

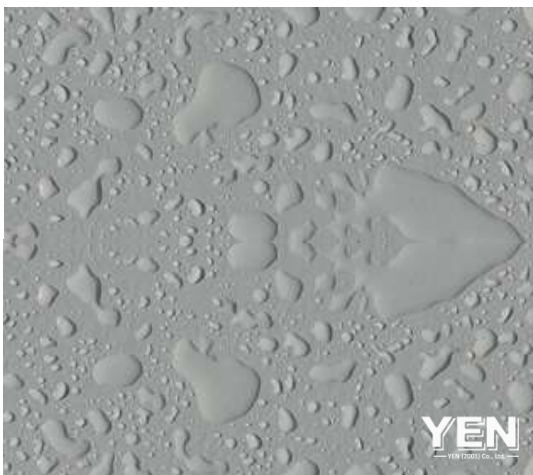
YEN
(2001) CO., LTD.

จำหน่าย-ติดตั้งฟิล์มกันน้ำ SHEET MEMBRANE

BLUE PVC SHEET MEMBRANE

PVC SHEET MEMBRANE

Installation manual **YEN PVC-P200**



YEN
— YEN (2001) Co., Ltd. —

☎ : 061-549-1569

INSTALLATION MANUAL

YEN PVC-P200

The technical details and recommendations contained in this manual are based on our knowledge and experience. However all the information must in every case, be used as guidance only. Any individual or company who intends to install the YEN PVC-P200 products must ensure that they are suitable for the correct waterproofing application. In every case the individual or company is fully responsible for the installation of the products and for any consequential loss deriving from the installation of the system.

For any further information
please contact the YEN(2001)
CO., LTD. technical department.



INSTALLATION MANUAL INTRODUCTION



1. Storage

Rolls of YEN PVC-P200 membranes are delivered to site on pallets wrapped in white polythene.

It is important to store the product in a dry place, elevated from the ground/roof and protected with waterproof tarpaulins against exposure to rain, frost and snow. Protection against the elements is even more crucial once the outer polythene has been removed.



2. Labelling

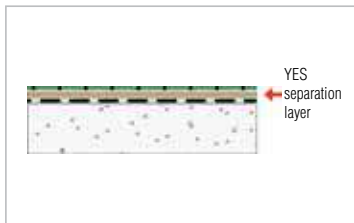
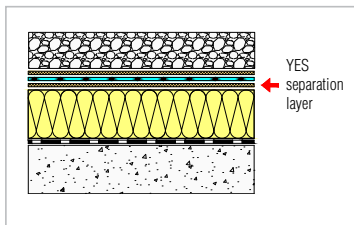
YEN PVC rolls are individually labelled with batch code, length, thickness and width.

3. Accessories

All accessories used in the installation of the YEN PVC-P200 systems have blue identification labels and packaging.



YEN PVC-P200 COMPATIBILITY



YEN PVC-P200 membranes are compatible with an extensive range of materials and substrates. Please refer to the YEN PVC-P200 technical documentation.

Insulation Boards

YEN PVC-P200 cannot be laid directly to extruded/expanded polystyrene insulation boards. A minimum 120 g/m² separation fleece must be used between the YEN PVC-P200 membrane and the insulation boards.

Bitumen

Bitumen products must be separated from YEN PVC-P200 by using a geotextile/ separation layer during installation. It is possible to apply YEN PVC-P200 type YEN Meneral Slate Mf and YEN Bitumen APP (Sand) YEN Self-Adhesive directly on old/oxidised bituminous membranes.

**INSTALLATION MANUAL
COMPATABILITY****PVC Membrane Systems**

When overlaying an existing PVC membrane system with YEN PVC-P200, a separation layer must be used between the membranes during installation.

TPO Membrane Systems

When overlaying an existing TPO membrane system with YEN PVC-P200, a separation layer must be used between the membranes during installation.

YEN PVC-P200 MEMBRANE CLEANING PROCEDURE



YEN PVC-P200 must be clean and dry before welding.

Cleaning and preparation procedures of YEN PVC-P200 overlaps

YEN PVC-P200

We recommend all overlaps and welding seams to new and existing membranes be clean and dry prior to welding.

Dirty membranes must be cleaned with YEN PVC-P200 Cleaner prior to welding.

YEN PVC-P200(dirty)

(dirty building site,
air-born dust)

- clean with a broom
- clean with water
- clean with YEN PVC-P200 Cleaner
(use only on dirty surfaces)
- wait for the solvents to disperse and the membrane to dry before welding

INSTALLATION MANUAL

MEMBRANE CLEANING PROCEDURE

- YEN PVC-P200 (very dirty)** - clean with a broom
(refurbishment/extension project)
- clean with water and scrubbing brush (power wash if necessary)
 - clean with YEN PVC-P200 Cleaner using a brush to dirty surface
 - wait for the solvents to disperse and the membrane to completely dry before welding

Do not rub the dust and dirt into the membrane. Apply Cleaner liberally to the surface or overlap and draw the dirt and Cleaner off on to a clean white cloth.

NOTE: For full details on the use of YEN PVC-P200 Cleaner please refer to the product data sheet.



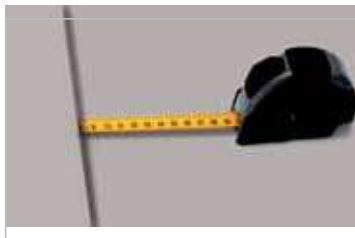
YEN PVC-P200 EQUIPMENT



- To install YEN PVC-P200 membrane systems the following equipment should
- be used Hot-air digital
 - welding gun 40 mm nozzle for main seam welding
 - 20 mm nozzle for detailing 20
 - mm cranked nozzle for difficult detail work
 - 4 mm / 5 mm speed welding nozzle for welding YEN PVC cord
 - 28 mm red rubber roller for main seam welding
 - 6 mm brass roller for difficult details
 - Dremel for cutting T-Joints
 - Scissors
 - Metal snips for cutting YENPVC coated metal Seam
 - probe tester Automatic
 - welding machine



INSTALLATION MANUAL



Prior to welding, ensure the membrane edges to be welded are clean and dry. (Please refer to page 9 membrane clearing procedure).

Overlap width

Minimum 5 cm for adhered, or ballasted, roofing systems.
Minimum 8 cm when using EPS insulation on a warm-ballasted, roofing system. (This avoids the welding machine nozzle melting separation fleece and the insulation).
Minimum 10 cm for mechanically-fixed roofing systems.

YEN PVC-P200 HAND WELDING PROCEDURE



Nozzle care

The nozzle used must be cleaned using a wire brush and the air gap should be equal across the full width of the nozzle.



Welding temperature

YEN PVC-P200 has a wide welding window. This allows the operative to work slowly on difficult details. The temperature can be adjusted easily on the back of the PID

gun to suit all conditions and applications.



The basic setting temperatures for hand welding YEN PVC-P200 are as follows.

400/450 °C

It is necessary to carry out a welding test in order to determine the correct

INSTALLATION MANUAL HAND WELDING PROCEDURE



temperature setting in line with weather and building site conditions.

Operating voltage can alter depending on the country. This can range from 110 to 220/240 volts.

NOTE: Do not use a shared power supply or long cables or 110 volt cables with a diameter less than 6 mm

Use a 40 mm nozzle for main, straight-line welding and a 20 mm nozzle for detail work.

YEN PVC-P200



Spot welding

To hold the membrane in place, spot-weld the overlap every 40 cm.

Spot-weld the membrane in the internal part of overlap.



Pre-welding

Weld the rear overlap area along the full length, allowing a width of 4 cm for the main weld.

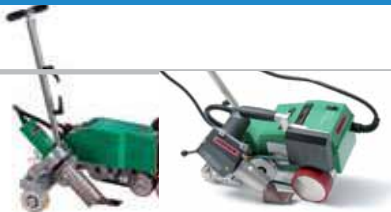
Using 40 mm nozzle - 4 cm
Using 20 mm nozzle - 3 cm

With the nozzle angle at 45° to the welding line.

With the roller at 1 cm from the nozzle, apply pressure to the top sheet in a continuous back-and-forth flowing movement.

NOTE: Check the pre-weld for delamination before continuing the main weld

YEN PVC-P200 AUTOMATIC WELDING



When using automatic welding equipment, such as a Leister Varimat (or similar approved) in conjunction with a YEN PVC-P200 standard nozzle, ensure the welding machine has been adjusted correctly for welding YEN PVC-P200 (alignment and temperature) and the standard nozzle is clean with even air flow.

The basic setting temperature and speed for automatic welding YEN PVC-P200 is as follows:

LEISTER VARIMAT (or similar approved)

TEMPERATURE	500/550 °C
SPEED	2/3 m/minute

Welding temperature/speed

Working temperatures can be affected by environmental and climatic conditions on site such as the roof surface temperature, humidity and wind.

Each day, before starting work on the waterproofing project, carry out a sample weld on a 2 metre strip of 2 x 30 cm membrane and then test the weld using the destructive test method as described on page 55.

INSTALLATION MANUAL**ADHERED TO A HORIZONTAL SURFACE**

YEN PVC-P200 Af membrane is fully adhered, or strip bonded, using YEN PUL100, a mono-component PU based adhesive, to a

variety of substrates that include concrete, timber, old bitumen and asphalt,

polyurethane and EPS insulation boards. The glue is applied to the substrate with a rubber squeegee/spatula or fleece roller. (Please refer to the installation and spread rate instructions on the tin and the data sheet.)

NOTE: Wind load calculations must be applied when using a strip-bonded system.

Compatibility

YEN PVC-P200 cannot be used on newly laid bitumen, fibrous or wet surfaces. YEN PUL100 is spread with a rubber

YEN PVC-P200



squeegee or spatula at a spread rate of approximately 300-400 g/m² to the substrate. **(Please refer to the installation and spread rate instructions provided on the tin and data sheet).**

For smaller roof areas, YEN PVC B can be bonded using

YEN PVCPU100 solvent-based contact adhesive, to a variety of solvent-resistant substrates. The glue is applied to the membrane and substrate with a timber-core, fleece roller. The solvents must be allowed to evaporate before bringing both surfaces together.

Do not allow glue to contaminate the welding seam or areas that need to be welded. Should this occur, the glue must be removed immediately with YEN PVC-P200 Cleaner, otherwise the membrane will not weld.

INSTALLATION MANUAL

FULLY ADHERED TO A VERTICAL SURFACE

On upstands to perimeter and internal walls, roof lights and smoke-vent kerbs etc above 50 cm, YEN PVC-P200 must be bonded to the vertical face of the upstand with YEN PVC-P200 PUL 200 solvent-based contact adhesive.

The glue is applied to the upstand surface and to the YEN PVC-P200 membrane using a roller.



YEN PVC-P200



Once the solvents have dispersed, bring the two surfaces together, taking care to smooth the membrane to avoid any creases or air blisters.

Do not apply glue to the bottom leg of the membrane flashing or areas that need to be welded. Should this occur the glue must be removed immediately with YEN PVC-P200 Cleaner, otherwise the membrane will not weld.

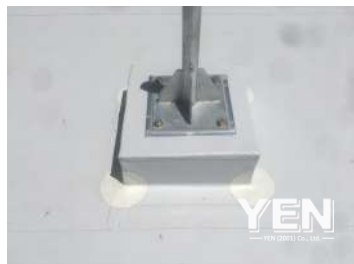
(Please refer to the installation and spread rate instructions provided on the tin and data sheet).

Compatibility

YEN PVC PUL 200 cannot be used on newly laid bitumen or extruded/expanded polystyrene insulation boards, fibrous or wet surfaces.

Please contact the YEN (2001) Co., Ltd. technical department for advice on spread rates and compatibility with different materials.

INSTALLATION MANUAL ACCESSORIES



The YEN PVC-P200 system has an extensive range of hot-air-weldable accessories that include outlets, wall scupper outlets, vents, internal/external corners and YEN PVC-P200 laminated profiles and sheets that compliment the YEN PVC-P200 roofing system.

Mechanically fix, or fully adhere, YEN PVC-P200 field sheet membrane with pre-drilled bars, peel stop bars, plastic telescopic or metal fixing plates with screws to the vertical or horizontal surface of the upstand. Locate the bars or plates 15 cm away from the corner to enable welding without obstruction.

Fold the excess membrane in the corner to form a 45° crease and weld the pocket together. Weld the pocket to the membrane upstand as shown.

Warranty

NOTE: To comply with the YEN PVC-P200 system warranty, only YEN Co., Ltd. accessories must be used in conjunction with the YEN PVC P200

INSTALLATION MANUAL

INTERNAL CORNER DETAIL



Bond or mechanically fix the membrane flashing into position on the vertical face of the upstand. To assist with this operation, it is advisable to pre-crease the membrane shape you require, using the hot air gun and roller, before fixing.

Fold the membrane pocket and cut the crease 2 cm from the corner.

Fold one leg of the flashing below the other. Cut the leading edge with scissors in a neat curve and weld in place. Pre-weld and check the pre-weld before completing the main weld.

Fold the top membrane leg over the bottom cut at approximately 45° angle, curving the leading edge neatly with scissors.

Weld the top leg of the flashing in place. Pre-weld and check pre-weld before completing the main weld.

INSTALLATION MANUAL**INTERNAL CORNER DETAIL**

Position the YEN PVC-P 200 pre-formed internal corner.

Working from the centre of the corner outwards, tack-weld, pre-weld and check pre-weld before completing the main weld. Use a 20 mm nozzle and narrow brass roller for awkward details.

Mechanically fix, or fully adhere, YEN PVC-P200 field sheet membrane with pre-drilled bars, peel stop bars or fixing plates with screws to the vertical or horizontal surface of the upstand. Locate the bars or plates 15 cm away from the corner to enable welding without any obstruction.

Fold the excess membrane in the corner to form a 45° crease and weld the pocket together.

Weld the pocket to the membrane upstand as shown on page 22.

Cut the length of membrane you are going to use for the upstand and pre-crease the bottom leg using the hot air gun and roller to aid installation.

NOTE: Before welding ensure the membrane and pre-formed corners are clean. Use a clean, white cloth and YEN PVC-P200 Cleaner.

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EXTERNAL CORNER DETAIL



Mechanically fix, or fully adhere, YEN PVC-P200 field sheet membrane, with pre-drilled bars, peel stop bars or fixing plates with

screws, to the vertical or horizontal surface of the upstand. Locate the bars or plates 15 cm away from the corner to enable welding without any obstruction.

Cut a length of membrane to fit the shape of the upstand. Cut the bottom leg of the flashing to allow it to fold at 90°.

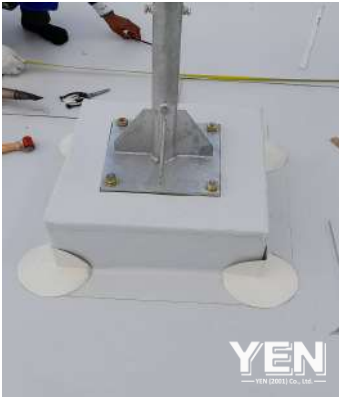
Bond or mechanically fix the membrane flashing into position on the vertical face of the upstand. To assist with this operation, it is advisable

to pre-crease the membrane shape you require, using the hot air gun and roller, before

setting in position. Then spot-weld, pre-weld and check the pre-weld before completing the main weld.

INSTALLATION MANUAL
EXTERNAL CORNER DETAIL

Position the YEN PVC-P 200 pre-formed corner and weld in place working from the centre outwards. Spot-weld, pre-weld and check pre-weld before completing main weld.



The 20 mm nozzle is recommended, in conjunction with a narrow brass roller for awkward details.

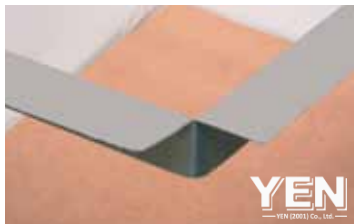
Insert the pre-formed outlet into the downpipe as shown.

Using a 20 mm nozzle, spot-weld as close to the hole as possible then, working outwards, pre-weld and check the pre-weld before completing the main weld

Polyglass recommend several manufacturers of rigid outlets and rainwater goods that include symphonic outlet systems. They can be supplied with a factory fitted PVC flange for welding to our YEN PVC-P 200 roofing system.



YEN PVC-P 200 (FLASHING) INTERNAL PERIMETER EDGE FLASHING



Mark the cutting line with a pencil to the vertical and horizontal surface.

Cut along the horizontal face following the pencil line.



Open the metal and bend to the required angle.

Mechanically fix the profile trim to the internal perimeter edge with expansion nails or countersunk screws.



INSTALLATION MANUAL

SEAM TESTING PROCEDURE



Non-destructive control method

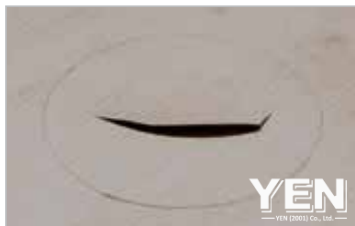
The test is carried out on cooled membrane with a metal seam probe. The probe is run along the welded edge using sufficient pressure to identify defective seams.

Should a defective seam be detected please follow the seam cleaning procedure explained on page 9. In dirty or extreme circumstances, it will be necessary to weld a 15-20 cm wide strip of membrane over the defective welding line. In this case the excess dirt should be removed with YEN PVC-P 200 Cleaner prior to welding.

Once the membrane has cooled, re-test using the seam probe.

NOTE: to avoid mechanical damage to the membrane the seam tester must have a rounded point.

INSTALLATION MANUAL DAMAGE REPAIRS



Because the membrane has a dark underside, it is easy to see any damage to the membrane's light grey top surface. Should damage occur after installation, or on older membrane, the repairs are simple.

Cut a disc of membrane that covers completely the damaged area.



Using a pencil, trace around the disc onto the membrane surface.

Using a clean white cloth, apply a liberal amount of **YEN PVC Cleaner** to the area and remove the dirt by drawing it off the membrane with the cloth.



Once the solvents have flashed off, and the membrane is completely dry, weld the new patch by starting in the centre and working out, checking the integrity of the weld as you progress.

NOTE: Do not rub the dirt and the solvent into the membrane. Apply the Cleaner liberally to the weld area then lift off the dirt and Cleaner on to a white cloth. Allow the solvents to flash off before welding.

INSTALLATION MANUAL WELDING TO AN EXISTING PVC-P 200 MEMBRANE



When connecting or joining a new YEN PVC-P 200 membrane system to one previously installed, for example a roof extension, make sure the existing membrane is free of dust and dirt. This can be achieved with the use of a water pressure machine or by following



the guidelines on page 9 of this manual. Once the membrane is clean and dry, use an automatic welding machine to weld the membranes together.

