

## CONTENTS

SUMMARY OF FEATURES .....	2
TECHNICAL INFORMATION .....	2
Product Description .....	2
Applications .....	2
Product Information .....	2
Handling & Storage .....	5
Technical Data .....	5
Installation Information .....	6
Size Range Available .....	7

## SUMMARY OF FEATURES

- Breather type building paper manufactured from bitumen impregnated paper.
- Used in the roof cavity as a second line of defence against moisture and drafts.
- Also provides temporary weather protection prior to the application of wall cladding or roofing material.
- Fully self-supporting - can be attached directly to framing and used without netting.
- May be used unsupported up to a maximum span of 1200mm.
- Printed with laying lines for ease of installation.
- Suitable for use in Building Wind Zones of NZS 3604: 2011 up to, and including, 'Extra High'.
- Complies with NZS 2295: 2006.
- Meets the requirements of NZBC Acceptable Solution E2/AS1, Table 23.
- Complies with the requirements of AS/NZS 4200.1: 1994 Pliable Building Membranes and Underlays.
- Kiwi made.

## TECHNICAL INFORMATION

### Product Description

Pauloid Roofing Underlay and Valley Guard are bitumen impregnated kraft based, self supporting paper products. The width of the rolls varies, dependent on the application.

### Applications

Pauloid Bituminous Roofing Underlay is supplied in rolls ready for use in roof spaces. They are breather-type for use in controlling moisture and air movement beneath roof claddings in timber and steel frame buildings.

Pauloid Bituminous Valley Guard is a 300mm wide bituminous underlay specifically designed to go under the valley flashing, from the ridge line down to the gutter. This is to guard against moisture from this area.

### Product Information

Pauloid Bituminous Roofing Underlay and Valley Guard papers are breather-type roofing underlays for use in timber and steel frame buildings, to provide the following functions:

- Protection against occasional leakage through exterior claddings.
- Control over the movement and accumulation of moisture arising from construction and internal sources. (Allows water vapour to escape and absorbs temporary condensation).
- Control of air leakage and dust infiltration due to wind.
- Temporary weather protection.

Where used to provide temporary weather protection it should not be relied upon to provide protection against severe weather conditions or to protect water sensitive materials. In all cases ensure the framing is clad as soon as possible to avoid damage to the underlay. Prior

to installing the cladding system, any such damage must be repaired in accordance with the manufacturer's instructions.

The Pauloid range consists of standard weight and heavy weight bituminous building paper, self support bituminous roofing underlay and valley guard paper, which are for use in wall cavities behind suitable claddings and as roofing underlay beneath suitable roof claddings. Suitable wall or roof claddings are those defined by Section 8 and 11 respectively of NZS 3604: 2011 and include the claddings stated in this technical information sheet. The uses for each of the products are summarised in Table 1.

Pauloid Bituminous Roofing Underlay is suitable for use in Building Wind Zones of NZS 3604: 2011 up to, and including, 'Extra High'.

Thick lightweight and heavyweight claddings are typically more than 10mm thick and include bevel backed weatherboards, solid plaster finishes and masonry veneers. Sheet claddings include fibre cement board, plywood and corrugated steel.

Lightweight claddings are typically less than 10mm thick and include PVC, steel and aluminium weatherboards and wall shingles. Unitised claddings include shingles and other small cladding units.

**Table 1. Pauloid Bituminous Building Paper and Roofing Underlay Use Chart.**

Location	Cladding Type	Sheathing Type for NZS 3604 Wind Zones				
		L	M	H	VH	EH
Wall	Where there is an effective barrier to air leakage: thick light weight, heavy weight and sheet claddings	PS	PS	PH or PR/PV	PH or PR/PV	PH or PR/PV
	Where air leakage is significant: light weight, unitised or semi-sealed claddings	PH or PR	PH or PR	SS	SS	SS
Roof	All types	PS	PH	PH or PR/PV	PR/PV	PR/PV

## NZS 3604 Wind Zones

L – Low, M – Medium, H – High, VH – Very High, EH – Extra High.

## Sheathing Type

**PH** Pauloid Bituminous Heavy Weight Building Paper.

**PR** Pauloid Bituminous Roofing Underlay.

**PV** Pauloid Bituminous Valley Guard.

**SS** Solid sheathing (Refer paragraph 8.6 of NZS 3604) or two layers of PH or PR backed by Bayonet Premium-6 Hexagonal Wire Netting.

Semi-sealed claddings include rusticated weatherboards, timber board and batten, fibre cement plank, and vertical shiplap boards. In NZS 3604 High to Very High Wind Zones, all these cladding types are required to be backed by solid sheathing (SS), such as plywood or, two layers of heavy weight building paper backed by Bayonet Premium-6 Hexagonal Wire Netting (maximum mesh size 75mm). Roofing underlay may be substituted for heavy weight building paper.

Where adverse site weather conditions or a long exposure time (up to 4 weeks) is expected, Pauloid Bituminous Roofing Underlay should be used.

When Pauloid Bituminous Heavy Weight Building Paper is used as a roofing underlay, it must be supported by Bayonet Premium-6 Hexagonal Wire Netting. Alternatively other suitably durable corrosion resistant material e.g. Kiwimesh, at a maximum spacing of 300mm must be used.

When used in cavities behind wall cladding, or as underlay beneath roof cladding in accordance with Paul Industries' instructions, Pauloid Bituminous Building Papers, Roofing Underlay and Valley Guard, will meet the performance requirements of NZBC B2.3(c) 15 years.

When installed in accordance with the Paul Industries' instructions, Pauloid Bituminous Roofing Underlay has an expected serviceable life as indicated in Table 2.

The serviceable life ratings given in Table 2 apply to Pauloid Bituminous Building Papers, Roofing Underlay and Valley Guard, installed in a wall or roof cavity in accordance with the use requirements of Table 1 where the wall or roof cladding is well maintained, the building paper or roofing underlay is subject to occasional wetting only, is not exposed to relative humidity in excess of 90% for sustained periods and is exposed, before closing in, to moderate weather conditions only, for not more than four weeks.

**Table 2. Serviceable Life for Pauloid Bituminous Standard Weight & Heavy Weight Building Papers.**

Location	Situation	Serviceable life (years) for all NZS 3604 Wind Zones where cladding is:	
		Dark Coloured	Light Coloured
Walls	Behind light weight, unitised or semi-sealed claddings on walls facing north, west or east	15	50
	Behind light weight, unitised or semi-sealed claddings on walls facing south	50	50
	Behind thick light weight, heavy weight and sheet claddings on walls facing any direction	50	50
Roof (Under all cladding types)	Supported by wire netting	50	50
	Supported by framing or other suitable durable corrosion resistant material at 300mm centres	35	50
	Unsupported spanning up to 1200mm (underlay only)	For the life of the roofing material	

When Pauloid Bituminous Roofing Underlay is used in buildings without ceilings and supported at a maximum of 300mm centres, a serviceable life of 25 years can be expected when adequate protection from physical damage is provided.

The provisions of NZBC C1.3.2 will be met when Pauloid Bituminous Roofing Underlay is separated from flues, chimneys, and fuel burning appliances in accordance with the requirements of Acceptable Solution C1/AS1 for the separation of combustible materials.

When Pauloid Bituminous Roofing Underlay is used and installed behind a suitable cladding in accordance with the provisions of this technical information sheet, the performance requirements of NZBC Clause E2.3.2 will be met.

Pauloid Bituminous Roofing Underlay will meet these requirements by acting as a wind barrier, thereby minimising the entry of water, and by forming a physical waterproofing barrier immediately beneath the cladding to shed water if leakage through the cladding occurs.

Pauloid Bituminous Roofing Underlay complies with the NZBC E2/AS1 requirement for surface absorbency.

Pauloid Bituminous Roofing Underlay will therefore contribute towards compliance with the performance requirements of NZBC Clauses E2.3.5 and E2.3.6.

During handling, installation or serviceable life, these products don't constitute a hazard to people. Pauloid Bituminous Roofing Underlay and Valley Guard, will therefore meet the provisions of NZBC Clause F2.3.1.

The thermal insulation resistance of building papers is not significant. However, when properly installed, air leakage will be minimal and the insulation performance of the building envelope will be improved.

If Pauloid Bituminous Roofing Underlay, and Valley Guard, is used in accordance with the information contained in this technical information sheet, the relevant provisions of the following NZBC Clauses will be met:

- B2 Durability.
- E2 External Moisture.
- F2 Hazardous Building Materials.

### Handling & Storage

Handling and storage of the product whether on or off site, is under the control of the installer. Pauloid Bituminous Roofing Underlay and Valley Guard must be handled with care to avoid damage. The rolls must be stored off the ground, under cover, in clean, dry conditions and protected from damage and weather.

### Technical Data

Pauloid Bituminous Roofing Underlay and Valley Guard products consist of a range of self supporting heavy weight bitumen impregnated kraft based papers. The roofing underlay is supplied in rolls 1370mm wide, in lengths of 36.5m and 18.25m and in rolls 1250mm wide, in lengths of 40m and 32m.

Pauloid Bituminous Valley Guard is supplied in rolls 300mm wide, in lengths of 40m, specifically made to go under the valley flashing from the ridge line down to the gutter.

Each roll is labelled with the product name, dimensions, and manufacturer's information.

The following tests have been carried out to establish the suitability of Pauloid Bituminous Roofing Underlay:

- By the Pulp and Paper Research Organisation (PAPRO): water absorbency tests in accordance with NZS 2295: 2006. Bursting strength tests in accordance with AS 1301.438s: 1989. Resistance to water penetration in accordance with NZS 2295.
- By the Forest Research Institute Laboratory: PH reaction tests to BS2924: 1983 (1992), Part 1.
- By Graysons Laboratories: Permeability tests to ASTM E96-80, Procedure D.

## Installation Information

These instructions are based on the requirements of NZBC E2/AS1, Paragraph 1.3 or NZS 3604 Clause 11.2.3 for roofs.

Pauloid Bituminous Roofing Underlay must be installed on the exterior face of the framing and it is recommended that it be run horizontally with the upper sheet lapped 150mm over the bottom sheet. The minimum lap is 75mm. Use the printed laying lines for guidance.

If the product is used in the walls, it must extend from the underside of bearers, or wall plates supporting the ground floor joists, to the top of the top plate.

Pauloid Bituminous Roofing Underlay must be stapled, tacked or fixed in place using proprietary roofing underlay fixings, at 300mm, maximum spacing to all framing.

In windy conditions more fixings or fixings with larger heads may be necessary. The cladding should then be installed as soon as possible.

Where the product is used as a roofing underlay the product is most effective when run parallel to the ridge across rafters or truss top chords and beneath tile battens with sag sufficient to facilitate drainage. The upper sheets should lap over lower sheets by 150mm (75mm is the minimum lap). End laps must be one full rafter or truss space or 600mm whichever is greater. Where the product is run parallel to rafters or trusses and across purlins, side laps must be a minimum of 150mm.

The product must be lapped at least 25mm over fascia boards and valley flashing, and be continuous over ridges and hips.

The joints of Pauloid Bituminous Roofing Underlay shall be sealed by taping or by other suitable means in the High and Very High Building Wind Zones of NZS 3604.

Tape shall be suitable for the purpose and have durability compatible with the Pauloid Bituminous Roofing Underlay use.

To preclude back drainage at laps, roofing underlay should not be used unsupported where laps are parallel to rafters or trusses; or on roofing pitches less than 10 degrees. Where the paper is used for roofs with low pitches and long rafter lengths, consideration should be given to the use of anti-ponding boards at the fascia. All damaged roofing underlay must be repaired or replaced prior to installation of the cladding. Repair of tears and holes may be effected by lapping the damaged areas by at least 75mm, taping the laps and fixing to framing at the perimeter of the damaged area.

All holes for services (except flues and chimneys as indicated below) must be cut neatly to butt against and be taped to the service element.

A separation must be maintained between chimneys, flues and fuel burning appliances.

**Size Range Available**

Product Code	Description	Width x Length (mm x m)	Total (m <sup>2</sup> )	Weight (kg)	Barcode
SS137050	Bituminous Roofing Underlay	1370 x 36.5	50	21.16	9421026720368
SS137025	Bituminous Roofing Underlay	1370 x 18.25	25	11.16	9421026720375
SS125050	Bituminous Roofing Underlay	1250 x 40	50	21.16	9421026720382
SS125040	Bituminous Roofing Underlay	1250 x 32	40	18.00	9421026720399
VG30012	Bituminous Valley Guard	300 x 40	12	5.66	9421026720191