# PEKAY 835 ACRYL-SEAL SEAMLESS WATERPROOFING SYSTEM

## DESCRIPTION

Pekay 835 "Acryl-Seal" is a seamless waterproofing system of outstanding quality ad versatility. It is non-bituminous and liquid applied, curing to a tough elastomeric compound, which has excellent durability, weathering characteristics and chemical resistance. The system consists of five coats of Pekay "Acryl-Seal" applied in combination with reinforcing membrane.

## FEATURES

**Pekay "Acryl-Seal":**

Withstands all ambient temperatures

Resists mould and fungus growth

Has a high degree of resistance to abrasion and traffic

Being a brushable or sprayable liquid, it can be applied to areas which are normally not easily accessible

Will not loose its flexibility

Is resistant to degradation by ultra violet rays

Not affected to exposure of frost

Suitable for application to vertical surfaces without slumping

Non-toxic

Water-based polymer facilitates easy cleanup

Has been S.A.B.S. tested for 1000 hours in a weaterometer without deterioration

## LIMITATIONS AND PRECAUTIONS

DO NOT APPLY IN INCLEMENT WEATHER

Surfaces to be coated must be dry

Not suitable for flat roofs with falls less than 1:100

Not suitable for permanent immersion in water New concrete surfaces should be allowed to cure for two to three weeks before over coating Suitable for light pedestrian traffic only (walkways are advisable for heavy pedestrian traffic) Do not dilute

**No guarantee is expressed or implied** – Should a ten-year guarantee be required, an approved applicator will be appointed, and a guarantee will be issued by the company in writing.

## APPLICATION – ACRYL SEAL SYSTEM (STD ROOF SURFACES)

Substrates details:

Pekay "Acryl-Seal" can be laid over a variety of surfaces, for example:

New concrete roof slabs or screeds

Vertical concrete or brickwork

Plastered surfaces

Metals such as galvanized iron

Insulation board

Existing waterproofing systems Surfaces should ideally be sound, clean and dry. All surface contamination should be removed before application can commence.

The recommended fall on any flat roof system is a maximum of 1:80. Falls less than this lead to ponding, which can affect the long-term durability of the system. Expansion joints should be carefully inspected – while the system permits a limited of movement it is best to consult with the structural engineers as to the expected joint movements. (Further details on expansion joint design is given elsewhere in this technical data sheet).

Applicators must satisfy themselves as to the soundness of the substrate to be overlaid – a large proportion of failures and delaminations can be attributed to an unsound or inadequately prepared surface.

## PREPARATION – NEW CONCRETE ROOFS

Wash off dust and building debris and leave to dry

Scrape down rough spots

Apply cementitious filler to fill depressions and uneven areas

NOTE:
Brand new roofs must allow for a suitable ageing period before over-coating can commence. This period depends on local ambient conditions but generally does not exceed 21 days. The use of a moisture tester will ensure that the screed is sufficiently dry – a moisture content below 5% is recommended.

**Vertical concrete or brickwork:**

Remove loose flakes, grime and dirt – ensure that the substrate is clean, dry and stable.

Using a chisel, vee out all cracks and joints before filling with cementitious filler.

**Plastered surfaces:**

Plaster should be tapped lightly to ensure that no delamination has occurred

Old loose or cracked plaster must be scraped or brushed off.

Fill with cementitious filler

**Polyurethane foamed-in-place coatings:**

Allow the polyurethane to age for 3-5 days in good sunlight.

Clean thoroughly with undiluted YY99 Pekaklene Degreaser and Rust remover, rinse with water and allow to dry

Smooth all rough areas **Metal surfaces:** All rust and corrosion must be removed, preferably by abrasive cleaning.

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Apply YY99 Degreaser and Rust Remover (see separate data sheet)

Rinse off and allow to dry

**Insulation board:**

Apply 10cm masking or similar tape over all joint areas

Ensure surface is clean and free of surface contaminants

**Existing Waterproofing systems:**

Due to the variety of waterproofing systems in use, there is no standard treatment that can be applied to prepare them. In general, old waterproofing need not be removed if it is sound and free from bubbling and disbonding.

Areas where the waterproofing has cracked or broken away must be completely removed and allowed to dry out as water entrapment will have invariably occurred.
A neat circular area must be cut around the damage.

After a suitable drying period, fill the depression with cementitious filler and proceed in the usual way.

## PRIMING

**Concrete and Cellular screeds:**

Apply Pekay G224 Primer undiluted, using a brush, roller or spray equipment. The coating rate should not exceed 6m2 \ Ltr. Care must be taken to prevent ponding of primer in cracks and crevices.
Allow to dry for half to three-quarters of an hour at 250C before continuing. On exceptionally porous surfaces, a second coat may need to be applied. "Green" concrete that has been freshly applied should be allowed to age for at least one week before priming.

**Metal surfaces:**

Metal surfaces should first be treated with YY99 Pekaklene to remove rust and dirt. After rinsing off and allowed to dry, apply a coat of Pekaten G838 One-pack Etch Primer and allow to dry for 30 – 60 minutes before continuing with the F835 "Acryl-Seal" system.

**Wood and Fibrous insulation sheeting:** Apply an undiluted coat of Q30 matt acrylic emulsion at a rate of 4 – 5m2\Ltr to seal the porosity in the surface.
Proceed with the F835 system in the usual way.

**Rigid Polyurethane Foam Insulation:**

Apply a coat of F147 Acrylic coating at a rate of 6 – 7m2\Ltr, preferably by means of a brush or spray equipment, before proceeding with the F835 system.

## APPLICATION METHOD FOR STD FLAT ROOF

The following technique applies to a flat roof system without complex design forms and in a non-trafficable area:

**Applying the Acryl-Seal System:**

**Step 1: Application of the F835 Base Coat**

A generous layer of F835 in any colour is applied, preferably with a brush or a roller, to the freshly prepared substrate, at a coating rate of 1.5 – 2m2\Ltr.

Apply no more than 1.5 – 2m2\Ltr before proceeding to step 2.

Whilst the Base Coat is still wet, proceed to Step 2.

**Step 2: Embedding of the Supporting Membrane**

Embed the supporting membrane into the still wet F835 base coat using a chalkline to align the material. Suitable supporting membrane includes non-woven needle-punched polyester or polypropylene fibre such as Pekay Y70 Safbond, Polyfelt 022T or Bidim U14. Widths of 1 – 1.5 are the most convenient and economical to use. Ensure that all overlaps are at least 150mm wide.
Tramp down well to ensure maximum saturation. Special care must be taken to push the fabric into corners and crevices; an old hard brush should be used for this purpose.
Fabric should be taken over the top of parapet walls. If any vertical drain pipes or full bores have to be covered then neatly cut a "bandage" and use it as an extra collar or reinforcing around the outlet\protrusion. Box gutters should be cut to shape beforehand. The base of the box gutter should consist of single piece of membrane and should be placed last

**Step 3: Application of the F836 Impregnation Coat (Yellow)**

Using a hard brush or firm broom, squee-gee the F836 over the membrane, applying sufficient pressure to ensure penetration. The F836 should be poured onto the surface and then spread out immediately. A coating rate of 1.2 – 1.5 Ltr \ m2 is needed for complete saturation. For best results the F836 should be applied as soon as possible after the base coat (Step 1) has been applied.
The use of a firm broom or brush is vital to ensure saturation – on no account should soft rollers be used at this stage.
Once this step has been completed the saturated membrane should be left to dry fully before proceeding to Step 4.

**Step 4: Application of the First Topcoat**

Before applying the topcoat, check that the saturated material (made up on Step 3) has fully adhered to the base coat. Any bubbling or loose spots noticed must be cut open and patched with a patch of at least twice the area opened.

Apply F835 in any colour, over the dry saturated material at a coat rate of 2.0 – 2.5m2\Ltr. A soft brush or lambs wool roller should be used for this purpose, although airless spraying is also suitable. The colour selected for this topcoat should preferably be similar to the final colour chosen to facilitate over coating. Allow the F835 to touch-dry before proceeding to Step 5.

**Step 5: Application of the Final Top Coat(s)**

Apply another coat of F835 in the final chosen colour in the manner described in Step 4 above. The coating rate of this step must be such that the total coating rate for the entire system (Step 1 through to Step 5) is 2.5 – 2.7 Ltr \ m2. This may mean that Step 5 can be left out completely should there be sufficient material applied at the end of Step 4; alternatively, Step 5 may need two or even three coats of F835 to build up the required coating rates.

Allow the system to dry fully (3 – 4 hours at 250C) before putting into use: should a rain shower occur before the system has dried sufficiently, a further coat of F835 may be necessary to replace material washed

away.

**Waterproofing Details – Parapet Walls**

All corners must be rounded off where vertical sections occur. This may be achieved using a triangular infil or by shaping the concrete screed.

Where the parapet wall is topped by a coping stone the membrane must be taken at least two-thirds (2/3) of the way up the wall. It should be split into two sections: the base piece should be brought up the side for at least 20cm while a counter-flash strip, coming from 2/3 of the way up the vertical face, should be brought down to overlap the base piece by at least 20cm.

Flat topped parapet walls must be completely covered to the edge of the outside wall. The F835 system which forms the base piece must be taken up the side of the parapet wall for at least 20 cm, while a second F835 system must be drawn down from the top of the parapet wall to overlap the first by at least 20 cm.

**Full Bore Outlets**

The waterproofing system must be installed before the full-bore assembly can be put in place.

The outlet hole should be completely covered with the F835 system when the flat roof is laid. While the system is still wet, the portion over the hole must be opened by slicing the membrane into segments and adhering the segments to the inside surface of the outlet.

A bandage of the F835 system must be prepared and used to cover the exposed areas of the outlet. The full-bore should be fitted in place while the F835 is still wet to allow it to conform to the shape of the full- bore.

**Gargoyle-Type Rainwater Outlets**

The F835 system must be applied in exactly the same way as for the full-bore outlets described above. Since a gargoyle type outlet will usually be found on a vertical surface the F835 system must in this case be taken up the side of the vertical to a point at least 30cm beyond the top of the outlet. The membrane must be sliced and dressed as before.

**Vertically Protruding Pipes**

When vertically protruding pipes are encountered on a roof deck, a suitably sized hole should be cut in the membrane to accommodate the pipe while the system is being laid. Later a separate dressing should be approximately square and extend away from the protrusion for at least 30cm on all sides. Slits should be cut in the centre of the dressing and the membrane drawn up the pipe. The upstand portion is then covered with a bandage of 835 impregnated membrane to a height of at least 20cm.

**Box Gutters**

The F835 system must be applied up the vertical walls of the box gutter so that it extends at least 20cm above the maximum water level. The sidepieces are done first: They must round the corners for 10cm and must extend 20cm into the base. The base piece is to be laid first and must consist of a single piece cut to size.

The top of the membrane, where it extends up the wall, should be counter-flashed with F835 impregnated membrane.

**Flat Roof Expansion Joints**

Expansion joints are a particularly critical area on any roof as they are sensitive to water leakage, especially if they are incorrectly designed.

The roof design should be such that water runs away from the expansion joint: the joint should preferably be raised 10-15cm above roof level. To obtain a watertight joint, the roof deck should be saw-cut and sealed with tailor-made sealants such as Pekay M673 Polyurethane Joint Sealant. The F835 system must be taken right up to the edge of the joint and, if necessary, be counter-flashed.

For expansion joints where the total movement is less than 10mm a "slip-sheet" system may be used in place of a joint sealant. The joint is covered with 150mm wide "Kraftex" Grade 22 or polyethylene sheet. The F835 system is laid on top of the entire assembly. Expansion joints thus treated should be inspected regularly.

**Walkways**

The F835 system may be used without modification on areas where light pedestrian traffic is expected, for example washing line areas. Regular inspection is however necessary, as there is a greater possibility of mechanical damage occurring, and no long-term maintenance –free guarantees can be given. Where medium to heavy pedestrian traffic is expected, paving stones must be loose-laid onto the roof deck. Ideally, rubber rings should be used to lift the paving stones off the surface and therefore, prevent mechanical damage.

Where paving is required for roof gardens, it is necessary to lay a double F835 system first. Consultation with a Pekay technician is needed for a detailed specification of this type of system.

A 20mm thick bed of course river sand must be laid on top of the waterproofing and the paving laid into this.