BULLET ROOF MONO

APPLICATION GUIDE

SEAMLESS LIQUID RUBBER ROOFING

ONE SYSTEM ONE SOLUTION MULTIPLE APPLICATIONS

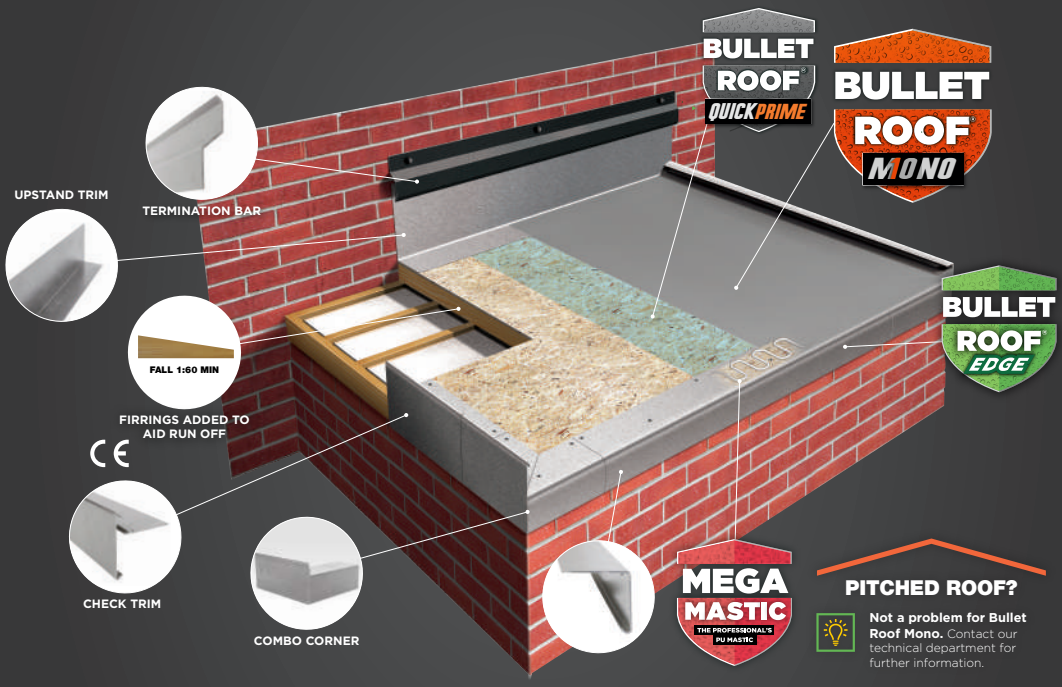
www.bulletroof.co.uk

BULLET ROOF MONO
APPLICATION GUIDE

Bullet Roof Mono employs advanced polyurethane technology which allows you as the contractor to use just one system for almost every flat roofing application including new build and the refurbishment of sound existing membranes without the need to strip. Bullet Roof Mono can be used to refurbish lead gutters and flashings, cast iron gutters, finlock and concrete gutters.

The Bullet Roof Mono system can be used to create attractive hard-wearing balconies as well as walkways and general demarcation of areas such as escape routes and muster points. Many applications can be achieved in just one coat. Here is a guide to some of the more common applications of the Bullet Roof Mono system. If you require guidance or specialist advice, just get in touch with us and we will be happy to advise.

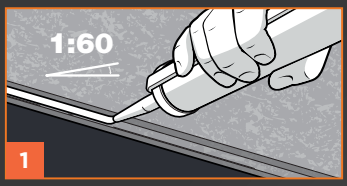
Bullet Roof liquid resins can be applied with any solvent resistant roller or brush. Outside temperatures affect the viscosity of Pu resin. In colder temperatures the resin will be stiffer and in warmer temperatures viscosity may decrease leading to greater fluidity. Many applications do not require additional reinforcements / matting.



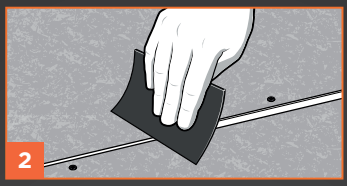
! Remember!

Be aware that more porous surfaces will use more resin and the coverage rate will decrease accordingly. To achieve the life expectancy of Bullet Roof Mono a minimum of 1.5kg per m2 or a minimum thickness 1mm must be achieved. (Always contact our technical department for the correct consumption rate for the substrate. Consumption rates and film thickness may vary dependant on substrate. Primer and reinforcement requirements will vary. Always contact technical department for advice before beginning any project). Always complete all details, flashings, trims etc before laying the Bullet Roof Resin on the deck. Laying the resin on the deck is the last and quickest job. Once the resin is down the roof must not receive foot traffic until the following day. Please enquire at sales@bulletbuildingproducts.co.uk for more information or for any application not mentioned within these guidelines.

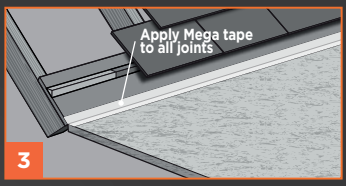
NEW BUILD
INSTALLING THE DECK



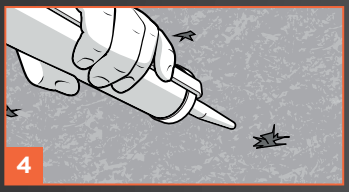
Laying the 18mmT&G OSB 111 decking is a simple process. The tongue and groove edges make the installation fast because the edges of the sheets do not have to be positioned directly over the joist . When your first board is in place , apply a bead of Mega Mastic along the tongue of the board. When the groove of the adjoining board is pressed into place the excess mastic will be squeezed out to the surface. A minimum fall/pitch of 1:60 is required by Building Regulations to prevent ponding water. This can be achieved by introducing firring strips prior to the installation of the deck. When the fall is greater than 1:60 Bullet Roof Mono can be applied in one coat without running or slumping in most cases.



Screw the Boards (minimum 20 x 60 mm fixings per 18 mm OSB 111 T&G 2400 mm x 5 9 0 mm or 24 x 60 mm fixings on 2440 x 1220 18 mm structural timber sheet) Tool any access mastic flat with a small spreading/filling knife. Use a dab of Mega Mastic to fill screw heads and tool flat.

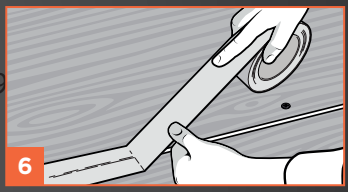


When adjoining a pitched roof, remove the eaves course to expose the existing weather board beneath. If the existing membrane is sound this can be refurbished (Quick Prime, Bullet Roof Reinforcement Tape for felt laps, then Bullet Roof Mono on the slope) . If the board is perished remove and replace using OSB 111 or approved plywood in the same manner in steps 1,2 & 4. Flat preformed GRP trim may also be used but must be primed (Quick Prime) and taped (Bullet Roof Reinforcement Tape) at all joints/laps etc then coated with Bullet Roof Mono. The Bullet Roof Mono system must be taken a minimum of 300mm up the pitch beneath the slate/tile roof covering and must have 150 mm of height from the flat roof deck .

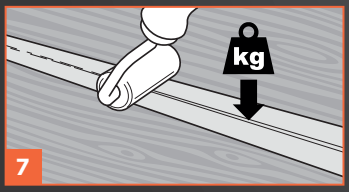


As the quality of the OSB 111 board may vary, check the surface of the board for any openings in the surface or gaps that may soak up the Bullet Roof resin. Apply a dab of Mega Mastic and use as a filler, tooling the mastic flat. Mega Mastic does not need to be fully cured prior to coating. You do not need to wait for it to cure through. This practice will save resin and prevent any small holes appearing during the curing process (overnight) that may have not been visible when applying the resin.

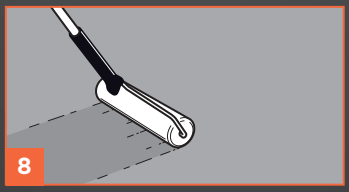
New timber boards must be primed with Quick Prime at a rate of 200 grams per m2 (approximately) before applying Bullet Roof Mono. Allow between 10 and 20 minutes for Quick Prime to dry before overcoating. If longer than an hour passes after becoming touch dry, the area must be reapplied with Quick Prime.



When using 18mm ply sheets or standard OSB 111 sheets without tongue and groove leave a 3-4mm gap between the sheets. Fill the gap with Mega Mastic and tool any access flat with a filling/spreading knife. Use Bullet Roof Reinforcement Tape to bridge the all the gaps between the timber sheets. Remove the backing from the tape and then smooth the self-adhesive side down over the gap with the gap being kept in the centre of the tape.



Use a seam roller to apply pressure to the tape to achieve the optimum bond. The geotextile top of the tape will soak in the Bullet Roof resin creating an extremely strong, durable bridge over the joint beneath it.



Apply one coat of Bullet Roof Mono at a minimum 1.5 to 1.8kg/m2 using a brush, float or roller. Leave overnight to cure before trafficking/walking on the finished surface. Contact Bullet Building Products Technical Department for more information.

 # Remember when Priming!

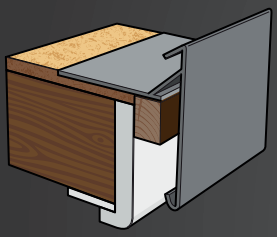
If longer than an hour passes after application the area must be re-primed with Quick Prime. **Only ever prime as much area as you can overcoat within 1 hour when using Quick Prime.** If it rains during the priming proccess, the primer must be reapplied. Ensure all damp surfaces are dry before reapplying primer.

BULLET ROOF® EDGE

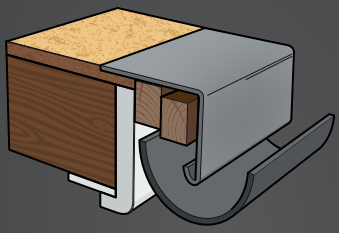
NEW BUILD
INSTALLING THE TRIMS

Select the required trims for the job. Drill and Countersink holes in a staggered manner at 300mm centres along the trim length. Do the same for the corners, 2 fixings on each side of the corner. (Our standard GRP trims are also compatible).

Cut the trims to the desired length and using contact adhesive/super glue (i.e Mitre Fast) fix the trim tabs in place enabling them to be slotted together.

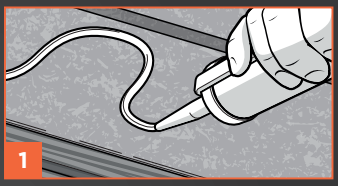


CHECK TRIM FIXED WITH SINGLE BATTEN

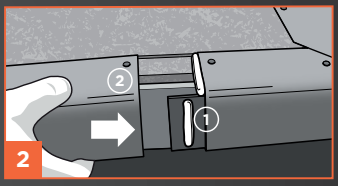


DRIP TRIM FIXED WITH DOUBLE BATTEN

Please enquire at info@bulletbp.co.uk for more information or for any application not mentioned within these guidelines.

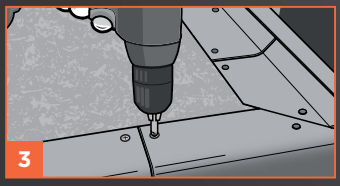


Apply a bead of Mega Mastic as shown onto the edge of the board and batten as illustrated. The board must be routed to allow the trim to sit flush with the board.

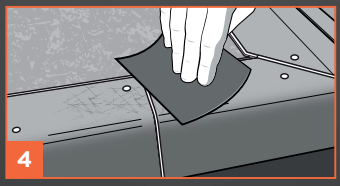


Begin by pressing one of the edge trims into place onto the mastic. Apply a small bead of Mega Mastic onto the exposed half of the adhered trim tab (1) and onto the end of the trim you are adjoining (2), then slot into place. Excess mastic should squeeze out from the joint. (This can be cut off when cured or wiped off with a solvent cleaner whilst uncured. Use more adhesive to adhere trim tabs into place). Work your way around the roof slotting one trim into the next following the same process.

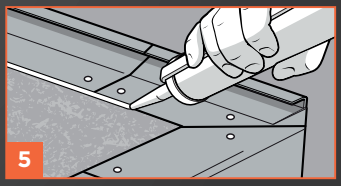
* Product Warranties are subject to complete adherence to the application guidelines and are only available to contractors awarded "Bullet Approved" status. Always consult Bullet Building Products technical department to ensure the correct specification for the project prior to commencing any works. * In many cases Bullet Roof Mono can be applied in just one application and in just one thick seamless coat.



The trims can be moved slightly before they are secured with screws allowing you to position/seat them as required. Once happy with the positioning of the trims, screw the trims into place using the counter sunk holes you made earlier. The screw heads must be slightly sunken below the surface of the trim. Use a dab of Mega Mastic to fill the void left by the screws. A small spreading/filling knife can be used to tool the mastic flat.



Abrade the surfaces of the trim which are to be coated with Bullet Roof resin to ensure good adhesion. Alternatively, use Quickprime on trim surfaces that are to be coated. The face of the trims do not require abrading/priming as they are pre-pigmented and have a finished surface. If preferred, abrade and prime the face before coating.



Install a bead of Mega Mastic along the internal edges of the trim. This will prevent the loss of liquid resin where any discrepancies or undulations in the board may have created a gap allowing seepage of material.

BULLET ROOF MONO
OVER EXISTING ROOF MEMBRANES

! PLEASE NOTE

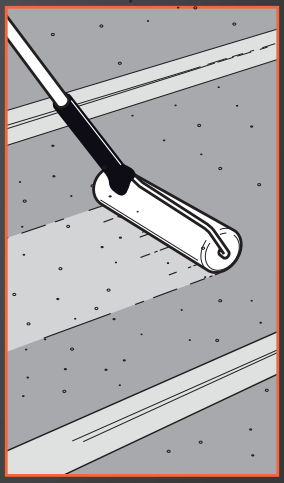
FOR ALL INSTALLATIONS OVER EXISTING MEMBRANES, ENSURE SUBSTRATE IS SOUND WITH APPROPRIATE PREPARATION. REMOVE ALL DIRT, GREASE, DUST, VEGETATION FROM THE ROOF SURFACE. (PRESSURE WASH RECOMMENDED).

Local / Full Reinforcement:

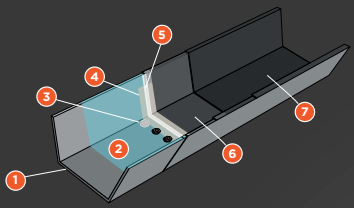
Prime the entire area with “Quick Prime” and allow to become touch dry between 10-20minutes dependant on outside temperatures. Quick prime must be overcoated within one hour of application. It must be overcoated within this time “window.” If longer than an hour passes after becoming touch dry, it must be re-applied. Only ever prime as much area as you can overcoat within 1 hour when using Quick Prime. Slower primer with an extended overcoating window for large field areas is available. Contact Bullet Building Products for further information.

Use self-adhesive Bullet Roof Reinforcement Tape to cover all joints, laps, gaps and cracks. Remove the backing from the tape and then smooth the self-adhesive side down over the laps evenly with the lap/joint in the centre of the tape, using the palm of your gloved hand. Use a seam roller to apply pressure to the tape and achieve the optimum bond. The geotextile top of the tape will soak in the Bullet Roof resin creating an extremely strong, durable bridge over the old joint beneath it.

Use Bullet Roof Mono (stirred well) at a minimum coverage rate of 2.2kg m2 (dependant on substrate) to encapsulate all upstand detail, penetrations, pipes, feet, skylights kerbs etc applying with a brush or roller. Encapsulate all Bullet Roof Reinforcement tape and mega mastic used to cover all joints, laps, gaps and cracks. A small brush and a small roller are useful when applying the Mono resin to roof detail. Depending on the condition of the upstands, fully reinforcing with Bullet Roof Geotextile or glass fibre Reinforcement sheet may be required. Contact Bullet Building Products Technical department for advice. Stir the contents well and pour them out of the tin onto the roof. Spread evenly with a roller and pole, working any bubbles out of the resin to cover the roof area and fully encapsulate the Bullet Roof Reinforcement tape at approximately 2.2kg per m2 dependant on substrate condition. Alternatively the system can be laid with full reinforcement in a "wet on wet" application by applying a layer of Bullet Roof Mono onto the deck and adding Bullet Roof reinforcement sheet into the wet resin. This would be determined by the existing overall roof condition at the time of refurbishment. In some applications a second coat may be needed to achieve the required thickness of the finished coating.

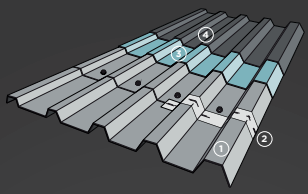


Please contact us for detailed information on overlaying existing roof membranes prior to beginning your project so you can be advised on the correct specification and installation procedure. Technical training is available upon request. www.bulletroof.co.uk
T: 01274 752643



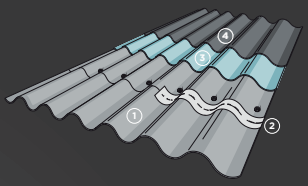
Bullet Roof
Steel Gutters

1. Steel Box Gutter
2. Epoxy Primer AC
3. MM/MS Hybrid gun applied over bolt heads
4. De-bonding tape to cover lap joint (allow for expansion)
5. Local reinforcement (Bullet Mat at 100mm width encapsulated with Mono resin)
6. First coat of Mono
7. Second coat of Mono



Bullet Roof
Profiled Metal Sheet Roof
(Cut edge Corrosion)

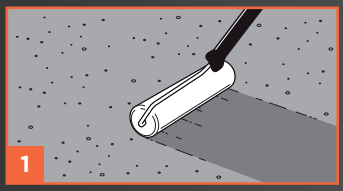
1. Existing Roof
2. Bullet Roof Reinforcement Tape
3. Epoxy primer AC
4. Bullet Roof Mono



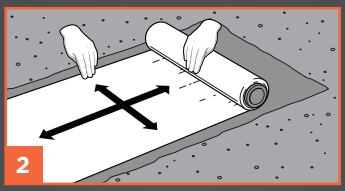
Bullet Roof
Corrugated Asbestos Roof

1. Existing Roof
2. Bullet Roof Reinforcement Tape
3. Bullet Roof GP
4. Bullet Roof Mono

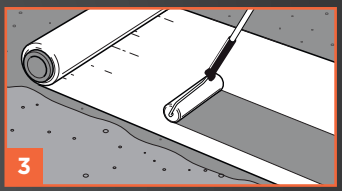
USING BULLET MAT 100
IN A REINFORCED TWO LAYER APPLICATION



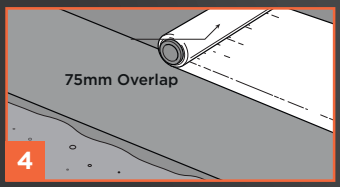
After thoroughly mixing the Bullet Roof Mono, being careful not to introduce air bubbles, apply by roller and pole onto the primed area at approximately 1.5kg per m2. Apply to an area approximately 1.1m wide so the 1m wide reinforcement can be laid into it. We recommend rolling out a 1.5-2m of reinforcement at a time so it can be comfortably worked by your roller and pole.



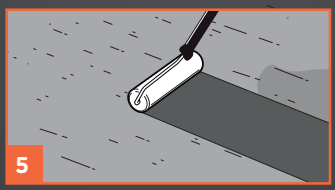
Lay the Reinforcement into the wet resin and roll out enough to cover the area of wet resin you have just applied.



Using your roller and pole, roll over the reinforcement, drawing/pulling through the resin beneath until the reinforcement layer is fully saturated by the resin. You should not need to add anymore resin at this point but if your first coat was too thin and does not fully encapsulate the reinforcement add more resin until it well encapsulated and there are no pinholes visible. Ensure the resin is spread to form an even, pinhole free layer.



Ensure that when installing the next run of reinforcement that a minimum overlap of 75mm is achieved, the overlap is fully bonded down with resin, and then fully encapsulated with resin as you work your way across the area.



The following day apply a second coat of mono resin at 1kg per m2 to fully encapsulate the base layer and reinforcement. Allow 24 hrs before trafficking. If longer than 24hrs passes between laying first layer and reinforcement and applying the second layer use Quick prime to regain optimum bond between the 2 layers. The number of layers and consumption rates vary dependant on specification and life expectancy requirements. Always contact Bullet Technical Department for advice prior to starting your project for the correct specification requirements.

*** Product Warranty only available on fully reinforced 2 coat applications when installed by "Bullet Roof Approved" installers.*

1 COAT 10 YEAR LIFE EXPECTANCY **

2 COAT 25 YEAR LIFE EXPECTANCY **

! TIP

In colder weather keep tins warm to aid fluidity and the draw/pull through of resin when using reinforcement. Pu resins including Bullet Roof mono are effected by temperature. Cold temperatures = Thicker and less fluid. Warmer temperatures = More fluid and easier to use. Bullet Roof Mono can be thinned using Bullet Roof Thinner ONLY for Spray applied applications.* Do not use this product in enclosed/unventilated areas. This product has been designed for use on Roofs in the open air. When a thick build up of Resin is required to achieve the desired life expectancy on particular substrates apply the product in 2 coats

* If in doubt....ask us at Bullet Roof - 01274 752643 BEFORE YOU START your project.

STAGE 1

STAGE 2

STAGE 3

BULLET ROOF MONO COVERAGE ESTIMATING GUIDE

SUBSTRATE	AVERAGE COVERAGE RATES FOR 1 & 2 COATS (DEPENDANT ON PERFORMANCE REQUIRED AND SURFACE POROSITY)	PRIMER REQUIRED (APPROX, DEPENDS ON SUBSTRATE POUROSITY)	REINFORCEMENT TYPE	ACTIONS REQUIRED
OSB 111 T&G SHEETS *	Single coat system: 1.5kg - 1.8kg per m² Two coat system: 2.5kg - 2.8kg per m²	Bullet Roof Quick Prime 150g per m²	Reinforcement not required. Mega Mastic must be used to bond T&G Joints during deck installation.	Ensure all loose material and dust is removed prior to applying Bullet roof. Fill gaps in boards with Mega Mastic.
WBP PLY, OSB 111 SHEETS (NOT T&G) *	Single coat system: 1.5kg - 1.8kg per m² Two coat system: 2.5kg - 2.8kg per m²	Bullet Roof Quick Prime 150g per m²	Local joint reinforcement using Bullet Roof Self Adhesive Reinforcement Tape.	Apply tape after priming to all joints between sheets. Use a seam/pressure roller to bond tape to deck. Always "round cut" tape corners that are exposed prior to coating with resin.
FELT, MINERAL FELT *	Single coat system: 1.5kg - 1.8kg per m² Two coat system: 2.5kg - 2.8kg per m²	Bullet Roof Quick Prime 300g per m²	Fully reinforce using Bullet Roof Mat 100 Reinforcement	Ensure all loose material, dust, grease, vegetation etc. is removed prior to applying Bullet roof. Ensure any de-bonded areas of the existing membrane are re-bonded and sound before installing the Bullet Roof system.
ASPHALT *	Single coat system: 1.5kg - 1.8kg per m² Two coat system: 2.5kg - 2.8kg per m²	Bullet Roof Quick Prime 300g per m²	Fully reinforce using Bullet Roof Mat 100 Reinforcement.	Ensure all loose material and dust is removed prior to applying Bullet roof. Break out blisters and fill prior to over-coating.
EXISTING COATINGS * /GRP	Single coat system: 1.5kg - 1.8kg per m² Two coat system: 2.5kg - 2.8kg per m²	Bullet Roof Quick Prime 150g per m²	>	Contact Bullet Technical Department with information on existing coating for the correct advice for your project.
RUSTED METAL SURFACES - (cut edge corrosion, metal gutters etc.) *	Single coat system: 1.5kg - 1.8kg per m² Two coat system: 2.5kg - 2.8kg per m²	Epoxy Primer AC 200g per m²	Gutter joints can be locally reinforced with Bullet Roof Self Adhesive Reinforcement Tape applied onto the primed surface. Please contact Bullet Technical department for any other application for the correct advice for your project.	Abrade rust and loose material prior to applying primer to ensure the substrate is sound and flake/dust free.
SINGLE PLY MEMBRANES (EPDM, TPO,PVC ETC) *	Single coat system: 1.5kg - 1.8kg per m² Two coat system: 2.5kg - 2.8kg per m²	Bullet Roof Single Ply Primer 150-200g per m²	Local joint reinforcement using Bullet Roof Self Adhesive Reinforcement Tape.	Contact Bullet Technical Department with information on existing coating for the correct advice for your project.
ASBESTOS CEMENT ROOF SHEETS *	Single coat system: 1.5kg - 1.8kg per m² Two coat system: 2.5kg - 2.8kg per m²	Bullet Roof DPM Primer 300-500g per m² - per coat	Local joint reinforcement using Bullet Roof Self Adhesive Reinforcement Tape. Mega Mastic to be used to fill/seal/cover any nuts/bolts/fixings and gaps etc.	Ensure sheets are cleaned and accessed in accordance with Health & Safety Law. Contact Technical Department for the correct advice.
CONCRETE *	Single coat system: 1.5kg - 1.8kg per m² Two coat system: 2.5kg - 2.8kg per m²	Bullet Roof Quick Prime/ DPM Primer Quickprime 300g per m² DPM Primer 300g - 500g per m² - per coat	Please contact Bullet Technical department with information relating to your specific project for the correct advice.	Ensure concrete is in good condition. Ensure all loose material and dust is removed prior to priming.
LEAD *	Single coat system: 1.5kg - 1.8kg per m² Two coat system: 2.5kg - 2.8kg per m²	Bullet Roof Quick Prime 150g per m²	Locally reinforce using Bullet Roof Reinforcement Tape and Mega Mastic	Ensure lead is clean and free from grease, dust, dirt etc. Apply primer then use Bullet Roof Self Adhesive Reinforcement Tape to repair any splits/cracks. Mega Mastic can be used to bond any loose lead or seal any areas as required prior to coating.

*Porous and uneven surfaces may require more material than general coverage guide above.
Contact Bullet Building Products for project specific advice and assistance.