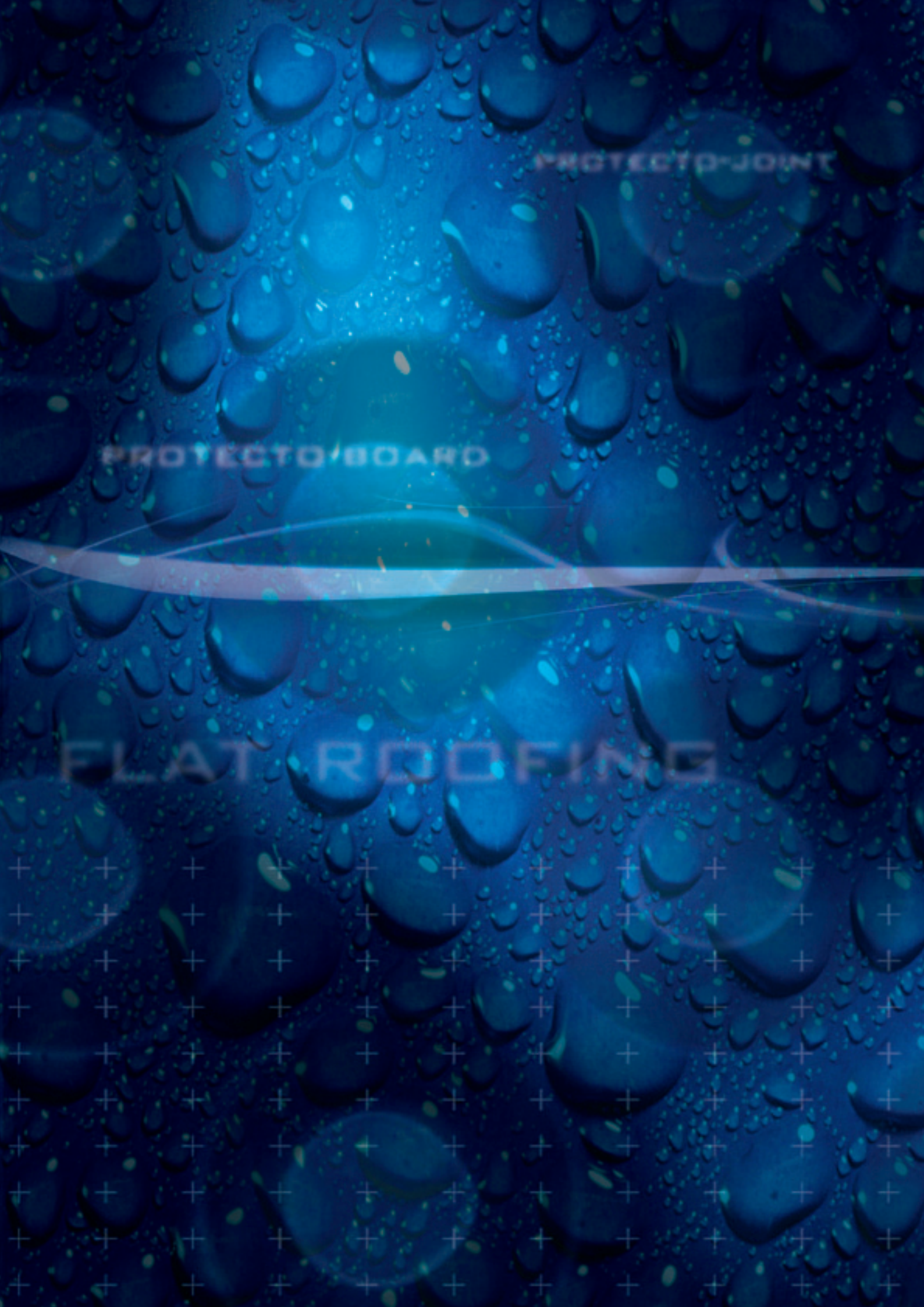
Wallbarn




SPECIALIST PRODUCTS FOR CONSTRUCTION

AUTUMN 2008


PROTECTO-JOINT
PROTECTO BOARD
FLAT ROOFING

WALLBARN LIMITED

WALLBARN SPECIALISES IN THE MANUFACTURE AND SUPPLY OF TOP QUALITY MATERIALS FOR USE IN WATERPROOFING, STRUCTURAL ENGINEERING, FLAT ROOF FINISHES, SOIL STABILISATION AND FILTRATION.

WE SELL A RANGE OF SIMPLE, DURABLE, EASY TO INSTALL MATERIALS MADE TO THE BEST SPECIFICATIONS. WE HAVE DEVELOPED A REPUTATION FOR LOW COST AS WELL AS FAST AND EFFICIENT DELIVERIES, GIVING THE CLIENT TECHNICAL FULL SUPPORT AND PEACE OF MIND.

Materials

WALLBARN'S MATERIALS COVER THE FOLLOWING AREAS:-

ROOF AND TERRACE FINISHES

- RUBBER SUPPORT PADS FOR PAVING SLABS
- PLASTIC STACKABLE SUPPORT PADS PAVING SLABS
- ADJUSTABLE HEIGHT SUPPORT PADS FOR PAVING SLABS
- SUPPORT PADS FOR TIMBER DECKING
- HARDWOOD TIMBER DECKING TILES

GREEN ROOF SYSTEMS

- FULL DRAINAGE, WATER STORAGE AND VEGETATION SOLUTIONS

ROOF & STRUCTURAL PROTECTION

- PROTECTO-BOARD POLYMERIC COMPOUND MEMBRANES
- PROTECTO-BOARD BITUMINOUS MEMBRANES

ROOF & STRUCTURAL DRAINAGE

- PROTECTO-DRAIN DRAINAGE AND WATERPROOFING MEMBRANES

WATERPROOFING

- PROTECTO-JOINT FLEXIBLE WATERPROOFING MEMBRANES FOR EXPANSION JOINTS
- PRO-COAT RUBBER WATERPROOFING MEMBRANE

GROUNDWORKS & SOIL SEPARATION

- POLYPROPYLENE GEOTEXTILE FABRICS
- RECYCLED POLYESTER GEOTEXTILE FABRICS
- PROGRASS PRE-SEEDED GRASS TEXTILE
- GEOGRIDS AND SOIL STABILISATION MATERIALS

RUBBER PAVING SUPPORT PADS

WALLBARN RUBBER PAVING SUPPORT PADS OFFER THE PERFECT SOLUTION FOR DECK PAVING.

Wallbarn rubber paving support pads are specially designed, flexible circular pads which sit underneath the paving slab to raise it clear of the deck. They are made from high quality synthetic rubber, are 9mm thick, with grooves on the underside to provide good drainage and four lugs on the upper side to ensure uniform spacing of the paving slabs.

As there is no mechanical fixing or mortar used in this method of laying paving, the slabs can be taken up easily, either to adjust the position during the laying process, or if a single paving slab needs replacing in the future.

Wallbarn rubber support pads are simply laid onto the base structure, and being made from synthetic rubber, will not slip on the surface. The paving slabs are held in place by the lugs.

Wallbarn rubber support pads have a higher level of elasticity than plastic support pads and contain certain vibration and sound insulation properties.

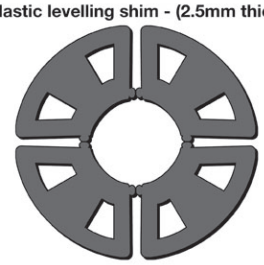
They are ideal for laying directly onto insulation boards or mastic asphalt without the risk of the pads 'digging in' to the under surface.

TECHNICAL DATA

MATERIAL	FLEXIBLE, HIGH QUALITY, SYNTHETIC RUBBER COMPOUND
BEARING CAPACITY	8000 KG
DIAMETER	120MM
HEIGHT	9MM
THICKNESS OF LUGS (JOINT WIDTH)	5MM

Any minor differences in the levels of paving can be catered for using shims, which fit easily onto the top of the support pads. They are available in 1mm, 2mm and 3mm thicknesses. We also supply a wedge shaped adjustable height levelling shim made from PVC which is placed beneath the support pads.

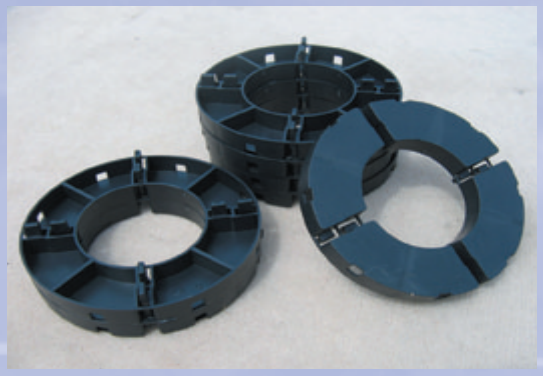
Plastic levelling shim - (2.5mm thick)



Plastic levelling shim

PLASTIC STACKABLE PAVING SUPPORT PADS

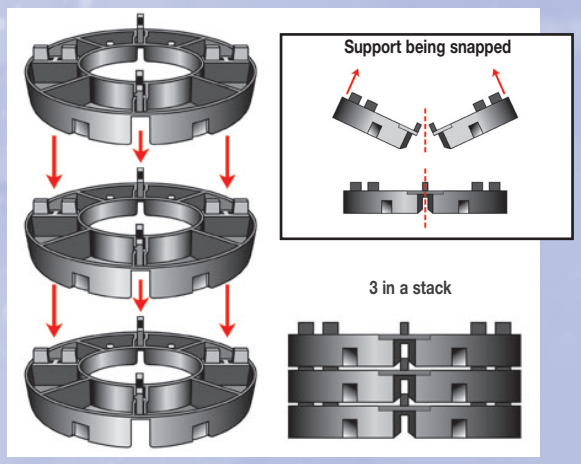
WALLBARN STACKABLE PLASTIC SUPPORT PADS ARE IDEAL FOR PAVING TO FALLS AND LEVELS SINCE THEY ARE DESIGNED TO STACK ON TOP OF ONE ANOTHER.



Wallbarn stackable plastic support pads are manufactured from injection moulded high density polypropylene. They are available 14mm and 17mm high and allow water to run away from the deck underneath. They also help to prevent the build-up of dirt and other material between the slabs. They act as a guide when laying paving, ensuring uniform position. This saves a considerable amount of time in application.

Wallbarn stackable plastic support pads are made in four quadrants joined together with a small link. They can be easily snapped apart to produce segments of a half or a quarter, useful for paving in corners and at the end of runs. This eliminates any wastage of support pads and gives a tidy finish to details.

The pads can be stacked up to five high to give a larger clearance where required. Providing the edges are sufficiently secured, different numbers of support pads can be laid in areas to create changes in levels or steps.



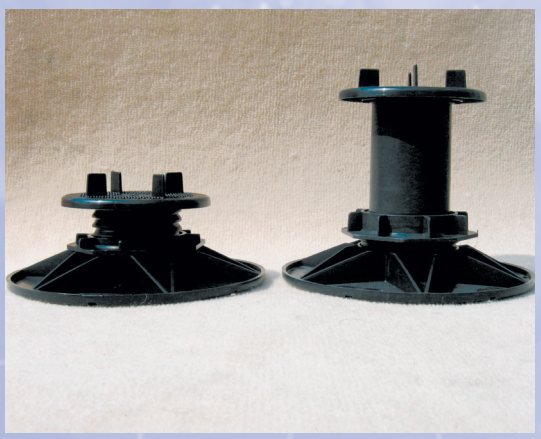
TECHNICAL DATA

MATERIAL	INJECTION MOULDED POLYPROPYLENE
BEARING CAPACITY	400 KG
DIAMETER	150MM
INTERNAL DIAMETER	80MM
HEIGHT	14MM AND 17MM
THICKNESS OF LUGS	5MM

Further adjustments can be made using shims, which can both fit onto either the rubber or plastic support pads.

ADJUSTABLE PLASTIC SUPPORT PADS

WALLBARN ADJUSTABLE PLASTIC SUPPORT PADS ARE DESIGNED TO BE USED WHERE A VERY HIGH CLEARANCE FROM THE DECK IS REQUIRED, OR WHERE THERE MAY BE VERY FINE CONTINUOUS CHANGES TO THE LEVEL.

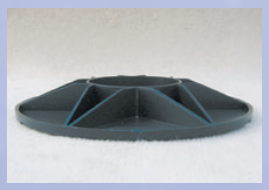


Unlike stackable support pads, which can only be altered in height by doubling, tripling in size or by adding shims of a few millimetres, changes in levels by a very small, very large or irregular amount can be accommodated using Plastic Adjustable Support Pads.

More roof and balcony designs incorporate a completely flat upper surface in order to utilise them more effectively as leisure areas. Wallbarn's adjustable support pads are the perfect tool to compensate for obvious drainage falls which have to exist in any waterproofed deck.

These robust support pads can withstand concentrated loads of 400kg each, and allow high cavities so that pipes, cables and other utility installations underneath the paving slabs. The supports themselves are supplied in sizes ranging from 25mm to 220mm.

Corners and end of runs can be paved easily by removing the lugs from the head plate and simply placing the support pad beneath the inside edge of the slab.




The support pads come in four parts: the base plate, a threaded stem, a nut fixing and the head plate complete with positioning lugs.

The nut fixing is simply screwed onto the stem and rotated up or down to change the height. In this way very exact and irregular changes to the deck level can be achieved. The stems have a range of up to 35mm at each size.

Since this is a suspended system, there is an opportunity to hide unsightly objects such as cables, water pipes and even drainage outlets underneath the paving slabs.

The rainwater runs between and under the slabs and can be collected in small water storage tanks placed in the cavity where roof gardens or planters are present. This helps the SUDS design concept (although it will lead to much greater weight on the roof of course).



Technical data

Adjustable support pad	Head diameter	Base plate diameter	Height	Lug width	Lug height	Weight tolerance
25 Fixed	120mm	208mm	25mm(F)	2.2mm	18.5mm	400kg
35 Fixed	120mm	208mm	35mm(F)	2.2mm	18.5mm	400kg
35 - 50	120mm	208mm	35-50mm	2.2mm	18.5mm	400kg
50 - 70	120mm	208mm	50-70mm	2.2mm	18.5mm	400kg
65 - 100	120mm	208mm	65-100mm	2.2mm	18.5mm	400kg
95 - 130	120mm	208mm	95-130mm	2.2mm	18.5mm	400kg
125 - 160	120mm	208mm	125-160mm	2.2mm	18.5mm	400kg
155 - 190	120mm	208mm	155-190mm	2.2mm	18.5mm	400kg
185 - 220	120mm	208mm	185-220mm	2.2mm	18.5mm	400kg

SUPPORTS FOR TIMBER DECKING

WALLBARN ALSO PRODUCES A FLAT HEADED SUPPORT PAD SPECIFICALLY DESIGNED FOR TIMBER DECKING

We manufacture a smooth headed support pad which will hold timber joists rather than paving slabs.

Timber decking can be laid onto roofs built to falls or with irregular levels, to produce a flat area using the adjustable stems.

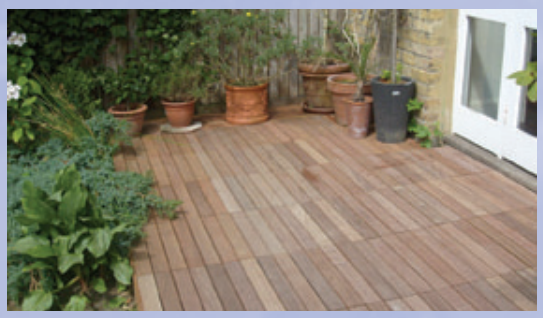
The heights and weight tolerances are the same as for the lugged supports detailed earlier.

Contractors will lay the joist frame onto the flat heads at around 600mm centres. The timber can be spot bonded, fixed with a wood screw or simply be freestanding; so long as the edges are secured. By this method none of the timber is left in standing water, reducing any chance of rotting.

The top decking is secured to the batons, producing a clean, natural finish. All rainwater can then run between the gaps in the decking and out into the drainage outlets constructed beneath the system.

HARDWOOD TIMBER PAVING SLABS

TIMBER DECKING INSTALLED EASILY AND QUICKLY ON ROOFS, BALCONIES AND TERRACES, USING WALLBARN HARDWOOD PAVING SLABS



By using suspended Wallbarn Hardwood Timber Paving Slabs, installers combine the natural, attractive finish of timber decking with the speed and ease of laying paving slabs.

The timber is made from ethically sourced Brazilian Walnut, from sustainable forests. It has a very long life span as it is treated with natural oil lacquer before being dried very slowly, so will not absorb water or rot.

Laid in the same way as regular concrete paving slabs, they are suspended on Wallbarn's range of support pads. The positioning lugs on the support pads allow rainwater to drain underneath and between the slabs into an appropriate outlet. This avoids the risk of standing water creating a slippery surface or causing wood to rot.

They are suitable for any type of flat roof design or membrane, and are heavy enough to ballast inverted roof systems. They can be used in conjunction with concrete slabs or natural stone, and can be taken up and replaced without disrupting the whole area, should the deck beneath need to be inspected.

The timber can be cut into shapes to fit around details and corners in a similar way to concrete slabs, which help to achieve attractive finishes and edges to terraces. The timber is extremely tough (twice as hard as oak) and pre drilling with power tools is required to drive nails and screws into it.

Technical data

Raw material	Ipe Lapacho - Brazilian Walnut botanical name Tabebuia spp, family Bignoniaceae	
Density when cut	1,100 kg/m3	
Density after seasoning	970 kg/m3	
Shrinkage coefficient	0.65%	
Tensile strength at axial compression	85 N/mm2	
Tensile strength at static compression	160 N/mm2	
Modulus of elasticity at flexion	16,000 N/mm2	
Size of slab	500 x 500mm	
Width of frame on underside	69 mm	
	30mm thick	38mm thick
Weight of slab	5.2 kg	5.9 kg
Number of slabs to a pallet	128	144
Square metres to a pallet	32 m2	36 m2

GREEN ROOF SYSTEMS

Wallbarn provides a simple, lightweight, flexible drainage and filtration system suitable for accessed extensive and bio-diverse roof gardens

Green roof designs are becoming popular as a way of achieving a useful, environmentally friendly open space on an otherwise 'lost' flat roof. They can provide the following benefits:-

- Improving the local environment by providing wildlife habitats
- Improving sound and thermal insulation
- Reducing the amount and speed of rainwater run-off and forming part of a SUDS design
- Reducing the "heat island" effect in built up areas and helping to improve air quality
- Protection of the structure and waterproofing systems from UV, impact and abrasion, plant and bird infestation on the membrane
- Optimising the structural footprint by providing attractive natural areas in often high density developments, helping with the planning process and increasing values of properties

Wallbarn green roof systems are designed for extensive (low level) roof systems, some intensive (higher level) and bio-diverse (brown roof) gardens. It is essential that these areas are easy to access as they will require regular irrigation and maintenance.

Up to 50% of the rainwater can be retained in the vegetation and soil (depending on type of vegetation used and based on normal rainfall levels of up to 100mm pa) and the excess will run into the drainage system into the roof outlets at a slower rate, thereby putting less pressure on the drains.

The Protecto-drain boards hold approximately 5 litres of water per m2, and the filtration layer will prevent any particles passing through, ensuring the cups do not become blocked.

Because each component is supplied separately, access to and installation on roofs is easier than some other systems on the market. Also, due to its lightweight and flexibility, Wallbarn's green roof system can be used for lining planters and vertical applications.

Bio-diverse roofs will have coarse substrates with lower nutrient levels and less absorption of rainwater. However, proper drainage and filtration systems still need to be installed.

Remember that landscaped podium decks have the same build up and maintenance requirements as a green roof – and offer the same potential benefits

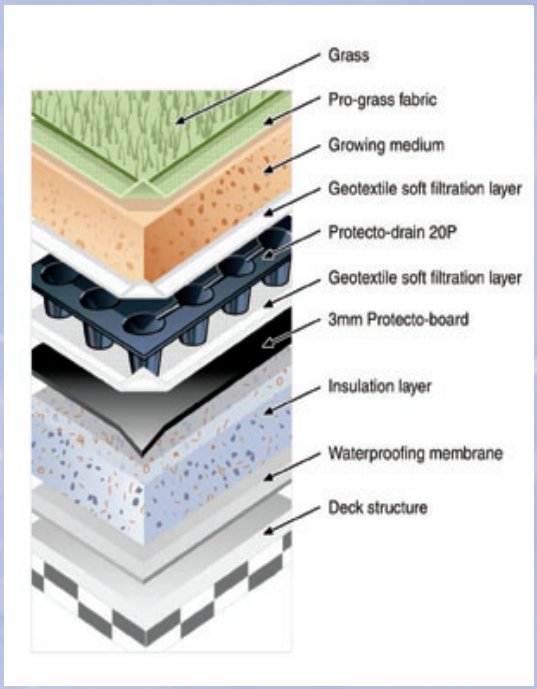
Roof gardens installed by Greenfix Skygardens

The system build up

The waterproofing membrane and insulation layer is installed, then the Wallbarn system comprises the following:-

- Wallbarn 3mm Protecto-board
- Geotextile filtration layer
- 20mm perforated Protecto-drain 20P
- Geotextile filtration and separation layer
- Growing medium (not supplied by Wallbarn)
- Pro-grass pre-seeded biotextile designed to aid the propagation of grass (to disintegrate over 3-4 months)
- Grass growth eventually covering the area (alternative vegetation can be planted)

Green roof drainage systems installed in conjunction with Wallbarn adjustable support pads under paving and decking



It is advisable that lightweight, free-draining growing substrate material is used, and the roof deck is a maximum 15 ° slope.

Our system is designed for substrates up to 200mm deep. The substrate must be an absolute minimum 50mm deep and a maximum of 200mm deep. The weight of the green roof system will depend on the type of soil and vegetation chosen. Wallbarn systems will normally have a saturated weight of around 100kg per m2; but for certain soils and plants with a 200mm substrate, the roof can have a weight of up to 250kg per m2.

IT IS ESSENTIAL TO ENSURE THAT THE ROOF STRUCTURE CAN WITHSTAND THE WEIGHT OF A SATURATED GREEN ROOF SYSTEM.

Wallbarn recommends that designers consider the factors such as roof strength and condition, access, the type of plants desired, environmental aspects and drain capacity before constructing green roofs.

Further technical details, installation instructions and alternative designs are available from Wallbarn. Please contact us to discuss your requirements in more detail.

POLYMERIC PROTECTO-BOARD

WALLBARN PROTECTO-BOARD OFFERS COMPLETE PROTECTION TO WATERPROOF MEMBRANES FROM MECHANICAL DAMAGE, PEDESTRIAN AND VEHICULAR ACCESS AND ABRASION CAUSED BY BACKFILLING.

Wallbarn Protecto-board is a tough, flexible polymeric board used for the protection of waterproof membranes against mechanical damage, pedestrian or vehicular traffic and abrasion caused by backfilling.

Made from a heavy duty polymeric compound, Wallbarn Protecto-board is high strength, water resistant and provides excellent resistance to ground salts and most corrosive chemicals.

Because of its high strength and puncture resistance, Wallbarn exceeds the performance of other protection boards on the market.

Its chemical makeup is inert, so it will not react with membranes it comes into contact with. Unlike bitumen soaked boards, there is no risk to health and safety by handling Wallbarn Protecto-board.

More flexible than other boards, it can be easily cut and shaped with a sharp knife. It can be scored and folded to fit around specific areas.

Wallbarn Protecto-board can be applied to horizontal and vertical surfaces, and is secured using tape or spot bonded using adhesive.

If liquid applied membranes are still tacky, the boards can be laid directly onto them to give a greater bond.

APPLICATIONS

Wallbarn Protecto-board is designed for use in both liquid applied and preformed sheet waterproofing membranes. It can be used in roofing and suspended slab applications. It is particularly useful for tanking and will protect against backfilling and subsequent structural settlement.

Wallbarn Protecto-board can also be used as a temporary protection layer on finished or partly finished areas such as floor tiling, internal walls, paving slabs and staircases. It is easy to move around site, to secure, and can be taken up and reused.

It is even strong enough to be used as a protection layer in heavy duty civil engineering works.

Technical data

Board Size	Supplied in standard sheets of 1m x 2m	
Thickness	1.5mm	3mm
Weight per M^2	2.6kg	5.2kg
Board weight	5.25kg	10.5kg
Water absorption % BS 2782 430A	0.4	0.4
Puncture resistance	12.5kg/cm^2	26kg/cm^2
Tensile strength	29kg/cm^2	61kg/cm^2
Impact resistance (N)	820	1600
Change in length (wet) 80° - 24 hours 1 Week	-0.4% -0.4%	-0.4% -0.4%
Change in length (dry) 80° - 24 hours 1 Week	-0.4% +1.4%	-0.4% +1.4%

BITUMINOUS PROTECTO-BOARD

WALLBARN PROTECTO-BOARD IS AVAILABLE AS A BITUMINOUS MEMBRANE, FOR USE AS A PROTECTION AGAINST DAMAGE TO WATERPROOFING.

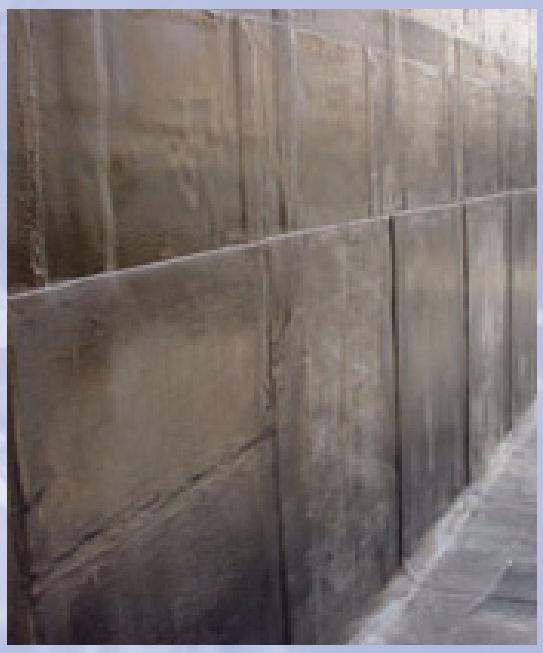
This semi flexible board is a convenient way to ensure adequate protection to waterproofing membranes against damage caused by site traffic, mechanical damage and ground settlement.

Made from a mixture of fibres saturated with at least 75% bitumen, Wallbarn Bituminous Protecto-board is completely waterproof and provides superior impact and abrasion resistance.

It is covered both sides by a polythene film, meaning it can be used on surfaces not normally compatible with bitumen. The film avoids the bitumen bleeding onto other surfaces or the boards sticking together during storage.

Our Bituminous Protecto-boards are ideal for vertical applications as they are much lighter than our polymeric material. They can also be heated with a blow torch and fixed to the substrate - the bitumen softening temporarily and bonding to it - so that the entire surface of the Protecto-board is comprehensively adhered.

By being bonded there is no risk of water, dust or other particles passing through the joints and onto the membrane beneath.



It can be easily cut using a sharp knife and shaped around particular corners and details. This is very useful for protecting membranes around things such as outlets and upstands.

Wallbarn Bituminous Protecto-board is also fixed by butting the joints together and securing with a spot bond adhesive (on verticals) or taping over the joints with a strong double sided bitumen tape (for horizontal decks).

This is useful for temporary protection, where areas need to be guarded against following trades, and the boards taken up at a later date if required.

These boards are completely waterproof and rot proof. They can be immersed in water without risk of delaminating or compromising their performance.

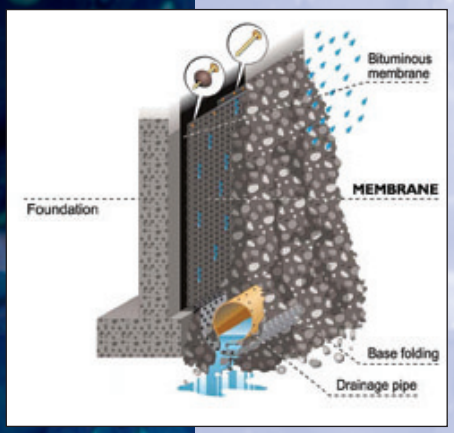
We supply Wallbarn Bituminous Protecto-board in pallets of 200 sheets as standard. It is recommended that they are stored out of direct sunlight and they are not compatible with hot membranes at temperatures above 150ºC.

PROPERTIES	TYPICAL VALUES		
Thickness	2mm	3mm	6mm
Dimensions	2x1m	2x1m	2x1m
Weight of board	5.25kg	6.5kg	13kg
Bitumen content	>75%	>75%	>75%
Softening point	115-130 Deg C	115-130 Deg C	115-130 Deg C
Penetration of bitumen compound	5-10 dmm	5-10 dmm	5-10 dmm
Polythene film	15μ	15μ	15μ
Water absorption %	Impermeable test method UNI 8202 p.21		
Static puncture resistance	Ps 4 test method UNI 8202 p.11		
Dynamic puncture resistance	PD 4 test method UNI 8202 p.12		

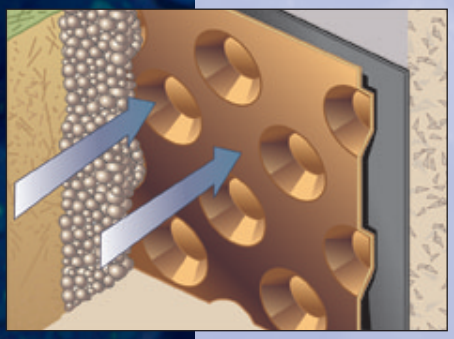
WALLBARN OFFERS STRONG, HARD WEARING PROTECTION BOARDS MADE FROM BOTH RUBBER AND BITUMINOUS MATERIALS. EVERY TYPE OF MEMBRANE TYPE AND APPLICATION CAN BE ADEQUATELY PROTECTED USING WALLBARN PRODUCTS.

PROTECTO-DRAIN

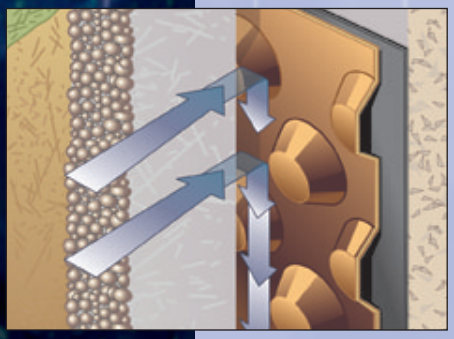
WALLBARN PROTECTO-DRAIN ACTS AS A PROTECTION AND DRAINAGE LAYER FOR FOUNDATION WALLS, SUBTERRANEAN DRAINAGE COURSES, INTERNAL WALLS AND ROOFS.



Protecto-drain 8



Protecto-drain G8



On vertical surfaces it protects the waterproof membrane from abrasion and puncture damage caused by backfilling. Its cupped structure creates a permanent air gap between the wall and the backfill which helps to reduce pressure points and helps in the ventilation of the building and problems of damp.

Protecto-drain 8 is a single membrane fixed to the wall with its cups facing towards the backfill. It spreads the weight of the soil and prevents point loading onto the structure.

It can flex and be shaped around awkward areas and details without compromising the seal, and is folded around the catchment system laid beneath which will pump or drain the water away.

Protecto-drain8 is available as a standard 550gsm membrane or in a lightweight version at 450gsm.

Because it is flexible and lightweight, Protecto-drain is easy to install. Individual sheets can be fixed together quickly either using double sided tape or with fixing studs and nails.

Because it is so strong but also so lightweight, it can be used for a vast number of applications, including temporary protection (internally and externally). It is safe with water courses, safe to dispose and can easily be taken up and reused.

Protecto-drain G8 has a 100gsm geotextile fabric bonded to one side. This gives additional protection and also helps to filter out particles but allow the water to pass through the fabric and into the air gap drainage chamber – again into the sump below.

Protecto-drain G8 is ideal for planters and tanking.

The gravity effect of the air gap behind the membrane will always encourage any water to run straight down into the drain beneath.

Protecto-drain 20 is a more heavy duty membrane. 1mm thick, it is suitable for areas requiring greater compression tolerance, impact resistance and larger volume of water drainage.

It has been used successfully on applications such as road and railway construction, bridges and tunnels and reservoirs.

It is ideal on a horizontal surface as a vapour barrier and damp-proof layer and then covered with a concrete screed.

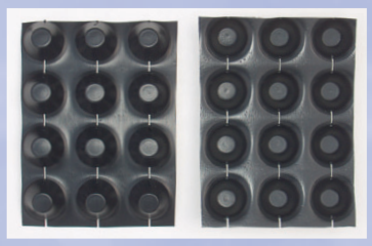
The best method to fix Protecto-drain is by fixing batons to the wall and securing the sheeting with pins and studs.

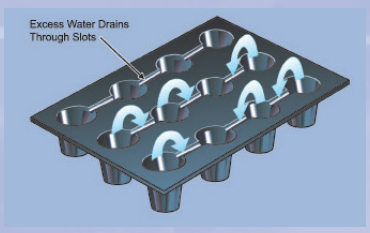
The studs are specially designed to fit into the cups. They have a hole in the middle to drive the nails or screws through and will seal the membrane around the nail fixing so no water will go into the pierced area.

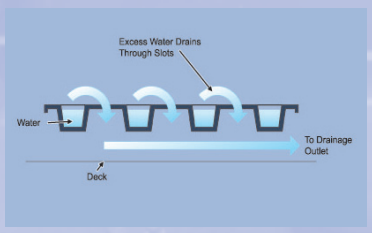
A cover profile can be fitted to the top edge of all types of Protecto-drain, which ensures ventilation of the air gap and prevents particles or water clogging the cavity.

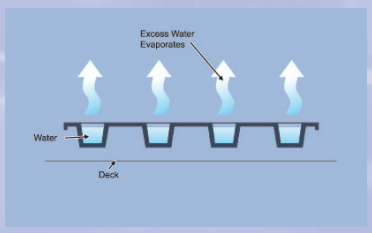
Perforated drainage sheets

Wallbarn offers a variation on its traditional drainage sheeting with its perforated range. Designed for horizontal applications, primarily green roofs, there is a small slit between each cup. Water collects in the 20mm deep cups which can be drawn back up into the green roof system above. The excess water can then run away into the drainage outlet on the roof.







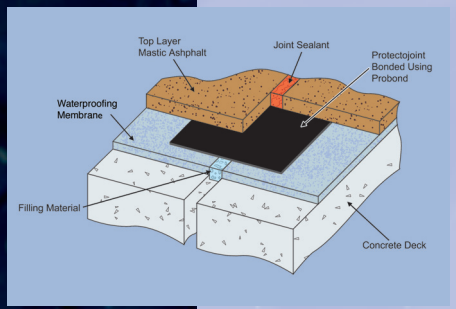


Technical data

	Protecto-drain 8	Protecto-drain 8 lightweight	Protecto-drain G8	Protecto-drain 20	Protecto-drain 20 P
Material	High Density Polyethylene (HDPE)				
Sheet thickness (approx.)	0.60mm	0.50mm	0.60mm	1mm	1mm
Density	550gsm	450gsm	550gsm	1,000gsm	1,000gsm
Compression	250kN/m2	170kN/m2	250kN/m2	180kN/m2	180kN/m2
Length	20m	20m	15m	20m	20m
Width	2m	2m	2m	1.9m	1.9m
Cup height	8mm	8mm	8mm	20mm	20mm
Air volume between cups (approx.)	5.3 l/m²	5.3 l/m²	14 l/m²	14 l/m²	14 l/m²
Horizontal drainage capacity	4.6 l/m²/s	4.6 l/m²/s	4.6l/m²/s	10 l/m²/s	10 l/m²/s
This data refers to green roofs with 5% maximum slope and minimum height substrate of 75mm. Increased growing medium and vegetation leads to slower drainage capacity.					
Water permeability	filter webbing 100 l/m2				
Temperature stability	-40°C to 80°C				
Resistance to chemicals	yes				
Biological characteristics	resistant to fungus and bacteria, rot-proof				
Physiological characteristics	completely safe with drinking water				
Disposal	safe to dispose				
Fire classification	B2 according to DIN 4102				

PROTECTO-JOINT

WALLBARN OFFERS THE SOLUTION FOR FULLY WATERPROOFING AND PROTECTING BURIED EXPANSION JOINTS, BONDING TO MOST SURFACES AND MEMBRANES EFFECTIVELY.



Wallbarn Protecto-joint is a tough, highly flexible butyl rubber membrane used for waterproofing and protecting pre-formed expansion joints on roofs, car parks and podium decks.

It has an elongation of 1,000%, far higher than many other expansion joint systems on the market, and can tolerate direct contact with hot materials such as mastic asphalt and hot rubber solutions.

Protecto-joint is ideal for buried expansion joints, roof decks and upstand flashings. It is used for trafficked surfaces and sealing joints in decks where continuous movement in the structure occurs. It can even be permanently immersed in water.

Wallbarn Protecto-joint is vulcanized and cannot be welded or heat bonded. It can be used in horizontal-to-vertical applications, or where the joints are irregular or misaligned, extremely effectively. Because it is so flexible, it can be folded and shaped around even complicated details in one seamless layer. Therefore, no weak spots are exposed in the areas where leaks most often appear.

Since installers do not need to continually fix different sections of the material or install pre-cast shapes and shape the rubber bandage, strength and seal are not compromised.

Wallbarn Protecto-joint can also be folded into C or S bends inside the joint if required due to its flexible nature.

Wallbarn Protecto-joint bonds to good concrete, fully cured asphalt, rubber, steel, aluminium and even fibreglass.

Wallbarn Protecto-joint is manufactured as standard items in 2mm or 3mm thick pre-formed sheet; 200mm or 400mm wide.

At 200mm wide we produce Protecto-joint with a punched edge, which creates an “over-and-under” bond. At other widths it is a plain bandage.

Because Wallbarn Protecto-joint is vulcanized, it cannot be welded or heat bonded.

Application

Preparation of the substrate is crucially important. Ensure that the area is fully cured, sound and free from debris. All nibs and spots on the surface beneath should be removed and the area sanded to ensure a textured, smooth surface.

- Concrete should be grit blasted or rigorously brushed. Any crumbling concrete must be repaired and cured.
- Mastic asphalt surfaces should be fully cured, and no grease or oil can be present on the surface
- Steel is best prepared by grit-blasting
- The area should be dry and frost-free
- A vacuum cleaner is recommended to remove all dust and dirt from area
- The cavity should be packed with a suitable joint filler

Prime the substrate USING ONLY WALLBARN APPROVED PRIMER.

- For concrete use Wallbarn Pro-coat epoxy primer
- For asphalt, rubber, metal and wood use Pro-coat metal primer.
- Primer should be applied at least 24 hours before installation of Protecto-joint

Protecto-joint MUST be wiped with a solvent such as Xylene or MEK to remove all traces of grease or oil on the rubber surface.This is to ensure that the bond to the adhesive is not affected in any way.

Pour the two part Pro-coat into a suitable vessel remembering not to scrape the tins out as this might affect the adhesion properties. Mix the compound with a low speed paddle drill for at least 2 minutes.

FOR FULL MIXING GUIDELINES PLEASE REFER TO THE WALLBARN INSTRUCTION MANUAL

Do not mix more than 3kg of adhesive at a time since curing times are very fast. The longer the adhesive remains in the pot the faster it will cure. If the mixture hardens in the pot or starts to smoke it cannot be used.

Spread the Pro-coat each side of the joint 50-100mm wide and 1 to 2mm thick with a trowel or spatula. The mixture will cure at a slower rate when it is spread thinly as the hardening process acts in a volume and heat process.

Avoid the use of paintbrushes as hairs can become stuck in the adhesive and affect the bond.

Roll the primed Protecto-joint strip out into the adhesive and press into the mixture, allowing it to ooze through the holes at each side of the bandage.

Press and scrape the adhesive through and around the rubber strip to achieve and over and under bond. Ensure that no bumps or air bubbles are present under the surface.

Allow 2 hours for the adhesive to cure. The adhesive will be cured “to touch” after 90 minutes and ready for traffic after approximately 3 hours (depending on the thickness applied and the surrounding temperature).

For faster curing times, heaters and UV lamps can be used. FOR FULL CURING INFORMATION PLEASE SEE THE INSTRUCTION MANUAL.

The waterproofing membrane can then be installed across the surface up to the joint. For asphalt surfaces, the second layer can be laid on top of the rubber strip allowing for the expansion joint cavity, with a second layer of Protecto-join bonded on top. Alternatively, finishes such as paving or car park toppings can be installed.

Joint sealants for vertical and horizontal applications are recommended. Only Wallbarn approved adhesive, joint sealants, primers and waterstops should be used with Protecto-joint.

FULL INSTALLATION INSTRUCTIONS ARE GIVEN IN THE OFFICIAL WALLBARN MANUALS. PLEASE SPEAK TO US FOR FURTHER DETAILS.

Technical data

	200mm wide	400mm wide	Test method
Tensile strength	10.2 N/mm	13.4 N/mm	ASTM D51-A
Elongation at break	1,143.6%	1,050.4%	ASTM D751-A
Temperature tolerance	Up to 220°C (constant application of heat)		
Force at breakage	310 kN	315 kN	BSEN ISO 10321 (speed 20mm/min)
Suitable substrates for use with metal primer	Asphalt, steel and fibreglass		
Suitable substrates for use with epoxy primer	Concrete		
Adhesive	Wallbarn Pro-Coat		
	Please see instruction manual for installation		
Window for use	20 mins at 23°C		
	4 mins at 50°C		
Curing time (manageable)	2-3 hours		
Curing time (fully cured)	5 days		
Maximum strength set time	20 days		
Adhesive strength to concrete	2.8 MPa	SIS 16 22 18 (Sweden)	
Coverage	5 lineal metres per litre based on 50mm each sides of joint		
	2.5 lineal metres per litre 9based on 100mm each sides of joint		
Joint sealant	Approved by Wallbarn only		

PRO-COAT

WALLBARN OFFERS A NEW WATERPROOFING MEMBRANE INTO THE UK MARKET, MADE FROM RECYCLED MATERIAL THROUGH STRATEGIC PARTNERSHIPS WITH APPROVED CONTRACTORS ONLY.

Pro-coat is a polyurethane and rubber based compound which is spray applied and solvent free. It was developed for the military and marine industries as an anti corrosion coating; but it is proving equally as useful in the structural waterproofing sector.

Pro-coat delivers a one-coat solution, offering superb performance against water ingress and damp, corrosion, impact and abrasion, vibration and heat variation.

It is extremely tough and flexible, able to withstand vehicular traffic and even military tanks. It can be used roof and structural waterproofing, tanking, bridge decks, expansion joints, car parks and as a hard wearing floor surface for walkways and station platforms.

Pro-coat is a truly sustainable product since half of the material - the rubber crumb component - is made from 100% recycled car tyres. Furthermore, the rubber crumb is made in a special cryogenic process; so by freezing rather than heating the material, less pollution and energy is produced during manufacture, making Pro-coat one of the most environmentally friendly waterproofing membranes on the market.

It is easy and fast to apply using specialised spraying equipment. Very large or awkward areas can be applied without problem.

It is sprayed at 60°C which means it is considerably safer to use than some other super-heated membranes on the market. It is completely solvent free, making it ideal for applications indoors or in confined spaces.

It is very fast to cure, being “dry to touch” within 90 minutes and “dry to handle” within 120 minutes. For even faster curing, UV heat lamps can be used. Providing the substrate is dry when the membrane is applied, once the curing process starts, it will even set in damp or wet weather.

It can be hand applied, and can be produced in a thixotropic version for vertical applications, where it can be applied up to 8mm thick without sagging.

L I M I T E D

Pro-coat is applied in one seamless coat usually 3-4mm thick; and adheres to many surfaces, including concrete, steel, aluminium, wood, rubber, fibreglass and prepared asphalt.

It is sold in a standard black colour. Shades of dark or light grey, green or red/brown are also available. Mineral or metal granules can be added to provide a non-slip finish, ideal for flooring and walkway construction.

Pro-coat has undergone over 100 independent tests in Europe and Japan on a variety of application criteria. It has Swedish railway, highway and naval approval; it has been approved by both NATO and UK MoD and has IMO fire & gas certification.

In Sweden it has been used as an anti-corrosion coating on the undercarriages of Fast Trains and national rolling stock since 1988 and has never required repair or replacement.

It has been used as a protective layer on gun turrets on Swedish navy decks since 1986 and has never required repair or replacement.

We are currently in the process of gaining a BBA Certificate for construction and waterproofing.

A SUMMARY OF THE TECHNICAL DETAILS ARE GIVEN BELOW:-

Coverage	1 kg per m2 per mm thick	Test Method
Tensile strength	65	SIS 16 22 01 (Swedish Institute) - comparable to ISO 48
Temperature tolerance		
- High temperature	150 C	SIS 18 52 05 (Swedish Institute)
- Low temperature	Becomes brittle at -20 C	SIS 16 22 11 (Swedish Institute) - comparable to ISO 812
Abrasion resistance		SIS 92 35 09 (Swedish Institute) Tabor abrasion, Frick method
Rubber crumb maximum particle size	0.2mm	ISO 9001 - 14001
Flexibility	at least 315 kN	BSEN ISO 10321 (speed 20mm/min)
Adhesion to substrates		
- Concrete	2.8 MPa	SIS 16 22 18 (Swedish Institute) - comparable to ISO 814
- Metal	4.2 MPa	SIS 16 22 18 (Swedish Institute) - comparable to ISO 814
- Asphalt	Test ongoing	
- reinforced polyester	2.1 MPa	SIS 16 22 18 (Swedish Institute) - comparable to ISO 814
- Wood Ñ at 2mm thick	2.2 MPa	SIS 16 22 18 (Swedish Institute) - comparable to ISO 814
- to itself (when primed)	3 MPa	SIS 16 22 18 (Swedish Institute) - comparable to ISO 814
Window for use		
Curing time at 20 C (manageable)		2-3 hours
Curing time at 20 C (fully cured)		5 days
Maximum Strength Set Time at 20 C		20 days
Epoxy primer		for concrete and wood
Metal primer		for steel, aluminium and asphalt

FOR FULL DETAILS WITH TEST CERTIFICATES, APPROVALS, INSTRUCTION MANUALS AND A LIST OF APPROVED APPLICATORS PLEASE CONTACT WALLBARN

GEOTEXTILE FABRICS

WALLBARN PRODUCES A RANGE OF GEOTEXTILE FABRICS FOR USE IN DRAINAGE, FILTRATION AND SOIL STABILISATION.

Wallbarn has a wide variety of different fabrics on offer, manufactured in many different densities and strengths, from either polypropylene, polyester or compound mixtures.

Geotextile fabrics provide an excellent separation layer for soil stabilistation and land drainage.

Water can pass through the fibres at different speeds, depending on the density of the fleece. The soil and other particles will remain in place, avoiding waterlogging and subsidence; giving a dryer, stronger and more stable ground base for construction.

Wallbarn can supply geotextile fabrics in a large variety of roll sizes, from 1 metre wide for small or restricted access areas (particularly roofs); up to 6 metre wide rolls for very large projects.

These large rolls make installation faster and easier, since less individual rolls mean fewer joints to seal and less overlap at the joints is required, leading to less material wastage. Fewer joints also lead to a stronger overall system.

Our non-woven, high tensile fabrics are made from the best quality raw materials and manufactured to the highest standards, which provide uniform and consistent strength throughout the roll, so no weak spots will appear.

Our Geotextile fabrics are suitable for many purposes, including:-

- Filtration and separation for landfills and reservoirs
- Soil stabilistation beneath building construction
- Stabilistation and erosion control in highway banks, cuttings and watercourses
- Filtration and protection for tunnels and bridges

The insulation boards within inverted roofing systems often require a separation and protection layer to prevent damage from the paving slabs or other coverings.

Higher density geotextile fabrics are also used as a protection layer on top of waterproofing membranes to prevent them being damaged during the construction process. It can be rolled out and taken up as a temporary protection, or fixed permanently.

- Reinforcement of aggregates in road and rail construction
- Separation and protection layers for waterproofing layers
- Filtration and separation layers as part of green roof systems

Technical data

Wallbarn thermally bonded nonwoven polypropylene

Mass - g/m2	100	150	200	300	500	800	1000	1200	Test Method
Permeability - mm per second	80	69	68	47	25	18	16	14	EN ISO 11058
Pore size - µm	89	70	60	<49	<32	<28	<25	<23	EN ISO 12956
Static puncture test (CBR) kN	1.1	1.7	2.4	4	6	8	10	11	EN ISO 12236
Dynamic puncture test (cone drop) kN	38	30	20	8	3	1	0	0	EN 918
Wide width tensile strip - elongation	52%	55%	60%	70%	70%	70%	80%	80%	EN ISO 10319
Tensile strength - kN/m	6	11	14	22	34	48	65	75	EN ISO 10319
Roll width			1 - 6m			1 - 4.5m			
Roll length (max)	170m	120m	100m	80m	50m	40m	20m	25m	
Thickness (mm)	0.65	0.9	1.2	1.8	3.5	4.5	5.5	6.5	EN ISO 9863-1
Colour					White				
Roll weight kg (max)	102	108	120	144	156	192	135	135	
Weather resistance			Cover within 15 days						EN ISO 12224

We can supply different fleece material depending on the requirement of a client.

Where filtration is required but strength is not so much of an issue, Wallbarn can supply a second strength polypropylene at a much more competitive price.

Further materials are available, including a compound of polypropylene and polyester, black coloured and temperature resistant materials.

Wallbarn can supply a sustainable material in the form of RECYCLED POLYESTER MATERIAL.

Our recycled polyester fabric is proving very popular with the designers and applicators of sustainable construction projects particularly within green roof and bio-diverse roof systems in conjunction with our other sustainable products on offer.

PRO-GRASS

Wallbarn pro-grass biotextile is an ingenious new way to promote growth of grass and other plants on landscaping or roof gardens.

Pro-grass is a biodegradable fabric, pre-sown with seeds and granulated fertilizer which is laid onto prepared soil, helping to establish plant growth in often hard to sow areas.

In areas such as road cuttings, river banks and roof gardens, sowing seeds in awkward areas can often prove difficult.

This lightweight, flexible fabric is simply laid onto the soil and secured to stop wind uplift.

The seed mix contained within the biotextile fabric will germinate whilst being protected from the elements and birds, enabling a stronger, more consistent growth of grass.

It also leads to a faster, easier way of sowing seeds on large landscape areas, such as golf courses, parks and lawns.

Because the seed mix and fertilizer is impregnated into the fabric, there is little risk of erosion. Therefore, lush vegetation growth can be achieved even on very steep slopes.

Application:

- Prepare the ground as with traditional sowing – remove weeds, break up soil and level the surface
- Water the soil lightly
- Lay Pro-grass over the soil. Staple fabric down
- Cover fabric with a thin layer of topsoil / sand up to 3mm thick
- Water daily until germination takes place
- Maintain grass as normal once it reaches approximately 10 cm in height

The fabric itself acts as a mulch in the early stages of germination; and will degrade over a period of four to five months, by which time the grass will be properly established into the soil.

Wallbarn Pro-grass can be manufactured with either a rye grass or wild flower seed mix as standard.

For more demanding climate conditions or specific vegetation specifications designers can select their own “bespoke” seed mix for inclusion in the material (subject to technical approval from our landscaping advisors).

Technical data

Weight	100gsm fabric (excluding seeds)
	17kg per 100m²
Thickness	3mm
Roll dimensions	0.7 x 74.5m (50m²)
	1.05 x 94m (100m²)
	2.1 x 70m (150m²)
Colour	Green as standard
Breaking load	approx 7kg longitude
	approx 8kg traversal
Composition	Cellulose fibres, Anderson 18-24-12
fertilizer	
Germination	At least 95% of the area

GEOGRIDS

WALLBARN SUPPLIES A NUMBER OF DIFFERENT TYPES OF GEOGRIDS DESIGNED TO HELP SOIL FILTRATION AND STABILITY FOR MORE HEAVY DUTY PROJECTS, SUCH AS ROAD BUILDING, EMBANKMENTS, RESERVOIRS AND LANDFILLS.

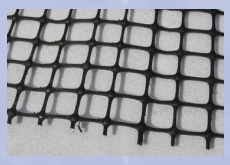
Geogrids are used on civil engineering and road construction projects to provide strong and rot-free sub base layers. For initial site access roads, or where the ground below has low or irregular load bearing capacity, or is sloping; a variety of different geogrids are available to reinforce the soil structure.

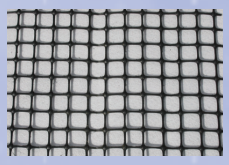
They have high tensile strength, so can tolerate a larger degree of compaction to the soils and aggregates placed above, thereby helping to create a harder, stronger upper layer. The net shaped grids help to hold the filling material together (on horizontal and sloping surfaces) which prevents erosion of the fill material above and subsidence of the soil below.

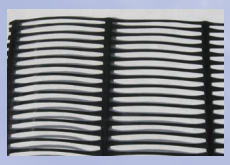
They can be used on many types of filling material - be that crushed earth and hardcore beneath; or hardcore, concrete and tarmac on top. By using geogrids, contractors can build base reinforcements in areas where traditional earth structures would be difficult; such as moorland and waterlogged land, steep slopes and soft ground.

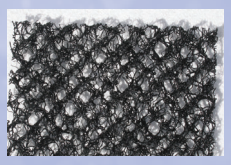
Geogrids lead to easier, faster and more cost effective installation of ground reinforcements.

Wallbarn can supply a large range of different geogrids; with thickness, material and mesh size depending on tensile strength, flexibility and filling material required.









LANDFILLS & RESERVOIRS

For extra protection and water or vapour management in landfills and reservoirs, our mono-entangled mesh, with geotextile bonded each side can also be used.

This creates an additional filtration and water re-direction layer from above, placed above the waterproof membrane. Where it is laid on the horizontal surface to a fall, moisture will flow down through the geotextile and into the mesh, where it will form into droplets and run sideways into the drainage outlet.

Within a landfill, placed beneath the capping membrane, the mono-entangled mesh acts as an air gap, with vapour penetrating the geotextile (which prevents solids passing through) and flowing through the mesh structure sideways towards the vapour escape vent.

By using geogrids, contractors can ensure stable foundation layers use less fill material, smaller excavations and have a longer design life, all of which lead to cost savings. For technical details on our products, please contact the sales team.

PROJECTS

Wallbarn has been involved in the manufacture and supply of top quality materials to the waterproofing industry for over 25 years.

It has worked in partnership with some of the leading distributors and contractors in the field on projects including:

Kensington Palace
Emirates Stadium, Arsenal FC
Canary Wharf
Paternoster Square
New Bull Ring, Birmingham
Goodwood Motor Racing Circuit
Imperial Wharf, Fulham
Gunwarf Quay, Portsmouth
Bluewater Shopping Centre
BBC Television Centre. White City
Scout Moor Wind Farm, Lancashire
Liverpool One, Liverpool
Dickens & Jones, Regent Street, London
Houghton Hall, Norfolk
St George Wharf, Vauxhall, London
Paddington Basin, Paddington, London
Plantation Place, Fenchurch Street
Green Park Retail Park, Reading
Arcadia, Cambridge
Quakers Friars Shopping Centre, Bristol
University of Brighton

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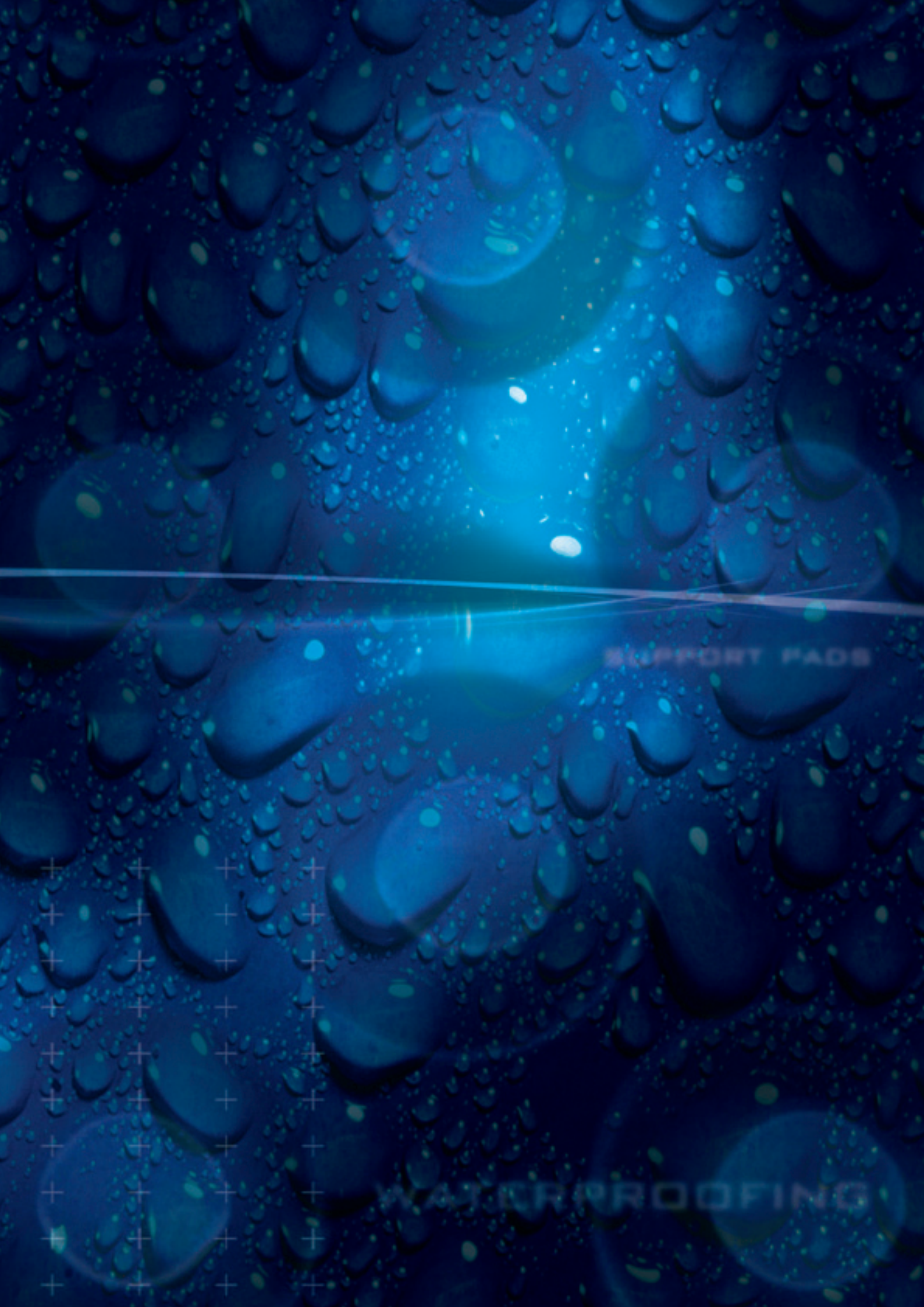
SUPPORT PADS
WATERPROOFING

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