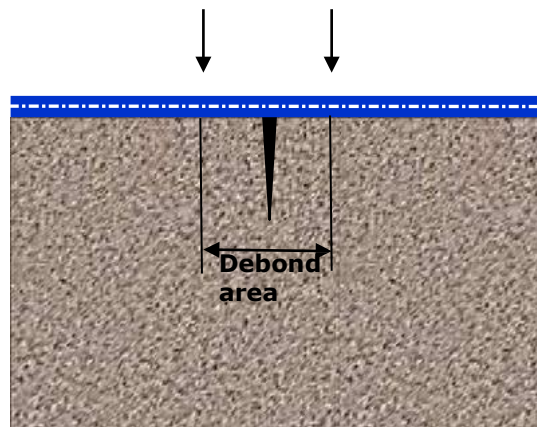
The Bauder 110g reinforcement fleece helps the system to achieve the following technical characteristics:

- Tensile Strength: ——— c.a 6.50 N/mm² 
- Inter Layer Adhesion: ——— c.a 3.30 N/mm² 
- Adhesion to Substrate: ——— min – 0.80 N/mm² max – 2.50N/mm² ——— 

The diagram below shows the positive effect of the Bauder 110g reinforcement fleece.

Movement is spread between these points

- The membrane de- bonds when movement is excessive: It is easier to break the bond to the substrate than tear the membrane
- This allows a greater free width of membrane to provide the required elastomeric properties



SYSTEM OVERVIEW AND MAIN ATTRIBUTES

The Bauder LiquiTEC Balcony, Walkway & Terrace System is suitable for both New Build and Refurbishment applications. It can be applied directly onto concrete / screeded decks and can also be applied to existing asphalt waterproofing. In the case of timber decks, reference should be made to the project specification for further details. It is not recommended to overlay existing tiled surfaces, due to the likelihood of trapped moisture beneath.

It is essential that a proper assessment of the substrate is carried out in all cases and that adhesion tests and thorough preparation are undertaken before commencement.

Substrate Assessment

- Ensure that the structure is designed to withstand the proposed loadings
- Any existing known structural defects must be rectified prior to overlay
- Concrete structures should be designed in accordance with BS8110/CP110
- Timber / plywood decks must be constructed from minimum 15mm exterior grade plywood, with joists at max 450mm centres and minimum 18mm for up to 600mm centres. All panel edges to be fully supported. Deck to be mechanically fixed with countersunk fixings at 100mm centres along all joists and noggins

General Substrate Assessment

- Assess the stability of the underlying substrate prior to the commencement of work
- Surfaces to be coated including existing repair materials must be firmly fixed

Dimensional Stability

All factors which may affect the subsequent performance of the area, e.g. saturated insulation, failed structural elements etc. must be removed, repaired or replaced.

Falls

A design fall of minimum 1:40 is recommended in order to ensure a constructed fall of minimum 1:80 is achieved. The integrity of the Bauder LiquiTEC Balcony, Walkway & Terrace system will not be affected if applied to zero pitch, but it is essential that any areas of backfalls or deflection are levelled prior to installing the system.

Ponding water on areas designed to receive foot traffic is a slip hazard, especially during winter months.

Surface Moisture

The surface must be dry prior to overlay with the Bauder LiquiTEC Balcony, Walkway & Terrace System.

Theoretical Check

The surface temperature must be higher than the dew point (this can be calculated – see page 16).

SUBSTRATE SUITABILITY

Practical Checks

- If it looks wet, feels wet, appears wet – it is unlikely to bedry!
- Apply a tissue to the surface and ensure dry when removed

Moisture Content (cementitious materials)

Prior to overlay with the Bauder LiquiTEC Balcony, Walkway & Terrace systems, the equilibrium moisture content of the substrate must not exceed 6% by weight or 75% RH.

Ensure that moisture will not come into contact with the underside of the coating due to structural conditions. The Bauder LiquiTEC Balcony, Walkway & Terrace System is **not** a Damp proof membrane.

Measured Checks

- Carry out RH test in accordance with British Standard using a suitable hygrometer (eg. GE Protimeter MMS). Please note this is a non-destructive method but lacks accuracy.



- Carry out equilibrium moisture test with CM tester. This is a destructive method to check the actual moisture content of the sample.



Note: Both methods give a result for the sample only and not the deck as a whole.

Practical Advice

Lower Risk Scenarios

- Refurbishment (hydration complete)
- If the surface is closed with few voids e.g. powerfloated
- If the substrate is white / light grey
- If the substrate looks impermeable
- If there is no buried membrane or permanent formwork
- If the substrate has previously been waterproofed
- If the cementitious material is polymer modified

SUBSTRATE SUITABILITY

- If the area has good falls
- If the area is under cover

Higher Risk Scenarios

- New build (hydration incomplete – green concrete)
- Sand and cement screeds
- Anything brown
- If the surface is open with voids
- If the substrate looks porous / contains porous aggregates (lytag)
- If there is a buried membrane* or permanent formwork
- If the substrate has never previously been waterproofed
- If the area has poor falls
- If the area is exposed

***Do not proceed without Bauder technical advice**

Practical Checks

- Dry core and break the sample or simply remove a sample (hammer and chisel) and observe apparent moisture levels at the surface and deeper within the build up. If anything looks damp / wet do not proceed
- Use adhesion testing / observation of primer coat
- Prepare and prime an area and look for:
 - Blisters
 - Blooming / milkiness
 - Adhesion: If a risk is perceived set a limit for adhesion higher than standard (e.g. 2.0N/mm²)

Minimising the Risk

- Prime the higher risk areas first, but leave as long as possible before overlaying. If the primer shows any of the problems listed above, the substrate is not sufficiently dry.

Specific Advice for new concrete

- Consult the engineer / concrete supplier for details of the mix and the estimated hydration times.
- Allow minimum 28 days.

Note: A high moisture content will result in blisters and / or poor adhesion.

Hardness

Substrates should achieve a minimum hardness of 25N/mm².

SUBSTRATE SUITABILITY

Measured Checks

- Carry out compressive strength tests with a "Schmidt" hammer



Practical Checks

- With particular regard to cementitious substrates, if the surface is not friable, cannot be eroded with the heel of a shoe, does not feel soft or crumbly, the compressive strength is likely to be higher than 25N/mm².
- If the existing substrate is trafficked and has been subjected to point loadings without indentation then it is likely to be suitable for overlay with a trafficable system.

Substrate Preparation

Basic requirements

- The substrate must be clean, dry and free from dust, laitance, grease, oil and any other contaminants
- Where there are existing coatings, paints or sealers fully remove (or carry out on site adhesion tests to determine suitability for overlay)

Initial Cleaning Equipment / Methods

Pressure Washer (2,000 psi)

- Washing down / organic growth removal

Typical Preparation Equipment

- **Brushing** – use of a stiff brush for removal of dirt and dust.
- **Scarifier** - for de-chipping/preparation of certain cementitious materials etc.
- **Open shot blasting** - for coating removal/cementitious materials/asphalt
- **Hand grinder (diamond / carbide)** – for detail preparation
- **Sanding** – for detail preparation/metals/plastic/certain single ply membranes

SUBSTRATE SUITABILITY

Substrate Preparation & Priming Schedule

Substrate	Preparation Notes	Main area	Details
Paving grade asphalt	1/8	LiquiPRIME 1	LiquiPRIME 1
Roofing grade asphalt	1/8	Unsuitable substrate Remove if present	LiquiPRIME 1
Hot rolled / Stone mastic asphalt	1/8/10	LiquiPRIME 1	LiquiPRIME 1
Oxidised bitumen membrane	2/9	Unsuitable substrate Remove if present	LiquiPRIME 1 exposed bitumen only
SBS modified bitumen membrane	2/9	Unsuitable substrate Remove if present	LiquiPRIME 1 to exposed bitumen only
APP modified bitumen membrane	2/9	Unsuitable substrate Remove if present	LiquiPRIME 1 to exposed bitumen only
Bitumen	2	Unsuitable substrate Remove if present	LiquiPRIME 1
Concrete / Screed / brickwork	1/5	LiquiPRIME 2	LiquiPRIME 2
Porous concrete	1/5	Cryl Primer 287	Cryl Primer 287
Concrete with 6-10% equilibrium moisture content	1	Seek Bauder advice	Seek Bauder advice
Lightweight concrete / render	1	Seek Bauder advice	Seek Bauder advice
Polymer modified concrete	1/5	LiquiPRIME 2	LiquiPRIME 2
Blockwork (porous)	1/5	LiquiPRIME 2 at 0.6Kg/m ² with maximum catalyst + 1% Liquid Thixo	LiquiPRIME 2 at 0.6Kg/m ² with maximum catalyst + 1% Liquid Thixo
Steel	3	No primer required	No primer required
Galvanised steel	3	No primer required	No primer required
Stainless steel	3	No primer required	No primer required
Aluminium	3	No primer required	No primer required
Copper	3	No primer required	No primer required
Zinc	3	No primer required	No primer required
Lead	3	No primer required	No primer required
Glass	3	No primer required	No primer required
Wood / timber / ply	2	LiquiPRIME 1	LiquiPRIME 1
EPDM	2/6	Special Primer 610	Special Primer 610
Other substrates		Subject to testing	Subject to testing
Single ply membranes:			
CPE	3/7	No primer required	No primer required
EVA	2/7	No primer required	No primer required
PIB	2/7	No primer required	No primer required
PVC-P, nB	3/7	No primer required	No primer required
Other single-ply membranes		Subject to testing	Subject to testing
Plastics (sheets, coatings, mouldings:			
UPVC / PVC	3	No primer required	No primer required
GRP	3	No primer required	No primer required
Acrylic Glass	3	No primer required	No primer required
PU (polyurethane)	4/6	No primer required	No primer required

SUBSTRATE SUITABILITY

PMMA (poly methylmethacrylate)	4/6	No primer required	No primer required
UP (polyester)	4/6	No primer required	No primer required
EP (epoxy)	4/6	No primer required	No primer required

Preparation Notes

1. Scarify, grind or lightly bead blast.
2. Scrape and sweep away contamination and clean by power washing (with or without approved detergent) as required.
3. Rub down thoroughly with Bauder PMMA Cleaner and abrade / grind metals and hard plastics to achieve a roughened surface. (Steel must be ground or blasted to bright metal – where all rust cannot be practically removed, use “Hammerite No.1 Rustbeater” prior to the application of the Bauder system products).
4. Lightly abrade and carry out an adhesion test as described in this manual.
5. The equilibrium moisture content of cementitious materials must not exceed 6% or 75% RH. Where moisture levels are in excess of these values seek advice from Bauder regarding possible use of PoxR106.
6. Subject to testing of insitu material and approval by Bauder Technical Team.
7. Where large areas are to be treated, test areas to be carried out to ensure ruckling does not occur.
8. Blisters and high spots should be cut away using a grinder. Do not heat and trowel.
9. Loose areas and blisters to be cut away.
10. For HRA and SMA, increase primer consumption by 50% and use 6% catalyst.

Where there are any doubts as to adhesion, preparation or substrate stability carry out adhesion tests as described in this manual.

For other substrates, consult the Bauder Technical Department on 01473 257671 for required preparation methods and priming.

SUBSTRATE SUITABILITY

The Importance of Adhesion

The system should achieve a minimum bond to the substrate of:

- Cementitious materials / metals / plastics / hard substrates: 1.50N/mm²
- Asphalt and other substrates: 0.80N/mm²
- Unbonded / loose laid substrates where pull off tests not possible (membranes):
Peel strength adhesion 30N/50mm

Measured Checks

- Carry out pull off tests using minimum 50mm dollies and carefully assess results



After applying a test area of LiquiBALKON or LiquiDETAIL (and recommended primer if required), cut a circular hole through the Bauder coating and upper layers of the substrate with a hole saw. Adhere 50mm dolly to the surface of the Bauder coating within the cut area and allow adhesive to cure. Carry out adhesion test with calibrated hydraulic test rig.

- Carry out DIN EN 12316 peel strength adhesion tests

Practical Checks

- Carry out pull off tests using minimum 50mm dollies and calibrated hydraulic test rig and carefully assess results (as detailed above).
- Carry out on site peel tests

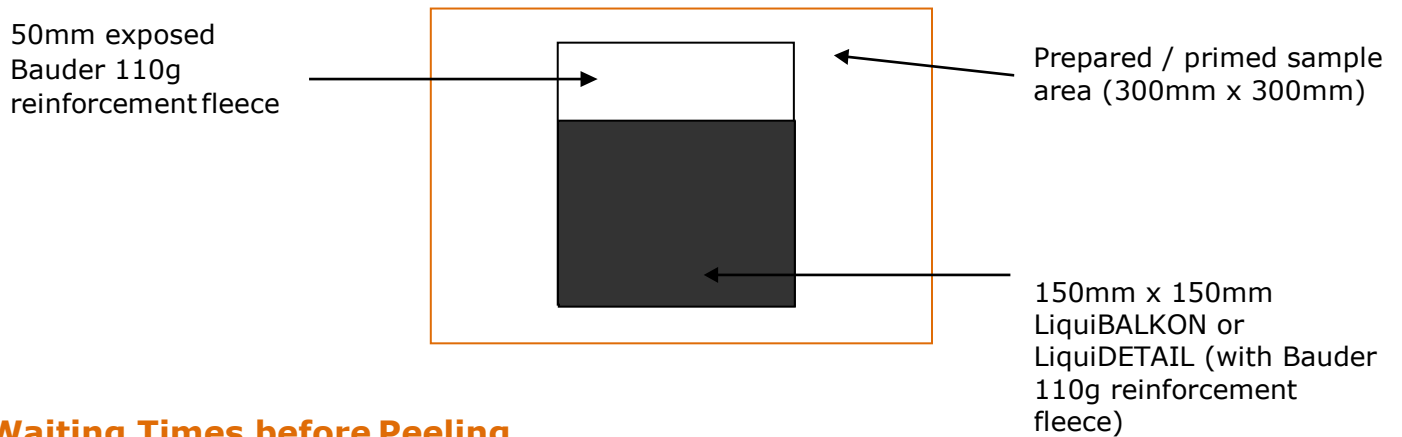
Note: The assessment of the results is critical. Adhesion tests are often not just a test of the adhesion to the substrate but a test of the preparation and the cohesive strength of the substrate itself.

SUBSTRATE SUITABILITY

Peel Test Method

Carry out adhesion tests as illustrated below:

- Prepare substrate and apply resins.



Waiting Times before Peeling

Substrate	Waiting Time
Synthetic single ply membranes	min. 3 hours
Coated materials e.g. metals	min. 3 hours
Cementitious materials	min. 3 hours
Bituminous materials	min. 3 hours and ideally after 72 hours due to lower initial adhesion

Peel Method

Hold the exposed fleece and pull slowly at **90 degrees** to the substrate

Assessment

Mode of failure	Assessment
Cannot be removed	Satisfactory adhesion
Fleece tears	Satisfactory adhesion
Interlayer delamination of LiquiBALKON / LiquiDETAIL	Satisfactory adhesion
LiquiBALKON / LiquiDETAIL difficult to remove and removes top layer of homogenous substrate (not coating)	Satisfactory adhesion
LiquiBALKON / LiquiDETAIL easy to remove with little or no membrane left on substrate, or substrate left on membrane	Poor adhesion – re-test using different preparation / primer / combinations and leave for a minimum of 72 hours
LiquiBALKON / LiquiDETAIL easy to remove and removes coating (paint etc.) from coated substrate	Poor adhesion – remove coating from substrate and re-test

USING THE LIQUITEC BALCONY, WALKWAY & TERRACE SYSTEM

Application conditions

Temperature

The products can be applied within the temperature range printed on the rear label on the drum. Some products can be applied at surface temperatures as low as -5°C.

Certain Bauder resins are available in both summer and winter variants which allow an overlap in usage at moderate temperatures. Essentially the winter resins can be used up to a maximum temperature of +20°C and the summer resins down to a minimum temperature of +10°C with both summer and winter resins suitable for use between 10°C and 20°C.

At less than 10°C summer resin should not be used and at more than 20°C winter resin should not be used.

The temperatures apply to both ambient and substrate, and in sunny conditions particular attention should be paid to the heat of darker substrates as high temperatures can cause incomplete flash curing of the product resulting in a sticky finish and poor mechanical properties.

Measuring substrate temperatures

As substrate temperature is so critical to the successful installation of the system it is important to measure this periodically during the working day using an infrared non-contact digital thermometer. These are inexpensive, readily available pieces of equipment.

Maximum ambient/substrate temperatures

All substrates except reflective membranes (eg. BauderTEC KSD DUO) – **35°C**

Reflective membranes (e.g. BauderTEC KSD DUO) – **25°C**. These materials do not absorb the heat from the sun so will register lower temperatures, but as sunlight is reflected at the liquid system being applied the heat transfer into the liquid will be higher than that transferred by non-reflective membranes.

Dew Point

The surface temperature must be above the dew point when the product is applied. If the temperature is lower than the dew point, a film of moisture may form on the surface and compromise adhesion / curing of the material.

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Air temperature	Dew point in °C at a relative humidity of											Saturation humidity (Volume of water) g/m ³
	30 %	40 %	50 %	55 %	60 %	65 %	70 %	75 %	80 %	85 %	95 %	
°C	°C	°C	°C	°C	°C	°C	°C	°C	°C	°C	°C	°C
+30	10.5	14.9	18.5	19.9	21.2	22.8	24.2	25.3	26.4	27.5	29.2	30.4
+26	7.1	11.3	14.9	16.2	17.6	18.9	19.8	21.1	22.3	23.5	25.2	24.4
+24	5.4	9.5	13.0	14.4	15.8	17.0	18.2	19.3	20.3	21.2	23.1	21.8
+22	3.6	7.7	11.1	12.5	13.9	15.2	16.3	17.4	18.4	19.4	21.2	19.4
+20	1.9	6.0	9.3	10.7	12.0	13.2	14.3	15.4	16.5	17.4	19.2	17.3
+18	0.2	4.2	7.4	8.8	10.1	11.3	12.4	13.5	14.5	15.4	17.2	15.4
+16	-1.5	2.4	5.6	7.0	8.2	9.4	10.5	11.5	12.5	13.4	15.2	13.6
+14	-3.3	-0.6	3.8	5.1	6.4	7.5	8.6	9.6	10.6	11.5	13.2	12.1
+12	-5.0	-1.2	1.9	3.2	4.3	5.5	6.6	7.6	8.5	9.5	11.2	10.7
+10	-6.7	-2.9	0.1	1.4	2.6	3.7	4.8	5.8	6.7	7.6	9.2	9.4
+8	-8.5	-4.8	-1.6	-0.4	0.7	1.8	2.9	3.9	4.8	5.6	7.2	8.3
+6	-10.3	-6.6	-3.2	-2.1	-1.0	-0.1	0.9	1.9	2.8	3.6	5.2	7.3
+4	-12.0	-8.5	-4.8	-3.7	-2.7	-1.8	-0.9	0.1	0.8	1.6	3.2	6.4
+2	-13.7	-10.2	-6.5	-5.3	-4.3	-3.4	-2.5	-1.6	-0.8	0.1	1.3	5.6
+0	-15.4	-12.0	-8.6	-6.6	-5.6	-4.7	-3.8	-3.1	-2.3	-1.6	-0.3	4.8

Example:
Condensation is formed if air at a temperature of 20°C and 60% relative humidity meets surfaces with a temperature of 12°C and cooler

Chart showing dew points relative to air temperature and relative humidity

In practical terms – ensure that the substrate is dry to the touch

Ventilation

Inadequate air movement leads to inhibition of the chemical reaction of PMMA products leading to poor curing/adhesion.

In enclosed areas the air must be replaced at least 7 times per hour by forced ventilation.

Health and Safety

The following precautions should always be taken when applying any chemical construction products:

- When using do not eat, drink or smoke
- Avoid contact with the eyes and skin
- Keep the products away from food and drink
- Wear personal protective clothing and equipment
- Comply with the information in the Safety Data Sheets

Storage

Resins

- Keep containers tightly closed
- Keep containers dry, protected from frost, and store in a cool, well ventilated area
- Protect against direct sun and heat, and ambient temperatures above 25°C
- Storage life is at least 6 months
- In winter containers should be stored at room temperature before application wherever possible

USING THE LIQUITEC BALCONY, WALKWAY & TERRACE SYSTEM

Catalyst

- Keep containers dry, protected from frost, and store in a cool, well ventilated area
- Protect against direct sun and heat

Important: Resins and catalyst must not be stored together

Fleece

- Keep clean and dry

Disposal of products

- Cured resin is classified as 'plastic' and is non-hazardous waste. Refer to the suggested European Waste Catalogue (EWC) codes on the Safety Data Sheets for individual products.
- If Bauder LiquiTEC Balcony, Walkway & Terrace System products are ever removed from the roof, the cured material is classified as mixed construction waste and is non-hazardous.
- Uncured liquid resins are all classed as hazardous waste and should always be avoided by catalysing the resin.
- It is recommended that contaminated Bauder PMMA Cleaner is allowed to evaporate until a solid residue is formed, this can be achieved by storage in a container with a lid with high level vent holes in the sides.

APPLICATION OF PRODUCTS

General Important Information

Site Set Up

- The areas used for mixing and transferring the products into other containers must be covered with a suitable plastic sheet (e.g. Tarpaulin) before work is started.
- Any un-catalysed / uncured resin that is in contact with the substrate to be coated will cause problems if not removed.

Stirring

- Stir the resin in its container thoroughly for 2 minutes using electric mixing paddle.

Decanting

- If a full pack is not being applied, decant the approximate amount required into a suitable bucket.

Catalysing

- The mixing ratio of resin to catalyst is detailed in the mixing instructions printed on the drum and varies for each product.
- Always use the maximum practical catalyst for the temperature range.
- Never use less than 2% catalyst and except in special circumstances, more than 6%.

Importance of Correct Resin Consumption

- The minimum consumptions for all products are stated in the specifications.
- The consumptions are based on smooth, even substrates.
- Allowances must be made if the substrate is uneven, rough or porous – particularly for primers.
- Application at below the minimum consumption will result in poor curing/poor adhesion/poor mechanical and physical properties.

Measures to be taken if Work is Interrupted

- If work is interrupted for more than 12 hours or if the area to be coated is contaminated, e.g. by rain, they are to be overcoated must be pre-heated with Bauder PMMA Cleaner.
- Bauder PMMA Cleaner must be applied and allowed to evaporate c.a. 20 minutes and overlaid within c.a. 60 minutes.
- Subsequent waterproofing layers must have at least a 100mm overlap, including the fleece (standard overlap is 50mm).

APPLICATION OF PRODUCTS

Cleaning of Tools and Equipment

- The mixing and application tools must be cleaned thoroughly with Bauder PMMA Cleaner at regular intervals to prevent resin build up and when the work is interrupted / completed.

Primers

- **LiquiPRIME 1**
- **LiquiPRIME 2**
- **Cryl Primer 287**

Tools Required

- 25cm synthetic, deep pile rollers, roller handles & telescopic handle
- 10cm synthetic, deep pile rollers and handles
- Masking tape
- Scissors
- Electric mixing paddle
- Rubber gloves
- Suitable size buckets
- Catalyst measuring jug / spoon
- Weighing scales

STEP 1 – Masking

Apply the masking tape along the top of details at waterproofing height. Mask the perimeter of the works as required.



STEP 2 - Prepare the Mixing Area

Cover the mixing area with a clean sheet (e.g. Tarpaulin) to avoid contamination of the substrate.

STEP 3 - Stir

Stir the primer in its container thoroughly for 2 minutes using electric mixing paddle.

STEP 4 - Decanting

If a full pack is not being applied, pour out the approximate amount required into a suitable bucket.

STEP 5 - Thixotropic addition (if required)

For details in excess of 250mm high add 1% Liquid Thixo to prevent runs. Mix in and leave for 5 minutes to allow to gel prior to catalysing.

STEP 6 - Catalysing

Add the correct amount of catalyst for the amount of resin and the temperature conditions (see table on the container) while stirring until a smooth consistency is achieved. Leave for approximately 1 minute for the catalyst to dissolve and re-stir.



APPLICATION OF PRODUCTS

STEP 7 - Application to Details

Apply the primer to the details first using a 10cm roller, ensuring the primer is applied in a thick coat (to the correct minimum consumption of 0.4Kg/m²).

Tip: To ensure correct application thickness there should be no pressure applied to the roller and the primer should be applied to the top of the upstand first!



STEP 8 - Application to Main Area

Apply the primer to the main area using a 25cm roller, ensuring the primer is applied in a thick coat (to the correct minimum consumption of 0.4Kg/m²). Work over the primer in both directions without applying pressure to ensure an even application and impregnation of the substrate.



STEP 9 - Un-Masking

ALWAYS REMOVE THE MASKING TAPE WHILST THE PRIMER IS STILL WET!

Surface Repairs and Filling

There are a range of different materials available from Bauder for surface repairs and filling:

- **LiquiPASTE**
Uses: Small, shallow repairs and crack filling.
Felt blister filling (1-5mm)
- **LiquiPASTE Mortar**
(LiquiPASTE mixed 1:1 with Bauder quartz)
Uses: Re-forming upstands, blister filling (5-30mm)
- **LiquiPAVE RF**
(LiquiPAVE R + LiquiPAVE F, ratio 1:2.3)
Uses: Self levelling repairs - e.g. to shallow depressions (2 – 5mm) on asphalt / concrete
- **LiquiPAVE RF Mortar**
(LiquiPAVE RF mixed 33:25 with Bauder quartz)
Uses: Repairs to larger depressions / voids (3 – 50mm) on flat areas (or slopes up to 10° with Liquid Thixo) in one layer on asphalt/ concrete

APPLICATION OF PRODUCTS

- **Cryl RS 240**
(concrete repair mortar)
Uses: Repairs to cementitious substrates (5 – 50mm) on flat areas (or slopes up to 10° with Liquid Thixo)
- **Levelling Mortar & Filler**
(Flexible mortar)
Uses: Levelling and filling of asphalt substrates (5 – 50mm)

LiquiPASTE

Tools Required

- Smoothing trowel
- Mixing stick
- Rubber gloves
- Suitable size buckets
- Catalyst measuring jug / spoon
- Weighing scales

STEP 1 - Decanting

Mix the resin in the original container and if a full pack is not being applied, decant the approximate amount required into a suitable bucket.



STEP 2 - Stirring and Catalysing the Resin

Add the correct amount of catalyst for the amount of resin and the temperature conditions (see table on the drum) while stirring until a smooth consistency is achieved. Any filler or quartz required is to be mixed in after catalysing. Leave for approximately 1 minute for the catalyst to dissolve and re-stir.



STEP 3 - Application

Apply the product by trowel.



APPLICATION OF PRODUCTS

Upstand & Detail Waterproofing Products

- **LiquiDETAIL**
- **LiquiFIBRE**

When to Use

LiquiDETAIL is used as the primary waterproofing membrane for interface details. The product uses Bauder 110g reinforcement fleece to provide tensile strength.



LiquiFIBRE is used for highly complex details and in areas where access prohibits the use of Bauder 110g reinforcement fleece.



Tools

- 10cm synthetic deep pile rollers and handle (LiquiDETAIL)
- Brushes (LiquiFIBRE)
- Masking tape
- Scissors (LiquiDETAIL only)
- Mixing paddle / sticks
- Rubber gloves
- Suitable size buckets
- Catalyst measuring jug
- Weighing scales

Preparation and Mixing

STEP 1 – Masking

Apply the masking tape along the top of details at waterproofing height and just below the height of the primer. Mask the perimeter of the works as required.



APPLICATION OF PRODUCTS

STEP 2 – Bauder 110g Reinforcement Fleece Preparation (LiquiDETAIL only)

Cut fleece for internal and external corners, outlets, protrusions, etc. before mixing and catalysing LiquiDETAIL.

STEP 3 - Prepare the Mixing Area

Cover the mixing area with a clean sheet (e.g. Tarpaulin) to avoid contamination of the substrate

STEP 4 - Stir

Stir the resin in its container thoroughly for 2 minutes using electric mixing paddle.

STEP 5 - Decanting

If a full pack is not being applied, decant the approximate amount required into a suitable bucket.

STEP 6 - Catalysing

Add the correct amount of catalyst for the amount of resin and the temperature conditions (see table on the container) while stirring until a smooth consistency is achieved. Leave for approximately 1 minute for the catalyst to dissolve and re-stir.



Application

Waterproofing of Upstands with LiquiDETAIL

STEP 1 – Fleece preparation

Cut 100mm diameter circles of Bauder 110g reinforcement fleece and snip to the centre to allow the fleece to fit internal and external corners.



STEP 2 – Embedding the Fleece

Apply a generous amount of LiquiDETAIL (min 2.0kg/m²) with a brush or a radiator roller and embed the external corner. Make sure there is no trapped air beneath the fleece by rolling to outer edges.



APPLICATION OF PRODUCTS

STEP 3 – Overcoating the Fleece

Apply a further generous coat of LiquiDETAIL (min 1.0kg/m²) over the embedded external and internal corners. Ensure that between any layers of Bauder 110g reinforcement fleece is a generous amount of LiquiDETAIL.



STEP 4 – Upstand Detail

Use a 100mm roller to apply a generous layer of LiquiDETAIL to the main upstand sections (min 2.0kg/m²). Never apply to more than 2 linear metres at a time.



STEP 5 – Embedding the Fleece

Embed cut sections or unrolled strips of Bauder 110g reinforcement fleece into the wet resin, making sure that the fleece is fully saturated and that trapped air is pressed free using the roller.



For internal corners bring the fleece 50mm around the corner and cut at the base of the fold into the corner. Overlap the cut section, making sure that there are no dry fleece overlaps.

APPLICATION OF PRODUCTS

For external corners bring the fleece 50mm around the corner and cut at the base of the fold into the corner. Then place the cut section around the corner and cover the exposed area of the floor with another section of fleece cut to size.



STEP 6 – Overcoating the Fleece

Finally, apply another generous layer of LiquiDETAIL (min 1.0kg/m²) wet on wet to the embedded fleece.



STEP 7 – Unmasking

Remove the masking tape while the resin is still wet.



TIP: For high upstands and upstands with height changes use wider sections of fleece applied in vertical strips to ease application.

APPLICATION OF PRODUCTS

Waterproofing of Pipes and Penetrations with LiquiDETAIL

STEP 1 - Masking

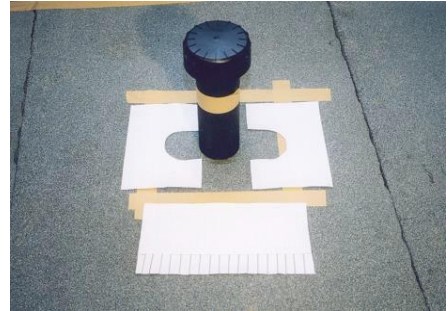
Apply masking tape around the penetration at waterproofing height (150mm) and the base (at least 100mm from the penetration)



STEP 2 - Fleece Preparation

Penetration: Fleece width: 200mm, Fleece length: Circumference of pipe + 50mm. Cut strips all along one side of the fleece, making the cuts 50mm long and 10mm apart

Surrounding flat area: Cut two sections of fleece and cut out a U shape in each to closely fit the diameter of the penetration. The two sections of fleece must overlap at least 50mm



STEP 3 – Embedding the Vertical Fleece

Apply a generous layer of LiquiDETAIL (min 2.0kg/m²) with a radiator roller or brush to the penetration and the surrounding flat area.

Embed the cut section of fleece for the penetration in the wet resin, making sure that the fleece is fully saturated and there is no trapped air.

STEP 4 – Overcoating the Vertical Fleece

Apply another generous layer of LiquiDETAIL in the area of the overlap and a further generous coat of LiquiDETAIL (min 1.0kg/m²) over the embedded fleece.



STEP 5 – Embedding the Deck Fleece

Apply a first layer of LiquiDETAIL (min 2.0kg/m²) to the flat area, then embed the first section of fleece, making sure there is no trapped air and coat with another generous layer of resin to ensure no dry overlaps are present.



APPLICATION OF PRODUCTS

STEP 6 – Overcoating the Deck Fleece

Embed the second section of fleece for the area making sure there is no trapped air, and coat with another generous layer (min 1.0kg/m²) of LiquiDETAIL.



STEP 7 – Unmasking

Remove the masking tape while the resin is still wet.



Waterproofing Outlets with LiquiDETAIL

STEP 1 - Masking

Apply masking tape to mark the area to be waterproofed and block the outlet with a rag or tape.



STEP 2 – Preparation / Cleaning

Remove any paint and rust. Any rust that cannot be removed must be treated with Hammerite No.1 Rustbeater. Clean the outlet flange / bowl with Bauder PMMA Cleaner and roughen the surface with sand paper (metals / hard plastics).



APPLICATION OF PRODUCTS

STEP 3 – Outlet Fleece Preparation

Fleece width: 150mm, Fleece length: Outlet circumference + 50mm. Cut zigzags / strips all along the fleece, making the cuts 50mm long and the zigzags / strips 10mm wide.



STEP 4 – Surrounding Deck Area Fleece Preparation

Cut one section of fleece with a star pattern cut into the centre to the size of the diameter of the outlet.



STEP 5 – Embedding the Outlet Fleece

Apply a generous layer of LiquiDETAIL (min 2.0kg/m²) inside and around the outlet and embed the cut section of fleece pressing free any trapped air.



STEP 6 – Overcoating the Outlet Fleece

Fold the zigzag pattern over on to the flat area and apply another generous coating of resin above to saturate the fleece.



STEP 7 – Embedding the Deck Fleece

Apply a generous layer of LiquiDETAIL (min 2.0kg/m²) to the flat area and into the outlet. Embed the fleece for the flat area, making sure there is no trapped air, and use the brush to fold the zigzag pattern into the outlet.



STEP 8 – Overcoating the Deck Fleece

Then cover the fleece with a generous further coat of resin (min 1.0kg/m²).

APPLICATION OF PRODUCTS

STEP 9 - Un-Masking

Take the rag / tape out of the outlet and remove the masking tape while the resin is still wet.



Waterproofing to Edge Trim with LiquiDETAIL

STEP 1 - Surface Preparation

Wipe down the trim with Bauder PMMA Cleaner to degrease and abrade the surface to create a key. Mask the surfaces where required.



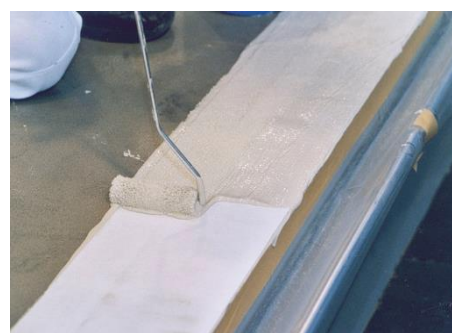
STEP 2 - Embedding the Fleece

Use a 100mm roller to apply a generous first layer of LiquiDETAIL (min 2.0kg/m²). Embed cut sections or unrolled strips of Bauder 110g reinforcement fleece into the wet resin, making sure that the fleece is fully saturated and that trapped air is pressed free.



STEP 3 - Application

Then apply another generous layer of LiquiDETAIL to the embedded fleece.



STEP 4 - Un-Masking

Remove the masking tape while the resin is still wet.



APPLICATION OF PRODUCTS

LiquiDETAIL - Important Notes & Tips

1. Ensure masking tape is applied prior to application.
2. Minimum 3.0kg/m² of resin.
3. Apply 2/3 of the resin under the fleece (2.0kg/m²) and 1/3 over the fleece (1.0kg/m²).
4. Mix just the resin which can be used in the pot life.
5. Never apply more than 2 linear metres of embedment resin at a time.
6. In many cases it will be easier to apply the fleece in strips rather than from the roll.
7. Ensure there are no dry fleece overlaps.
8. Press trapped air free using the roller / brush.
9. Remove masking tape whilst resin is still wet.

***Note: The most important element of the system is having sufficient resin beneath the fleece.**

Waterproofing of Awkward Details using LiquiFIBRE

- **STEP 1** Apply masking tape around the penetration at waterproofing height (150mm) and the base (at least 100mm from the penetration).
- **STEP 2** Apply first coat of LiquiFIBRE with a heavily laden brush at a rate of 1.5Kg/m².
- **STEP 3** Remove masking tape immediately and allow to cure thoroughly.
- **STEP 4** Re-apply masking tape slightly past the first coat application area.
- **STEP 5** Apply second coat of LiquiFIBRE at the same rate as the first coat, with brush strokes at 90° to the first coat.

Note: Do not apply second coat until first coat is completely cured.

- **STEP 6 -** Remove masking tape while the resin is still wet.



APPLICATION OF PRODUCTS

Main Area Waterproofing (Reinforced systems only)

→ **LiquiBALKON**

Tools Required

- 25cm synthetic, deep pile rollers, roller handles & telescopic handle
- Spiked shoes (restricted areas)
- Scissors
- Mixing paddle
- Rubber gloves
- Suitable size plastic buckets
- Catalyst measuring jug
- Weighing scales

Step 1 - Prepare the Mixing Area

Cover the mixing area with a clean sheet (e.g. Tarpaulin) to avoid contamination of the substrate.

Step 2 - Stirring the Resin

Stir the resin component thoroughly for 2 minutes using the electric mixing paddle.

Step 3 - Decanting

Even when a full pack is being applied, decant the approximate amount required into a suitable bucket.

Step 4 - Catalysing

Add the correct amount of catalyst for the amount of resin and the temperature conditions (see table on the drum) while stirring until a smooth consistency is achieved.

Application (1)

Using the dip and roll technique (approx. 3 dips for a 2-roller width distance) apply the embedment layer of LiquiBALKON to the substrate (min 2.0kg/m²).



Application (2)

Embed the Bauder 110g reinforcement fleece, pressing free any trapped air and making sure that the fleece is fully saturated.



APPLICATION OF PRODUCTS

Application (3)

Cover the embedded fleece with resin (min 1.0kg/m²) - wet on wet - to ensure full saturation.



Application (4)

Apply the embedment layer resin for the second length of fleece and embed the fleece, pressing trapped air free.

The individual fleece lengths must overlap by at least 50mm.



Application (5)

Again, cover the embedded fleece with resin (min 1.0kg/m²) - wet on wet - to ensure full saturation.



LiquiBALKON - Important Notes & Tips

1. Minimum 3.0kg/m² of resin.
2. Apply 2/3 of the resin under the fleece (2.0kg/m²) and 1/3 over the fleece (1.0kg/m²).
3. Do not pour the resin onto the deck - use a dip and roll technique.

Note: The most important element of the system is the resin beneath the fleece

APPLICATION OF PRODUCTS

Deck Floor Layer (Option 1)

LiquiPAVE RF with Bauder Quartz (0.4mm-1.2mm)

Used as the combined waterproofing and coarse wearing layer in unreinforced systems (with localised reinforcement at vulnerable areas) or as the coarse wearing layer in reinforced systems.

This product is a mixture of LiquiPAVE R resin and LiquiPAVE F powder, which combine to produce a self-levelling screed type substance.

It is applied using a rectangular trowel, before broadcasting Bauder quartz (0.4mm-1.2mm) into the uncured mixture from above.

Tools

- Trowel (510 x 130mm) with wooden handle
- Electric mixing paddle
- Rubber gloves
- 30 litre bucket
- Catalyst measuring jug / spoon
- Weighing scales

Step 1 – Masking

Apply masking tape to mark off the termination areas before starting work. It is common to terminate the Deck Floor Layer 50mm short of the vertical upstand.

Step 2 - Stirring the Resin

Stir the resin component (LiquiPAVE R) thoroughly for 2 minutes using the electric mixing paddle.

Step 3 – Decanting

Decant the resin into a 30 litre bucket.

Step 4 - Catalysing

Add the correct amount of catalyst for the amount of resin and the temperature conditions (see table on the drum) while stirring until a smooth consistency is achieved.

Step 5 - Thixotropic Addition (if required)

For roof slopes in excess of 5° add 1% Liquid Thixo, mix in and leave for 5 minutes

Step 6 – Preparing the Mixture

Add 1 x 23Kg bag of LiquiPAVE F per 10Kg of LiquiPAVE R, whilst continuing to stir the catalysed resin. Mix thoroughly with a slow-speed stirrer to produce a homogenous mixture.



APPLICATION OF PRODUCTS

Step 7 - Pouring

Pour the prepared LiquiPAVE RF mixture onto the area to be coated.



Step 8 - Application

Spread with a trowel to a minimum thickness of c.a. 2mm (do not "scratch out") at a rate of 4.0Kg/m² minimum.



Step 9 - Aggregate Embedment Broadcast Bauder quartz to excess, as soon as possible, while the resin is still wet. It is important to let the aggregate drop into the LiquiPAVE RF from a vertical direction, so as not to cause a "rippled" finish.

Step 10 - Removal of Masking Tape

Remove masking tape while the resin is still wet.



Step 11 - Removal of Excess Aggregate

Once the LiquiPAVE RF has fully cured (approx. 1 hour), the excess Bauder quartz is to be swept off and discarded. Do not reuse as this will have absorbed moisture.

Vacuum clean to remove all traces of loose aggregate.



APPLICATION OF PRODUCTS

Deck Floor Layer (Option 2)

LiquiPAVE RF with LiquiFINISH and Bauder Quartz (0.3mm-0.6mm)

Used as the combined waterproofing and fine wearing layer in unreinforced systems (with localised reinforcement at vulnerable areas) or as the fine wearing layer in reinforced systems.

This product is a mixture of LiquiPAVE R resin and LiquiPAVE F powder, which combine to produce a self-levelling screed type substance. It is applied using a rectangular trowel. Once cured, a layer of LiquiFINISH is added, into which the Bauder Quartz (0.3mm-0.6mm) is broadcast.

Tools

- Trowel (510 x 130mm) with wooden handle
- Electric mixing paddle
- Rubber gloves
- 30 litre bucket
- Catalyst measuring jug / spoon
- Weighing scales

Step 1 – Masking

Apply masking tape to mark off the termination areas before starting work. It is common to terminate the Deck Floor Layer 50mm short of the vertical upstand.

Step 2 – Stir the LiquiPAVE R

Stir the resin component (LiquiPAVE R) thoroughly for 2 minutes using the electric mixing paddle.

Step 3 – Decanting

Decant the resin into a 30 litre bucket.

Step 4 - Catalysing

Add the correct amount of catalyst for the amount of resin and the temperature conditions (see table on the drum) while stirring until a smooth consistency is achieved.

Step 5 - Thixotropic Addition (if required)

For roof slopes in excess of 5° add 1% Liquid Thixo, mix in and leave for 5 minutes.

Step 6 – Preparing the Mixture

Add 1 x 23Kg bag of LiquiPAVE F per 10Kg of LiquiPAVE R, whilst continuing to stir the catalysed resin. Mix thoroughly with a slow-speed stirrer to produce a homogenous mixture.



APPLICATION OF PRODUCTS

Step 7 - Pouring

Pour the prepared LiquiPAVE RF mixture onto the area to be coated.



Step 8 - Application

Spread with a trowel to a minimum thickness of c.a. 2mm (do not "scratch out") at a rate of 4.0Kg/m² minimum. Allow to cure for a minimum of 2 hours.



Step 9 - Stir the LiquiFINISH

Stir the resin component thoroughly for 2 minutes with the electric mixing paddle.

Step 10 - Decanting

Decant the required amount into a suitable bucket.

Step 11 - Catalysing

Add the correct amount of catalyst for the amount of resin and the temperature conditions (see table on the drum) whilst stirring until a smooth consistency is achieved.

Step 12 - Application

Apply the LiquiFINISH to the main area with a 25cm roller ensuring it is applied in a thick coat (to the correct minimum consumption of 0.60Kg/m²).



Step 13 - Aggregate Embedment

Broadcast Bauder quartz (0.3mm-0.6mm) to excess, as soon as possible, while the resin is still wet. It is important to let the aggregate drop into the LiquiFINISH from a vertical direction, so as not to cause a "rippled" finish.

Step 14 - Removal of Masking Tape Remove masking tape while the resin is still wet.



APPLICATION OF PRODUCTS

Step 15 - Removal of Excess Aggregate

Once the LiquiFINISH has fully cured (approx. 2 hours), the excess Bauder quartz is to be swept off and discarded. Do not reuse as this will have absorbed moisture.

Vacuum clean to remove all traces of loose aggregate.



Finish coat

→ **LiquiFINISH**

Tools

- 25cm synthetic, deep pile rollers, roller handles & telescopic handle
- 10cm synthetic, deep pile rollers and handles
- Brush
- Mixing paddle
- Rubber gloves
- Suitable size plastic buckets
- Catalyst measuring jug
- Weighing scales

Step 1 - Masking

Apply masking tape to mark off the termination areas before starting work.



Step 2 - Stirring the Resin

Stir the resin component thoroughly for 2 minutes with the electric mixing paddle.

Step 3 - Decanting

Decant the required amount into a suitable bucket.

APPLICATION OF PRODUCTS

Step 4 - Thixotropic Addition (if required):

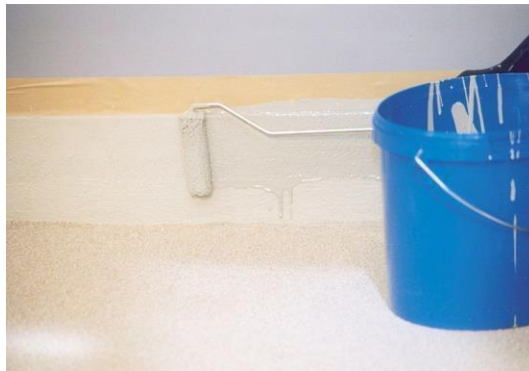
For details in excess of 250mm high add 1% Liquid Thixo, mix in and leave for 5 minutes to allow to gel.

Step 5 - Catalysing

Add the correct amount of catalyst for the amount of resin and the temperature conditions (see table on the drum) whilst stirring until a smooth consistency is achieved.

Step 6 - Application (1) - to details

Use a 10cm roller or brush to apply a generous layer of LiquiFINISH (min. 0.4Kg/m²) to the details. Remove the masking tape while the resin is still wet



Step 7 - Application (2) - main area

Apply the LiquiFINISH to the main area with a 25cm roller ensuring it is applied in a thick coat (to the correct minimum consumption of 0.65Kg/m²).



TROUBLESHOOTING

Trouble Shooting

Operation / product	Problem	Causes	Solution
Primer LiquiPRIME 1/2/Cryl Primer 287	Primer does not cure (remains wet or very sticky)	<ul style="list-style-type: none"> •Too Little or no Catalyst •Applied too thinly •Incorrectly mixed •Poor substrate preparation •Porous substrate •Reaction with substrate 	Remove the primer Clean with Bauder PMMA Cleaner Test to ensure a reaction has not occurred Apply new primer with correct catalyst (upper limit) at minimum consumption or above
	Defects in the primer (incomplete film/tacky surface)	<ul style="list-style-type: none"> •Applied too thinly •Applied by squeegee and not working in both directions •Too little or no catalyst •Incorrectly mixed •Poor substrate preparation •Porous substrate 	Test and if suitable: Reapply primer to defective areas immediately wet in wet using maximum catalyst and minimum consumption of above.
	Primer lifting at the edges/primer shatters	Primer applied too thickly	Remove all loose/shattered sections Reapply primer to defective areas.
	Lumps form on the primed surface	Primer applied after the end of pot life	Remove lumps with a trowel or by sanding down. Reapply primer to defective areas.
Paste LiquiPASTE	Paste does not cure	<ul style="list-style-type: none"> •Too little or no catalyst •Incorrectly mixed 	Remove the paste Clean with Bauder PMMA Cleaner and allow to evaporate Reapply paste
Waterproofing LiquiBALKON LiquiDETAIL	Waterproofing does not cure/delaminates from substrate	<ul style="list-style-type: none"> •Too little or no catalyst •Incorrectly mixed •First layer of resin applied under the fleece is too thin. 	Completely remove the waterproofing. Clean the area with Bauder PMMA Cleaner and allow to evaporate. Abrade the substrate. Re-apply primer if necessary. Re-apply waterproofing.
	Blistering in the waterproofing	<ul style="list-style-type: none"> •Air pockets – the fleece is not embedded correctly •First layer of resin applied under the fleece is too thin •Incorrectly mixed •Defects in the primer 	Cut open the blisters and remove. Remove material that has failed to cure fully Clean the area with Bauder PMMA Cleaner Mechanically roughen the substrate Reapply primer if necessary Reapply waterproofing
	Waterproofing has cured but is tacky	<ul style="list-style-type: none"> •Temperatures too high or too low •No/low air movement 	Clean the area with Bauder PMMA Cleaner and allow to evaporate. If required apply additional layer of resin/finish – subject to testing.

TROUBLESHOOTING

<p>Deck floor layer LiquiPAVE RF with Bauder quartz</p>	<p>Does not cure / harden (whole area)</p>	<ul style="list-style-type: none"> •Too little / no catalyst or catalyst not properly stirred in •Insufficient thickness •Insufficient air movement 	<p>Mechanically remove the self levelling waterproofing / surfacing Re-apply primer Apply the new correctly mixed LiquiPAVE RF with the correct catalyst Ensure that the LiquiPAVE RF is applied to the minimum consumption Create sufficient air movement.</p>
	<p>Does not cure / harden (patches)</p>	<ul style="list-style-type: none"> •Incorrectly mixed •Insufficient thickness in areas •Insufficient air movement e.g. in corners 	<p>Mechanically remove the localised areas of self levelling waterproofing / surfacing Re-apply primer Re-apply LiquiPAVE RF butt jointed to existing sound material and lightly abrade dayjoint.</p>
	<p>Application / trowel / foot marks / insufficient / patchy aggregate in the self levelling waterproofing / surfacing</p>	<ul style="list-style-type: none"> •Applied unevenly •Foot traffic •Insufficient aggregate •Aggregate applied too late 	<p>Mechanically remove the defects Make good with LiquiPAVE R (patches / whole area) min 0.8kg/m² Level dayjoints to perimeter of repairs by grinding.</p>
<p>Finish LiquiFINISH</p>	<p>Ripples in the finish</p>	<p>Underlying layer not properly cured</p>	<p>Completely remove material that has failed to fully cure Completely remove the underlying layer which has not properly cured Clean the area with Bauder PMMA Cleaner and allow to evaporate Reapply underlying layer and Finish</p>
	<p>Air bubbles in the finish</p>	<ul style="list-style-type: none"> •Applied too thickly •Over worked 	<p>If required clean the area with Bauder PMMA Cleaner and allow to evaporate Apply a new coating of Finish For anti-skid systems the level of skid resistance may be reduced and a further wearing layer may need to be applied.</p>
	<p>Pigment drop out on verticals</p>	<p>Non-thixotropic finish used on high upstands</p>	<p>Clean the area with Bauder PMMA Cleaner and allow the Cleaner to evaporate Apply a new coating of Finish with Liquid Thixo.</p>

MAINTENANCE

Maintenance and Care

The Bauder LiquiTEC Balcony, walkway & Terrace system itself is designed to avoid the requirement for regular maintenance as far as possible. However, all areas should be inspected twice annually (Spring and Winter) in order to keep them in good condition and determine any problems in their early stages.

General Maintenance Items

1. Remove any debris or items which could potentially cause damage to the system.
2. Check and clean outlets, drainage points, gutters, downspouts etc. and ensure that all rainwater goods are working effectively.
3. Carefully remove any plant growth.
4. Check all details visually to ensure a sound bond to substrate.
5. Check the installed System for any signs of mechanical or chemical damage.
6. Check the soffit where visible for evidence of water ingress, wet patches, water staining etc.
7. Check other building components e.g. balustrades, surface mounted details, walls, threshold details etc. for soundness.
8. Any observations that require attention to the installed system should be reported to the Bauder Approved Contractor that installed it.

Repairs

1. Areas of mechanical damage should be repaired by the original installer as soon as possible after they become evident.
2. The Bauder approved contractor should consult Bauder Limited for approved repair methods.

Additions and Removals

Prior to additions or removals taking place which may affect the integrity of the installed Bauder system, Bauder Limited to be contacted for approved methods.

General Protection

Where coated areas are likely to suffer damage or contamination from other trades during subsequent or other works, suitable precautions should be taken to protect the installed system.

Cleaning

Should cleaning be required we recommend the following methods:

MAINTENANCE

Pressure Washing

1. Manually brush away any loose particles, general dust, dirt etc.
2. Ensure all outlets, drainage points, gutters and downspouts are clear and free from any blockage.
3. Apply a cold or warm ($\leq 50^{\circ}\text{C}$) water pressure wash with approved detergent in solution.
4. The head of the water lance should be kept at least 500mm away from the surface at all times and the pressure should be restricted to less than 1500psi.
5. Preferably leave the detergent solution on the surface for approximately 15 minutes.
6. For stubborn areas of dirt, gently brush or mop the surface after the detergent has been applied.
7. Rinse the surface with clean, cold water. The head of the water lance should be kept at least 500mm away from the coated surface at all times and the pressure should be restricted to less than 1500 psi.
8. Squeegee excess water from the surface to outlets, gullies etc.

Manually Washing Down

1. Manually brush away any loose particles, dirt, dust etc.
2. Mop the area to be treated with a solution of warm water and approved detergent. For stubborn areas of dirt, gently brush the surface while it is still wet. Care should be taken to only use mop heads that will not be shredded by the quartz surface.

Important notes for all Cleaning Methods

1. Water temperature should not exceed 50°C .
2. Only solvent, alcohol and caustic free detergents or degreasants approved by Bauder Limited should be used.
3. Cleaning methods should not allow water to penetrate behind the waterproofing.
4. Cleaning methods and materials not in accordance with Bauder guidelines may affect any warranty.

De-Icing

1. De-icing products which can potentially lead to steel corrosion should not be used unless substrates are fully protected and waterproofed.
2. De-icers which dissolve and do not leave an unsightly, dirty residue on the walkway, balcony or terrace areas are recommended.
3. Bauder walkway, balcony and terrace systems are resistant to common de-icing materials including:
 - Rock salt (white preferable)
 - Sodium acetate based de-icers
 - Potassium Acetate based de-icers
 - Calcium chloride flakes
 - Prilled Urea



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UNITED KINGDOM

70 Landseer Road Ipswich Suffolk England IP3 0DH
T: 01473 257671 **F:** 01473 230761 **E:** info@bauder.co.uk
bauder.co.uk

Registered Office: 15 Upper King Street, Norwich, Norfolk NR3 1RB
Company Registration No. 1466215

IRELAND

O'Duffy Centre Cross Lane Carrickmacross Co. Monaghan
Ireland **T:** 042 9692 333 **F:** 042 9692 839 **E:**
info@bauder.co.uk **bauder.ie**

Registered Office: 80 Ranelagh Road, Ranelagh, Dublin 6, Ireland
Company Registration No. 434044