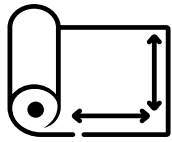


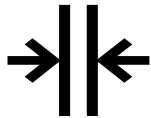
RHINOPLAST 400 EXTRA RADON BARRIER

High performance Radon gas barrier & damp proofing membrane designed for line out installations as part of a basic and full radon protection.

PrinciPal
BUILDING PRODUCTS



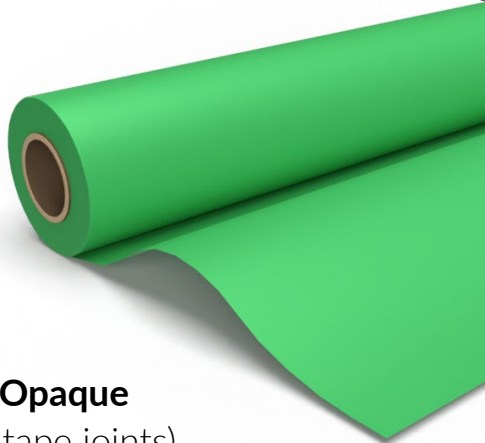
4m x 20m



400µm

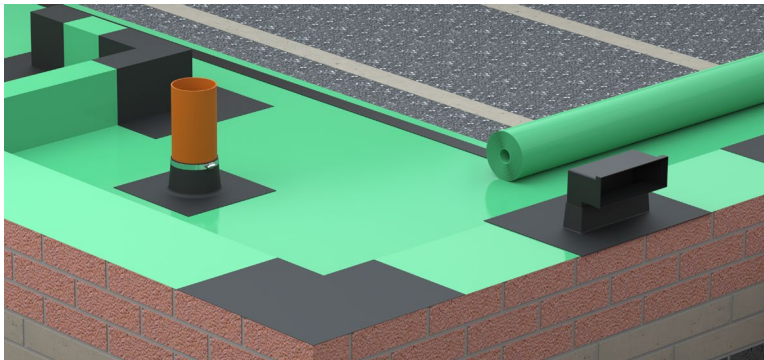


Green Tint Opaque
(To identify tape joints)



Application

- To prevent the ingress of radon in both basic and full radon protection areas.
- Positioned within the ground floor construction
- Robust to install above and below structural floor
- Suitable for 'line-out' installations to blanket the entire footprint of the building and reduce joints



- ✓ Supplied centre fold to achieve a lay flat surface
- ✓ Robust membrane with a high resistance to damage and puncturing
- ✓ CE marked for water proofing to harmonised standard EN 13967:2012+A1:2017
- ✓ Conforms to the technical guidance required of NHBC
- ✓ Meets guidance set out within BRE BR211 (2023) - 6.2.1 Barriers
- ✓ Excellent heat welding characteristics
- ✓ Produced from virgin grade polyethylene's
- ✓ Preformed accessories available
- ✓ Taped system for easy cold applied installation

Web: www.pbpltd.co.uk | Tel: 01709728150

Principal Building Products Ltd, Barbot Hall Ind Est. Mangham Road, Rotherham. S614RJ

Technical Background

Radon is a radioactive gas, it is a colourless, odourless naturally occurring and we can't see, smell, or taste it. This gas is prevalent in granite areas but can occur almost anywhere and all new sites should be checked against the radon potential map for Great Britain to understand the measures required. It is widely held that exposure to high levels of radon can cause lung cancer, Radon produces tiny radioactive particles in the air we breathe from granite that is naturally rich in uranium, but the radon level in the air we breathe outside is very low but can be higher within confined spaces inside buildings.

Radon specific membranes are designed to protect structures and inhabitants from the effects of these gasses by forming a barrier and will also act as damp proof membranes for waterproofing and will last the lifetime of the building.

With the increase in awareness of such gasses, along with more and more stringent requirements, it is becoming increasingly important for contractors to use "fit for purpose materials" in the secure knowledge that they will perform satisfactorily.

The basic radon protection to the structure is by way of a complete "footprint" membrane system that when combined with underfloor passive venting (either a radon sump or a ventilated subfloor void) that can be activated with the addition of a fan to offer full radon protection if required. The key to a successful outcome is good installation and attention to the details, even the best membranes poorly installed are likely to fail.

Technical Data

Material Properties			Test Method	Value	
Thickness	Membrane		DIN EN 1849-2	0.4mm	
Material			Polyethylene	PE	
Colours	Membrane			Green Tint	
Width			DIN EN 1848-2	4m	
Length			DIN EN 1848-2	20m	
Area/roll			4m x 20m	80m ²	
Mass (combined)			DIN EN 1849-2/ISO 9864	375g.m ²	
roll weight				30kg	
Reaction to fire			EN 13501-1	F	
Water tightness @ 2kPa			DIN EN 1928	Watertight	
Resistance to impact			DIN EN 12691 – 350mm drop	Watertight	
Resistance to static loading			DIN EN 12730	20kg (Pass)	
Durability against thermal ageing			DIN EN1928	Watertight	
Durability against chemicals			DIN EN 1847/DIN EN 1928	Watertight	
Tensile strength	MD	CMD	DIN EN 12311-2/DIN EN ISO 291-23/50-2	21.5MPa	29.4MPa
Elongation	MD	CMD	DIN EN12311-2/DIN EN ISO 291-23/50-2	>800%	>800%
Tear resistance -nail shank	MD	CMD	DIN EN 12310-1/DIN EN ISO 291-23/50-2	248N	303 N
Shear resistance of tapped joint seam – 50mm double sided/75mm Reinforced single sided			DIN EN 12317-2	228 N/50mm	166 N/50mm
Water vapour permeability			DIN EN 1931 – Method B	0.16g/m ² /day	
Radon permeability			SP Method 3873	4·10 ⁻¹² m ² /s	

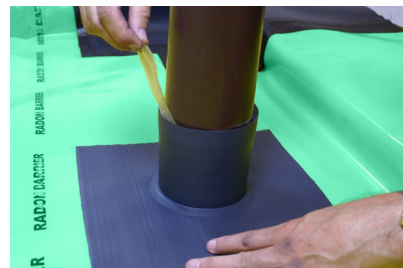
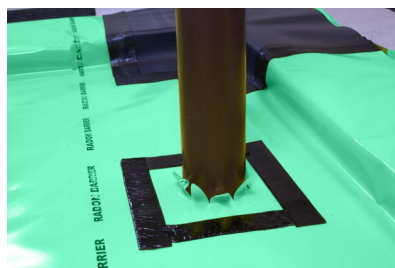
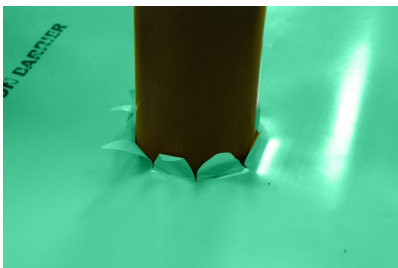
Installation Guide

- Prior to installation the application surface needs to be cleaned from sharpe and protruding objects to reduce risk of damage, for some applications soft sand blinding or fleece may be required for bedding membrane
- The membrane to be rolled flat with no folds or creases over the main surface area.
- All lap joints to be completed as works proceed lapping at least 100mm.
- For taping apply continuous run of double-sided tape between membrane layers within the overlap area and then compress with roller for uniformed seal
- Girth tape should be applied to sealed laps to overseal and reduce exposure to open edge and remove risk of separation during concrete pour
- If welding preferred, ensure completed by suitably skilled and/or qualified tradesperson
- Junctions and service penetrations can be formed with accessories, including corners, top hats, and pile collars, and sealed with tapes or welding.

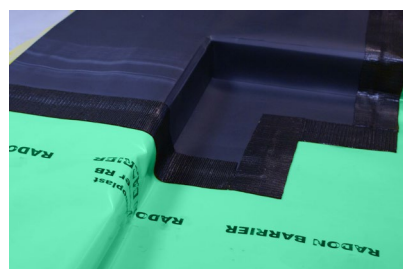
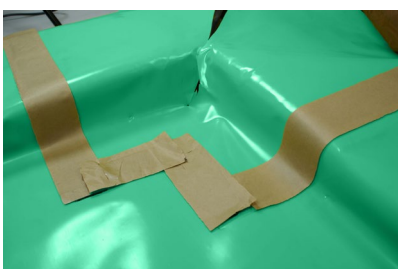
Jointing and Detailing – In Line Joints



Jointing and Detailing – Service Pipe Penetrations



Jointing and Detailing – Internal Corners



Product Range & Accessories

- Our Technical Department is available to advise on individual projects and to prepare or assist in the preparation of schedules and issue drawings.

Description	Roll width	Length	Thickness	M ² /roll
Rhinoplast 400 Extra Radon Barrier	4m	20m	0.4mm	80m ²
Rhinoplast Reinforced Single Sided Detail Strip	75mm	20m		
LT Jointstrip Double Sided Tape	50mm	15m		
Rhinoplast high tack girth tape	75mm	50mm		
Gas Resistant Detailing Wrap	300mm	20m		
Radon Sump	420mm x 420mm x 230mm			
Telescopic Vent Top Hat	425mm x 300mm			
Top Hat Pipe Collar - Flexi or Rigid	Ø50mm	Ø110mm	Ø135mm	Ø160mm
Overall Cavity Wall Options – 300mm/325mm/350mm	Size variation - Rise			
Gas Barrier Internal 90° Corner	75mm	150mm	225mm	
Gas Barrier External 90° Corner	75mm	150mm	225mm	
Gas Barrier Step Door Cloak Pair	75mm	150mm	225mm	
100mm Load Bearing Wall	Size variation - Rise			
Gas Barrier Load Bearing Wall Corner	75mm	150mm	225mm	
Gas Barrier Load Bearing Wall T Junction Single Skin	75mm	150mm	225mm	
Gas Barrier Load Bearing Wall T Junction Double Skin	75mm	150mm	225mm	
Gas Barrier Load Bearing Wall End Cap	75mm	150mm	225mm	
Separating/Compartment Wall				
Separating Wall T Junction Double Skin	Special detail			
Perimeter T/Frame Trays – various cavity options	Size variation - Rise			
Preformed Perimeter T/Frame Linear trays – 2mtr	75mm	150mm	225mm	
Gas Barrier T/Frame Internal 90° Corner	75mm	150mm	225mm	
Gas Barrier T/Frame External 90° Corner	75mm	150mm	225mm	
Telescopic Vent T/Frame Top hat	75mm	150mm	225mm	

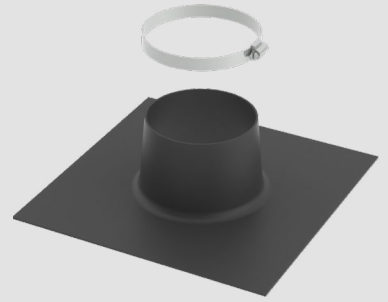
Top Hat Pipe Collar

Top Hats are used around service pipe penetrations to provide an effective gas tight seal. The base of the pre-formed unit should be sealed using Rhinoplast LT Jointstrip and overtaped at the edges with Girth Tape. A stainless steel Jubilee clip is available for the collar. Airtight seals should be formed around all service entry points.

Available Sizes

50mm, 110mm, 135mm, 160mm

Available in rigid and flexible types.



Radon Sump

The Radon Sump is manufactured by a rotational moulding process from heavy duty polythene. The Sump is constructed with a solid roof and base and is provided with 40mm diameter holes in the walls.

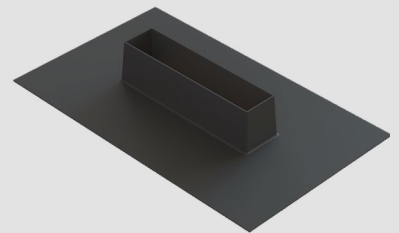
Spigots for 100mm pipe connections are provided at each end of the sump but are blanked off with knock outs to allow choice of direction for extract pipe.



Telescopic Vent Top Hat

Designed to ease installation around complex underfloor ventilators in masonry construction by reducing the amount of detailing and taping required, preformed to simply cap over ventilators, manufactured from gas resistant DPC, standard cloaks available from stock.

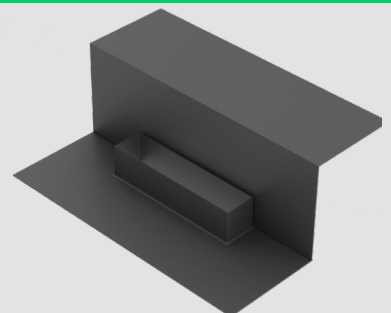
Bespoke options available and designed from our in-house design team.



Telescopic Vent T/Frame Top Hat

Designed to ease installation around complex underfloor ventilators in timber frame construction by reducing the amount of detailing and taping required, preformed to simply cap over ventilators, manufactured from gas resistant DPC, standard cloaks available from stock.

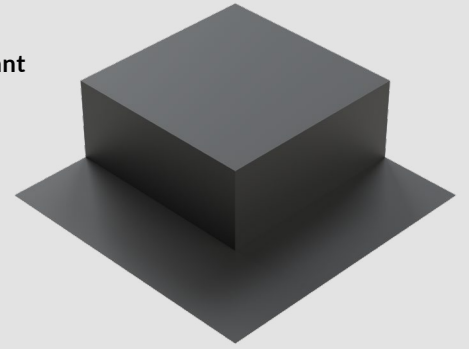
Bespoke options available and designed from our in-house design team.



Gas Barrier External 90° Corner

Designed to ease installation by reducing the amount of detailing and taping required, preformed to simply cap off cavity wall external corners, manufactured from gas resistant DPC, standard cloaks available from stock.

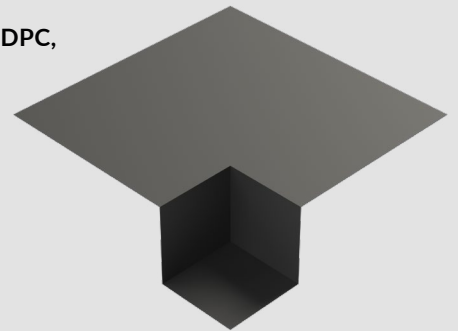
Bespoke options available and designed from our in-house design team.



Gas Barrier Internal 90° Corner

Designed to ease installation by reducing the amount of detailing and taping required, preformed to simply cap off cavity wall internal corners, manufactured from gas resistant DPC, standard cloaks available from stock.

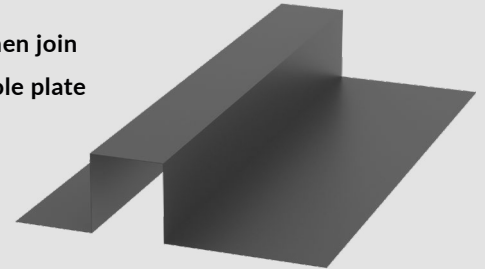
Bespoke options available and designed from our in-house design team.



Preformed Perimeter T/Frame Linear trays – 2mtr

Preformed from rigid material to allow perimeter protection for early installation to then join gas barrier membrane at a later stage, designed to cap over foundation block below sole plate to allow ventilated airspace. Manufactured from rigid HDPE.

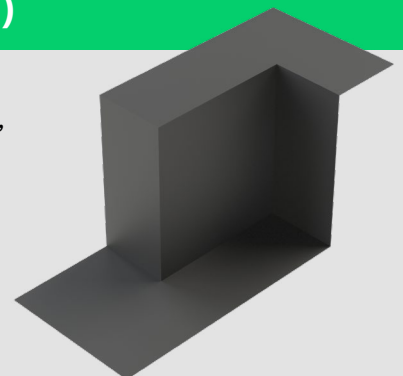
Bespoke options available and designed from our in-house design team.



Gas Barrier Step Door Cloak Pair (LH illustrated)

Designed to ease the installation and preformed to cap off cavity wall at reveal openings, manufactured from gas resistant DPC, standard cloaks available from stock.

Bespoke options available and designed from our in-house design team.



LT Joinstrip double sided tape - for sealing lapped joints

A butyl modified double sided bitumen tape, 1.5mm thick. Designed to form a gas tight gasket. Excellent adhesion and tolerance to damp and cold conditions.

Colour: Black

Available in 50mm x 15m rolls, and 100mm x 15m rolls.

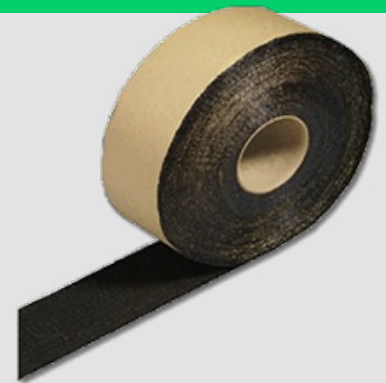


Rhinoplast Reinforced Single Sided Detail Strip

A butyl modified reinforced single sided bitumen tape, designed to reinforce details such as difficult folds and pre-formed cloaks. Acts as a secondary gas seal. Excellent adhesion and dimensionally stable.

Colour: Black

Available in 75mm x 15m rolls.

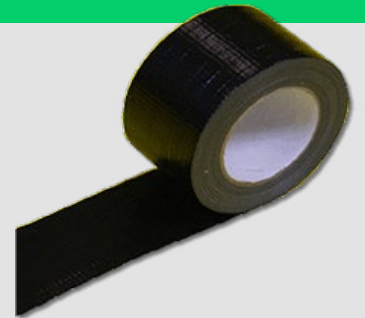


Rhinoplast high tack girth tape

A single sided girth tape used to secure and protect, linear joints. Excellent adhesion, dimensionally stable and water resistant.

Colour: Black

Available in 72mm x 50m rolls



Gas Resistant Detailing Wrap

A tape constructed from an aluminium/polythene laminate coated on one surface and a bitumen-polymer adhesive compound. Uses include gas proofing of landfill sites, radon affected areas and redeveloped contaminated sites, water proofing foundation, basement roofs and plaza decks, lift shafts, pits, carpark decks and subways.

Roll size: 300mm x 20m

