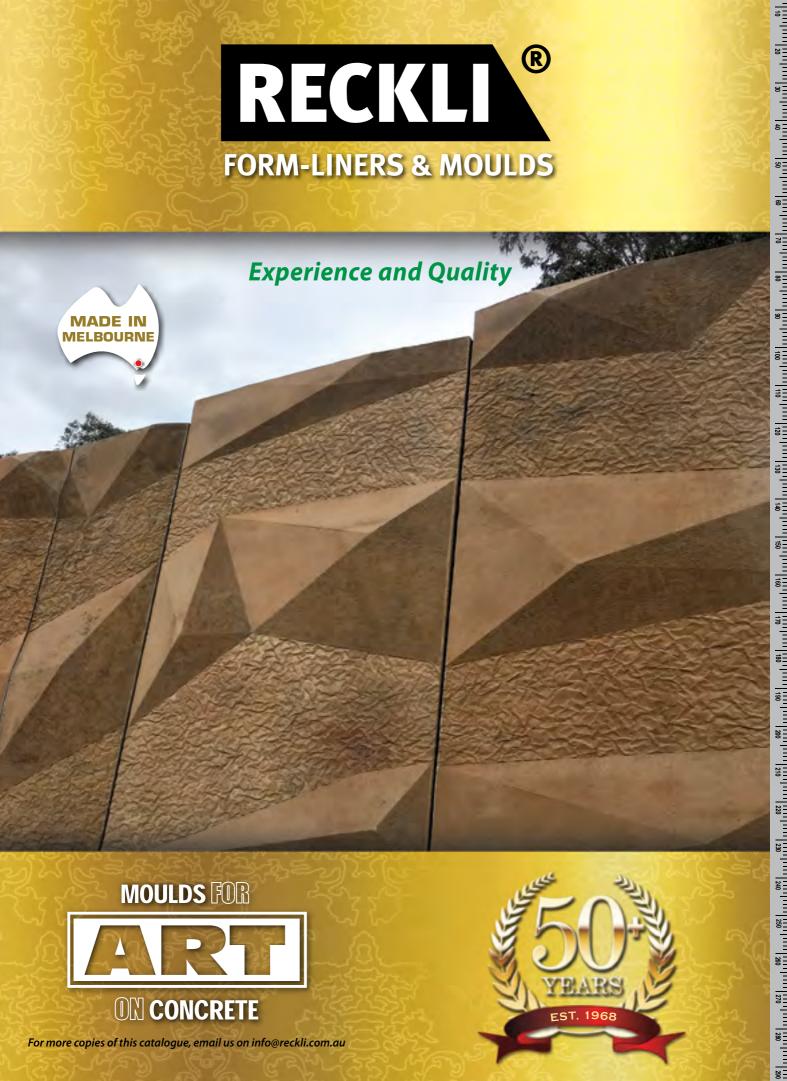


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MOULDS FOR



**ON CONCRETE** 

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## History of Reckli Group Australia

**Experience and Quality** 

Reckli in Australia was formed in 2004 by John Joveski, who since 1989 has been involved with reinforcing steel supply to the Precast & Insitu-Cast Concrete Wall industry in Victoria.

Having identified a lack of local availability of mould suppliers to the Precastors & Insitu-Cast Wall manufacturers, John discovered Reckli, a world leader in this field, who had no representation in Australia, thus seemed to be a perfect opportunity to establish operations in Australia.

The first Reckli office in Australia was set up in North Laverton, Victoria in 2004.

Here we displayed the different standard sample profiles where orders were arranged and sent to Germany, where they were manufactured and delivered via Seafreight or Airfreight to Australia.

As demand for form-liners grew, the tight construction time constraints also put pressure on safe and quick supply of our form-liners from Germany, thus in late 2009, we moved to our 2nd factory in Derrimut and again in September 2012 we moved to our current 3rd larger location 84 Hunter Road Derrimut, Victoria, 3026 Australia.

We can now make all form-liners here and supply standard form-liners in 2 weeks (Ex-Melbourne), allowing quicker project supply.

As Reckli-AU has earned the confidence & respect of Designers, we have also invested in the ability to make unique/custom moulds (project specific) at our current facility.

Along with the support of Reckli-International's other offices in over 65 Countries, we have our own in-house Designers, CNC Programmers, state of the art 3-d CNC Milling Machines and Laser cutting/engraving machines and various other specific machines.

This means that we can make form-liners to almost any profile, FAST and of HIGH QUALITY, here in Melbourne Australia.



#### Disclaimer:

All form-liner dimensions are nominal. Actual dimensions may vary slightly depending upon design. Despite our carefully controlled production processes, dimensional tolerances are unavoidable. Due to the high elasticity of our form-liners, they can also stretch and be compressed during packing and transport, which may add to dimensional variations.

Methods of concrete panel manufacture vary between all manufacturers and also at different times of the year, so we recommend you adopt our suggestions outlined in our "Application Guideline for Reckli Form-Liners" (refer to pages 52 - 65).

#### **Limited Warranty:**

Reckli warrants their form-liners to be of uniform quality within manufacturing specifications and will perform as represented, provided that the concrete construction practices used are in accordance with our guildelines and installation instructions.

Reckli assumes no responsibility for any damage to form-liners due to the improper use or application of a non-Reckli form release agents.

Our obligation under this warranty shall be limited to refunding the purchase price or replacing that portion of the material proven to be defective.

Reckli make no other warranty expressed or implied, including, without limitation, warranties of fitness or merchantability, with respect to its products. For more information refer to www.reckli.com.au/termsandconditions

## **World of Reckli**

RECKLI stands for creative freedom in concrete design. For over 50 years, we have been synonymous for architectural concrete that meets the highest demands in terms of design and individuality. As a manufacturer of reusable elastic moulds and formliners, planners and architects all over the world put their trust in us. There are no limits to creativity. The combination of state-of-the-art machine technology with traditional craftsmanship allows the implementation of individual structures, graphics, photos and three-dimensional visualisation. In addition, RECKLI offer over 250 finished designs from a wide range of areas. High-quality surface finishes, such as concrete retarders, concrete deactivators, photo concrete sheets, impregnations and protective systems, as well as products for colour surface design, make us the specialist for architectural concrete.



**Partners in over 65 Countries** 



Index Experience and Quality

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## **Broken Rib Patterns**

**Experience and Quality** 





















## **Broken Rib Patterns**

**Experience and Quality** 





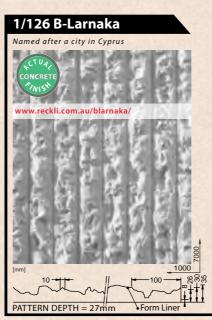
















# **Rough Cast and Textured Patterns**

**Experience and Quality** 













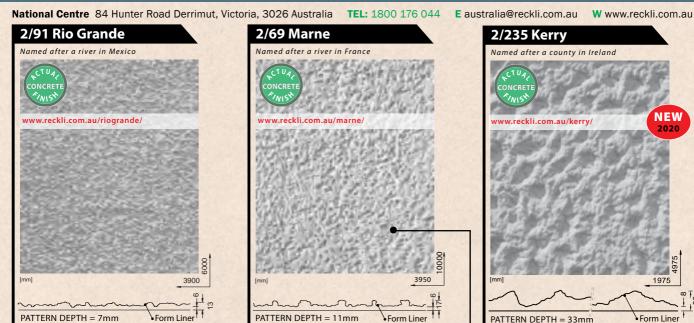








## **Rough Cast and Textured Patterns**





















#### **Experience and Quality**













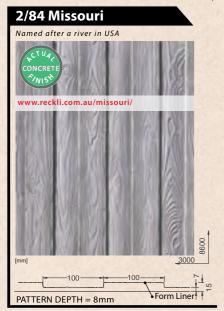








**Experience and Quality** 



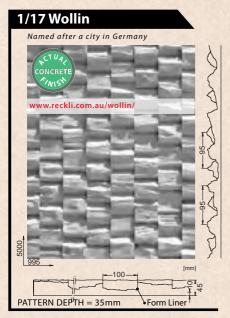
















**Experience and Quality** 



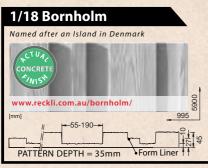


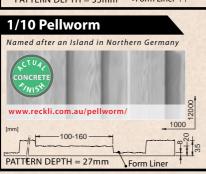


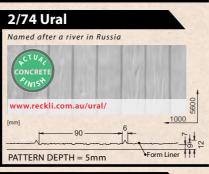


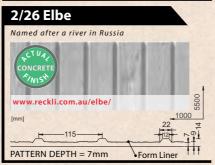










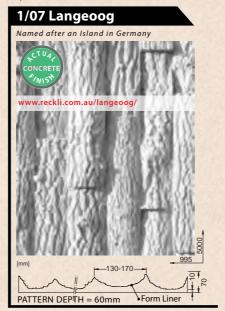






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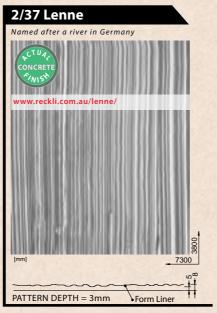






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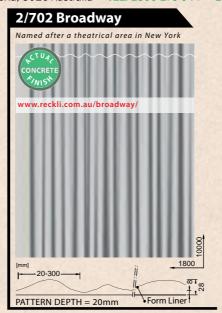






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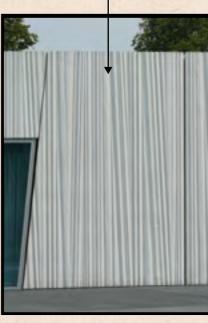




















#### **Experience and Quality**





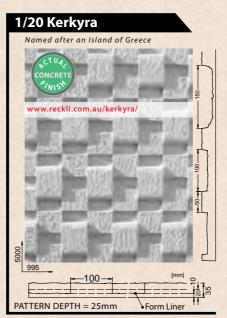






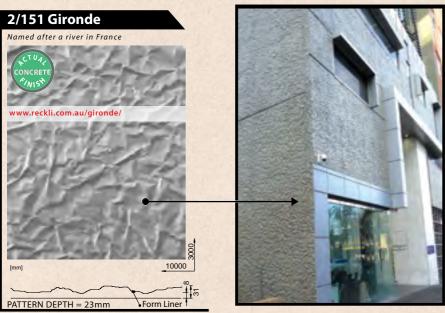








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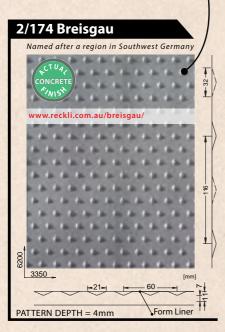


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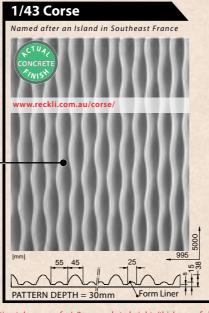








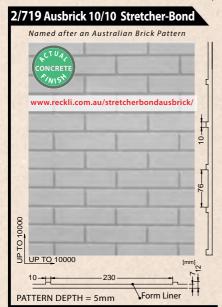






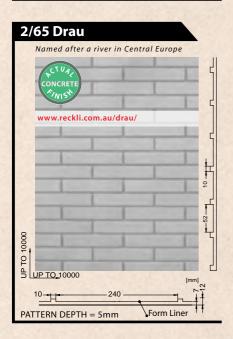


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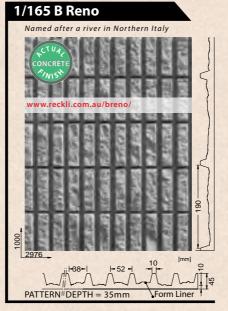
















**Experience and Quality** 



















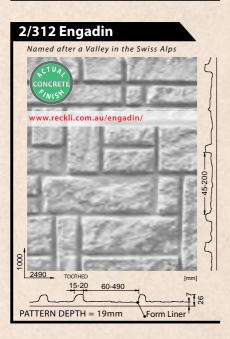


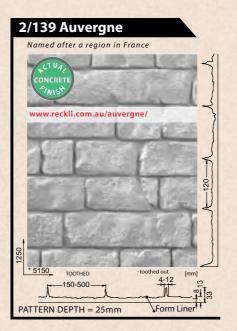
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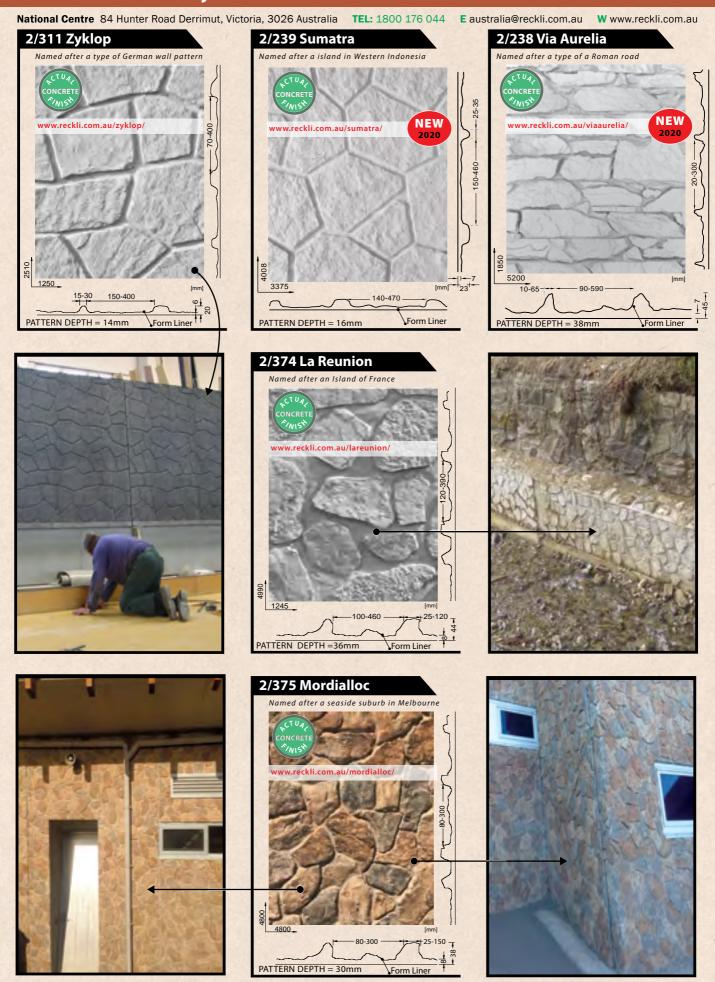














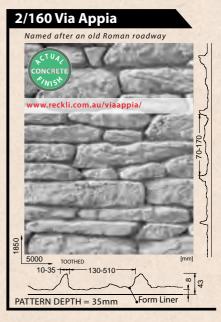
**Experience and Quality** 

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PATTERN DEPTH = 2mm

## **Stone and Rock Patterns**

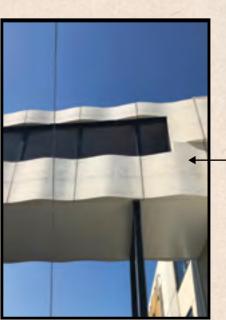




















## **Stone and Rock Patterns**

**Experience and Quality** 

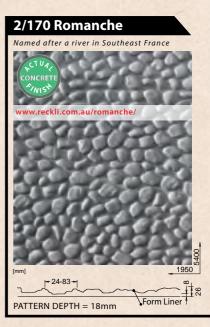














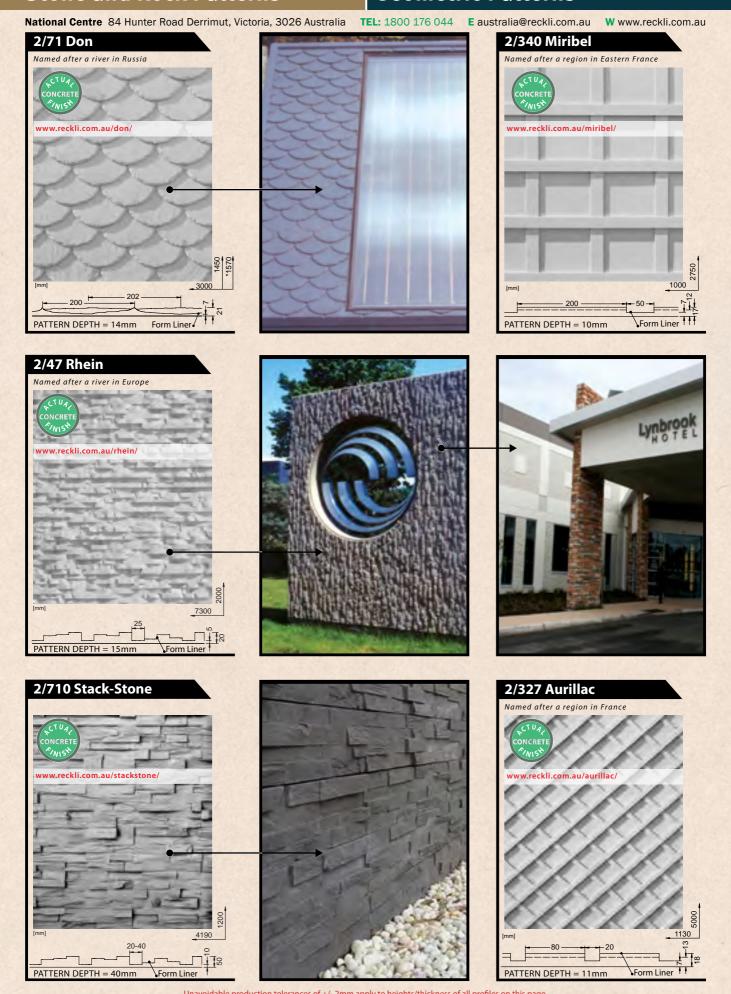




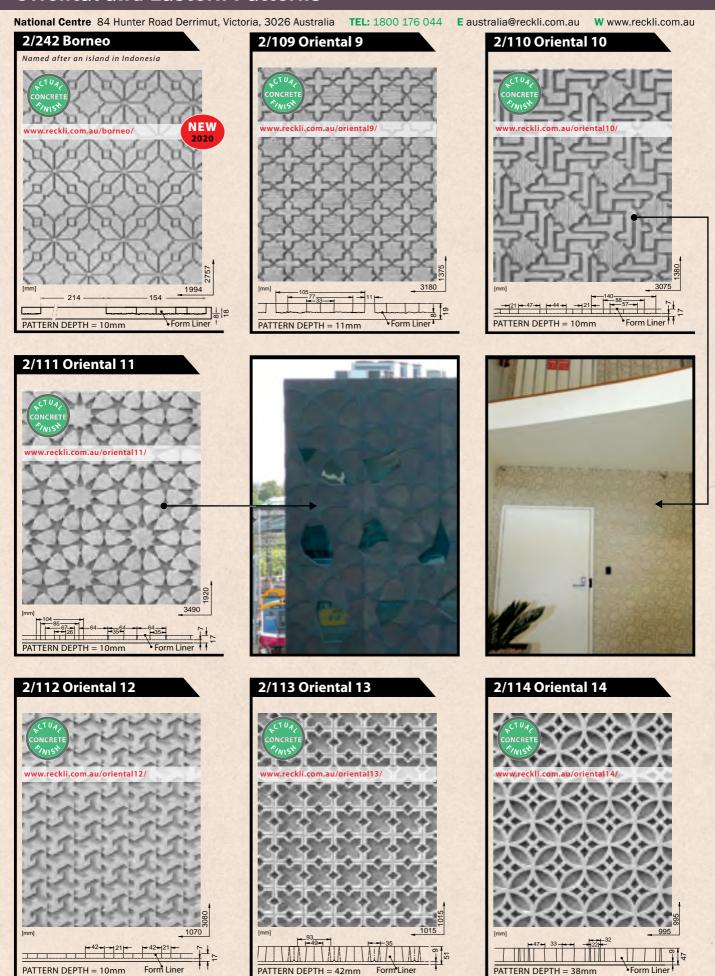


## **Stone and Rock Patterns**

# Geometric Patterns Experience and Quality



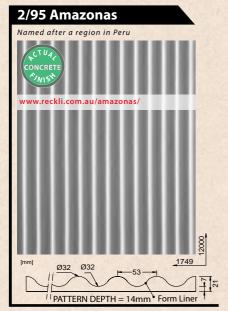
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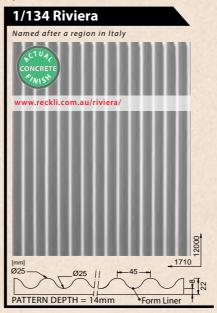


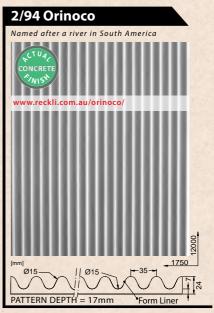


## **Rib and Wave Patterns**

#### **Experience and Quality**

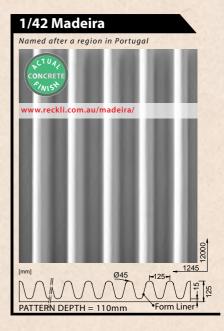


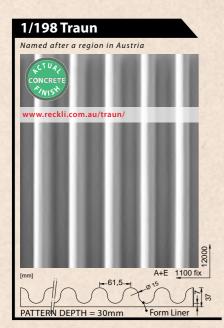














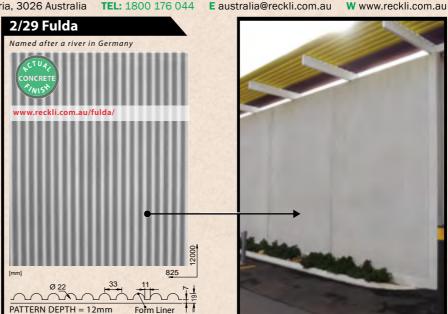




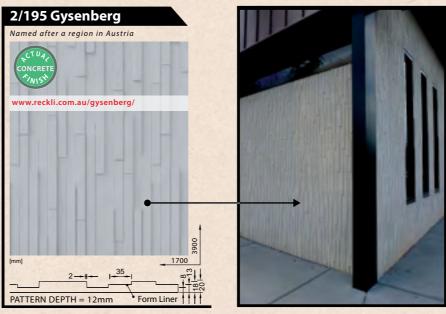
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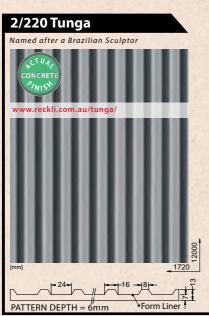
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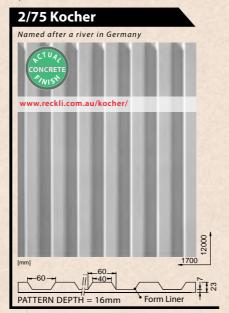




## **Rib and Wave Patterns**

**Experience and Quality** 

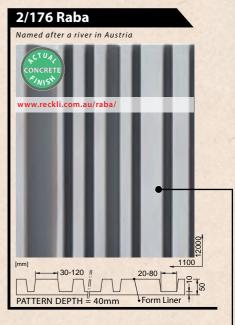




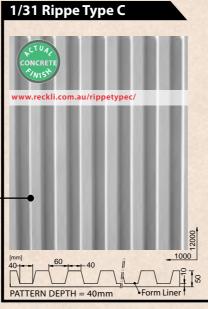










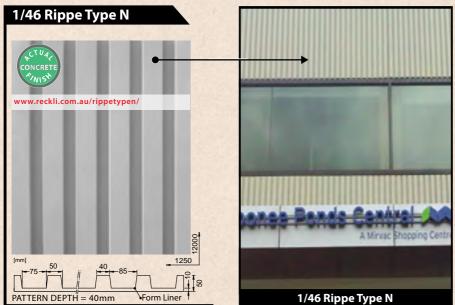






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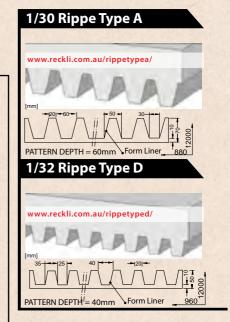
**Experience and Quality** 

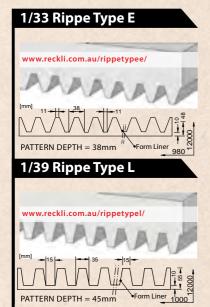


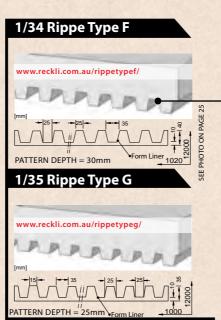


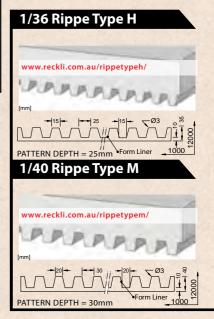




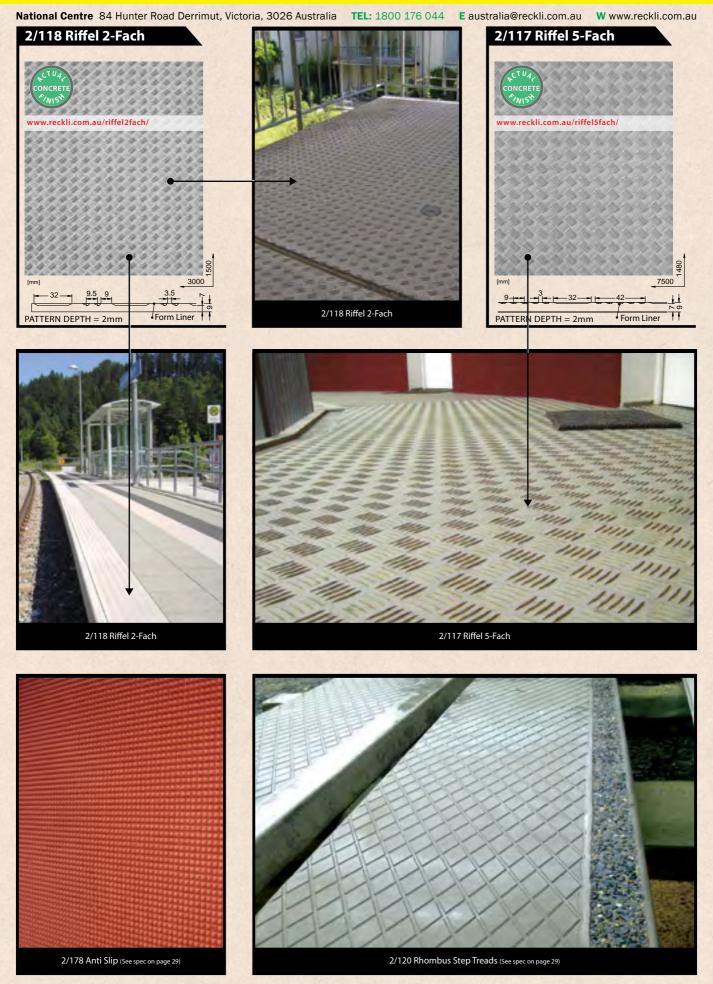




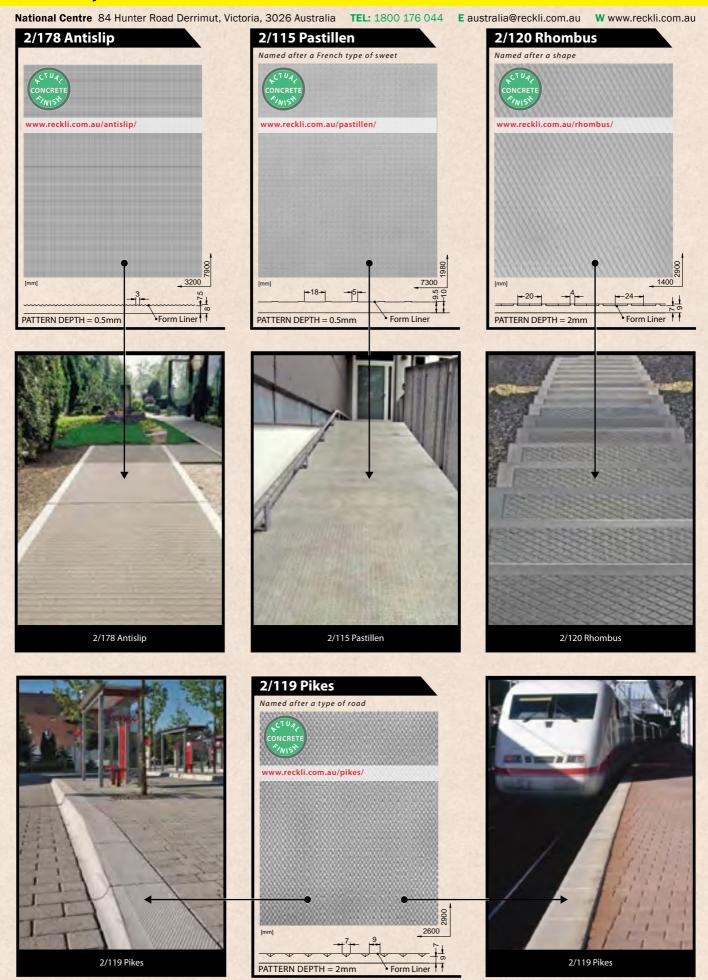




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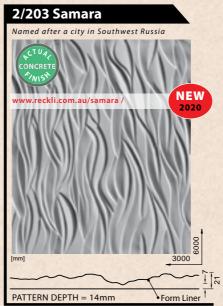


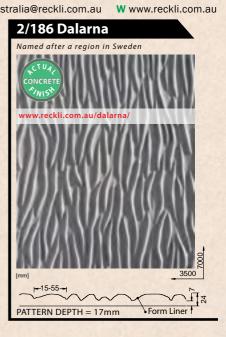
## **Anti Slip Patterns**

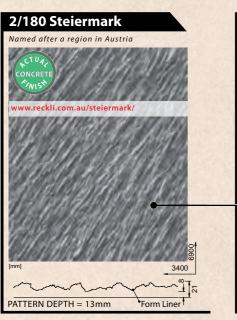


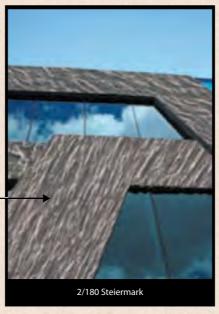
### **Trends Patterns**





















## **Trends Patterns**

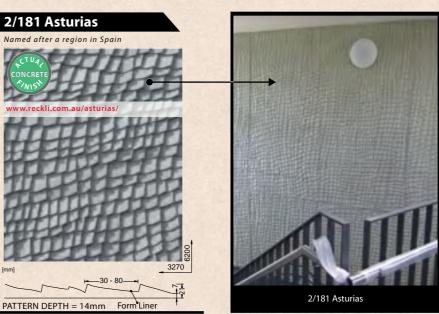




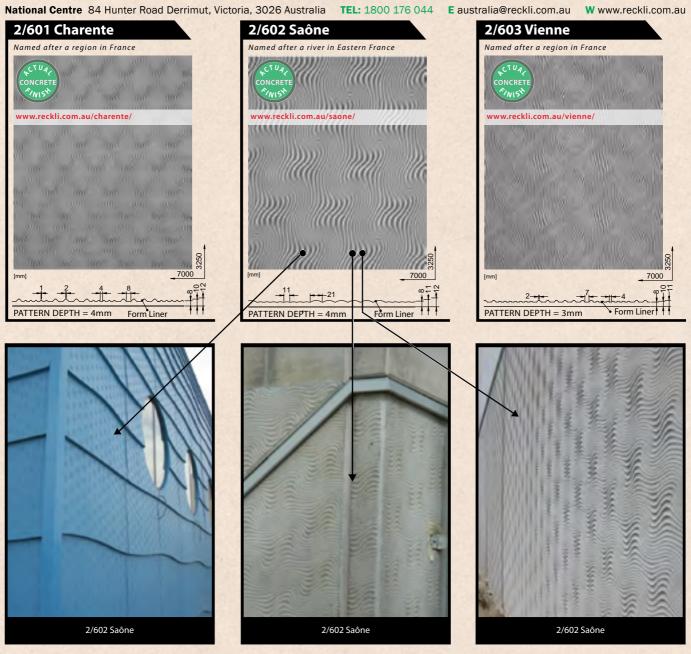








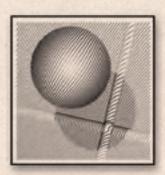
# 2.5D Form-liners (Made To Order)



Unavoidable production tolerances of +/- 2mm apply to heights/thickness of all profiles on this page.

All patterns on this page are available within 1.5 weeks in platinum grade rubber Ex-Melbourne (Made in Melbourne)









Non Standard Examples Of Graphic Designed Form-liners (Made To Order)



## Pixel Form-liners (Made To Order)

**Experience and Quality** 

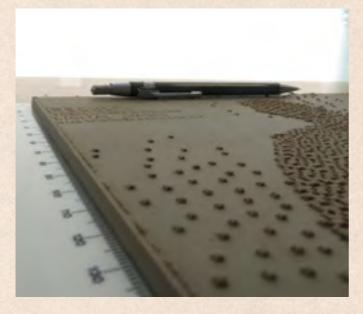
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RECKLI Pixelated pattern Form-Liners are the new alternative way to transfer a photo image onto a concrete panel without needing to increase the structural panel thickness.

#### Easy...

Step 1... Chose your image (colour or mono-tone)

Step 2... Chose your finished image size (on concrete panel)

Step 3... email us your request

Result... We will reply with electronic mock up.

#### Why RECKLI Pixelated pattern Form-Liners ?... Because;

- They are made in Melbourne (no import delays)
- They are made by us (last minute changes = OK!)
- They are re-usable
- Image is minimal depth (no need to thickenup concrete panel)

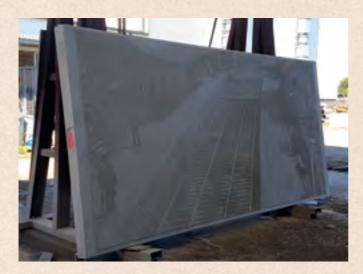


# Photo Engraved Form-liners (Made To Order)

**Experience and Quality** 

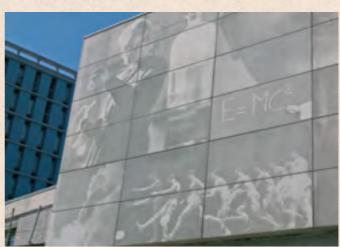
















See more photos at: www.reckli.com.au/photoengraved/



# Photo Engraved Form-liners (Made To Order)

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See more photos at: www.reckli.com.au/photoengraved/



# Photo Engraved Form-liners (Made To Order)

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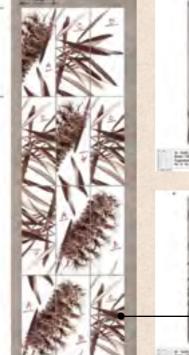






# Photo Engraved Form-liners (Made To Order)

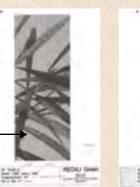
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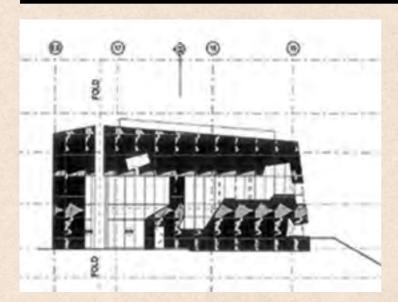


















See more photos at: www.reckli.com.au/photoengraved/



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Sand-dune at Peppermint Grove Library, South Perth







'The Knot' at North Richmond Community Health Centre, Melbourne







'Circuit-board' at Edith Cowan University, Joondalup, North Perth



**Experience and Quality** 







Mater Children's Hospital, Brisbane







Waverley Park Noise Walls, Monash FWY, Melbourne







Roses at Glen Eira Office Block, South East of Melbourne

**Experience and Quality** 







Dimples at Melbourne Convention and Exhibition Centre







Remembrance Drive (Under Western HWY, Ballarat)

Waves at Burrinja Cultural Centre, Upwey (S.E Melbourne)







Wall Paper Pattern on 2 Girls, Commercial Development, Abbotsford, Victoria

**Experience and Quality** 



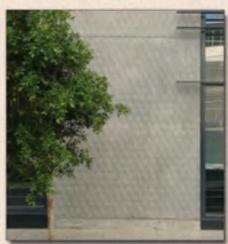




Floral at Coment Bay College, South of Perth







Dragon Scales at Harbour 1, Docklands of Melbourne







Woolworths Shopping Centre, Phillip Island (S.E of Melbourne)

**Experience and Quality** 



Apartment Development, Christie Street East Brisbane



Rosebud Medical Centre



Tyre Tracks, Noise Wall at Kings Rd and Calder FWY Interchange, Northwest of Melbourne



Apartment building in East Perth



GRC panels at Newcastle courthouse



Sloping Pattern at Novotel Hotel, Brisbane Airport







Water Swirl at Victorian Desal, Wonthaggi, South East of Melbourne

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Planter Boxes at Ellenbrook, Western Australia



Camden Municipal Offices, New South Wales



Arden Street Apartments, (Rippe C + Rippe D)



160mm Deep x 480mm Wide Flutes at Apartment Complex, Brighton, Victoria



50mm Slopped Pattern at Caulfield - Dandenong Level Crossing Removal + Rail Project Victoria



Volta Profile at Apartment Development, Former Pentridge Prison Site, Coburg, Victoria



# Pre Cast Being Made With Reckli Form-Liners

**Experience and Quality** 





















# Pre Cast Being Made With Reckli Form-Liners

**Experience and Quality** 



Andalucia Profile for Shell Harbour, Nosie Walls, New South Wales



K-Panels Gironde at Elvina Apartments, Carlton, Victoria



Affric Building at Deakin Univesity, Geelong, Victoria



Mayfair Apartments, Canberra, Australian Capital Territory



Substation Building, Penrith, New South Wales









# In-Situ Cast Preparations With Reckli Form-Liners

**Experience and Quality** 

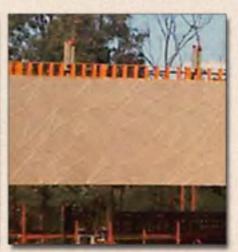














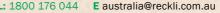






### **In-Situ Cast Preparations With Reckli Form-Liners**

**Experience and Quality** 













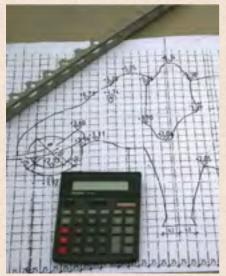






# **Site Cast Preparations With Reckli Form-Liners**

**Experience and Quality** 





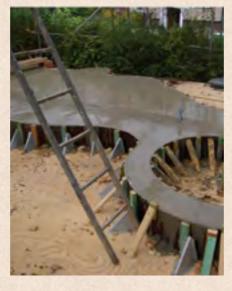
















# **Site Cast Preparations With Reckli Form-Liners**

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### **CNC Maching and Making Master Moulds**

**Experience and Quality** 











# **Quick Shapes**

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#### Disclaimer:

All form-liner dimensions are nominal. Actual dimensions may vary slightly depending upon design. Despite our carefully controlled production processes, dimensional tolerances are unavoidable. Due to the high elasticity of our form-liners, they can also stretch and be compressed during packing and transport, which may add to dimensional variations.

All methods of concrete panel manufacture vary between all manufacturers and also at different times of the year, we recommend you adopt our suggestions outlined in our "Application Guideline for Reckli Form-Liners".

#### **Limited Warranty:**

Reckli warrants their form-liners to be of uniform quality within manufacturing specifications and will perform as represented, provided that the concrete construction practices used are in accordance with our guildelines and installation instructions.

Reckli assumes no responsibility for any damage to form-liners due to the improper use or application of a non-Reckli form release agent.

Our obligation under this warranty shall be limited to refunding the purchase price or replacing that portion of the material proven to be defective. Reckli make no other warranty expressed or implied, including, without limitation, warranties of fitness or merchantability, with respect to its products.

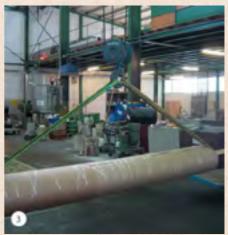


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#### 1. Classification

We distinguish our formliners with the prefix numbers 1/.. and 2/.. The most important distinguishing features are listed in table 1. There is also available another type of formliner with the prefix number 3/.. These formliners are for one use only. This working guide applies only to the formliners with the pre fix1/.. and 2/.. For the OneTimer Formliners prefix number 3/.. there is a separate catalogue with the relevant guide.

#### 2. Material

The formliners consist of rubber-like Polyurethane Elastomers. The high flexi bility and elasticity allow a damage-free release of the concrete and exact reproduction of the pattern and allowing for undercuts and shallow grooves.

#### 3. Delivery

For the formliners with the index 1/.. we deliver them flat on pallets or in chipboard boxes.

The formliners 2/.. are rolled up on heavy duty cardboard rolls for transport and storage and wrapped in heavy brown kraft paper and/or polyethylene for extra protection against dirt. Depending on the size and weight they are additionally strapped to non-returnable pallets. (Picture 1)

#### 4. Delivery Check

Upon delivery please check your consignment immediately for any damage sustained in transport. If you note any damage to your consignment you must describe it in detail on the delivery note and get the driver to countersign your comments. Before using the formliners first check the required dimensions as detailed on the package especially to the longitudinal direction (Id) of the pattern if here is one.

#### 5. Storage

Before fixing all formliners must be stored dry and level to avoid deformation of the pattern. If using the 2/.. formliners loosely (not adhered) they can be rolled up tightly again onto the cardboard rolls after use. Make sure the formliners rolls do not have any heavy or sharp objects stored on top of them as this would lead to permanent deformation.

The formliners must be protected against intensive weathering such as UV light, rain, frost and any other aggressive conditions. This is best accomplished by covering with dark or black polyethylene or other waterproof sheets. (Picture 2)

#### 6. Transport

#### 6.1 Boxes and pallets

The boxes and pallets with the formliners 1/.. can usually be transported and moved by fork-lift or crane. The pallets with the formliner rolls can also be transported and moved by fork-lifts or cranes.

#### 6.2 Single formliner rolls

Up to a length of approx. 1.50 m the cardboard rolls can be lifted by placing the fork or forks of the fork-lift into the cardboard tube. For rolls of formliner in excess of 1.5 m it is necessary to use extension forks or a carpet 'spike' as otherwise the forks would pierce the cardboard roll and probably the liner as well. If using a crane for lifting make sure you use wide nylon lifting straps evenly distributed along the length of the roll. Do not use wires ropes or chains. For large size formliners it can be useful to place a steel tube through the cardboard roll, make sure you use separate lifting straps from each pole end to crane hook to ensure even lifting. (Picture 3)

#### 7. Heat Resistance

The formliners can used in temperatures up to  $+65^{\circ}$  C. Temperatures which exceed this value will damage the material. Should you expect a concrete temperature on the interface to the formliner of more than  $+65^{\circ}$  C due to the concrete mass or other circumstances the mix design or other suitable actions should be adjusted to allow for the safe use of the formliner within its temperature constraints.

Table 1

| I abic i            |                         |                          |
|---------------------|-------------------------|--------------------------|
|                     | Formliners 1 /          | Formliners 2 /           |
| Depth of structure* | > 25 mm                 | 1 - 25 mm                |
| Maximum size*       | approx. 1.00 m x 5.00 m | approx. 4.00 m x 10.00 m |
| Type of elastomer   | light $\gamma = 0.9$    | normal $\gamma = 1,4$    |
| Re-uses             | 50 times                | 100 times                |
| Kind of delivery    | Packed flat             | Rolls                    |

<sup>\*</sup> The exact sizes you find in our catalogue under the photos of the pattern.

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#### 8. Pattern Design

There is no intended repeatability (with the exception of any of the rib type patterns) in the formliner patterns within the maximum mould size as compared to wallpapers. A number of patterns are designed in a way that they can be placed together side by side continuously. With a little care the joints in the patterns can be made almost invisible. (Picture 4+5)

For the building of our master moulds we use a combination of natural and man made materials of commercial grade quality which are formed using current standard working practices. Unavoidable tolerances, discrepancies and imperfections caused by the use of these materials can and will be reflected in the patterns of the formliners. The measurements shown in the sectional drawings under and beside the pattern photos in our pattern book are average values and nominal dimensions which have the stated tolerances. In using these sizes for the calculation of your requirements you should not expect that there is an equal repetition of measurements within the same formliner. The same criteria will apply whether you place two full sizes sheet formliners together or two or more 'made to measure' (smaller) formliners. Therefore it is possible that you will have to stretch or compress the formliners to adapt them to the required pattern format or shutter/mould measurements. This may be required especially for patterns and textures for formliners of bricks, blocks, boards, ribs etc. It is essential that attention be paid to both pattern sequence and direction of all designs; especially when concrete elements are to be arranged side by side or one upon another and are to appear seamless. Unintentional rotation of the formliners by 180° for example can lead to conflicting pattern effects.

#### 9. Cutting

#### 9.1 Oversize and tolerances

Due to their high elasticity the formliners will be stretched or compressed during packing and transport which can lead to dimensional tolerances. Therefore, to protect the liner edges against damage we always supply the formliners oversized. They must be cut to their final dimension on site. It is always advisable to cut formliners a couple of millimetres longer than required for a tight fit against the formwork guide battens. (see 10.1) The formliners should be cut to their final size directly before adhering to avoid size changes by stretching or shrinking due to temperature differences.

As with all highly elastic rubber-like materials the formliners are subjected to stretching after a long period of use. Therefore it may be necessary to re-cut the formliners to their original dimension from time to time. This of course will only apply if the formliners are not fixed by gluing.

Despite the most carefully controlled production process, dimensional tolerances of some mm in the rear wall thickness of the formliners is unavoidable. This is due to material and production factors which we are unable to negate. These dimensional differences are unavoidable whether you have a formliner produced in its maximum size or a smaller made to measure formliner

within the maximum size of the same formliner. Therefore it may be necessary to grind the formliners edges to even and level them or to thicken the seam area with RECKLI-Formliner Adhesive SO or RECKLIElasto Filler when required to place them horizontally next to another formliner. (see 20.2)

#### 9.2 Formliners with prefix number 1/..

These formliners are normally supplied in fixed widths whereas the length/height (ld) is variable. If you have to put 2 or more formliners together (side by side) to reach a total area for the shutter or mould, cutting will probably be necessary. To make perfect cuts lay the formliners onto a flat, clean even surface and cut them using a suitable hand panel or circular power saw. (Picture 6) If using a power saw it is most important to allow the saw blade to rotate freely into the cut and during the cut. Keep the sawn material (waste part) pulled away from the blade to avoid it flapping against the rotating saw blade, otherwise heat will be generated and the formliner can burn. On long cuts it is a good idea to pull the power saw away from the cut and let the saw spin under power to dissipate any build-up of heat.

#### 9.3 Formliners with prefix number 2/..

Roll out these formliners onto a flat, clean even surface and cut them with the

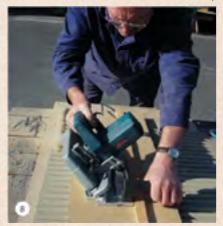






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RECKLI- Formliner Knife. For a straight cut line please use a metal or timber straight edge. (Picture 7)

When cutting thicker pattern formliners do not try and make the cut 'in one' place the knife in the first cut and draw through the formliner gently as many times as required, do not use excessive force as this will lead to crooked cuts. We do not advise cutting these formliners with a circular power saw. Note: It is very difficult to make mitred, bevel cuts with a knife to an unfixed formliner. When such bevels are required we can suggest two methods: a) place the area to be

mitred onto a board, place another board above the formliner and fix thereby compressing the formliner. Set the power saw to the required angle and depth and cut the board and the formliner together. (Picture 8+9) b) Perform this task with a power saw min. 24 hours after the formliner has been adhered. Cutting the fixed formliner and the plywood will give a more precise finish. We also advise the 24 hour delay for the drilling of any 'tie-bolt' holes.

### **10. Application in Pre-cast Concrete** 10.1 Fitting the formliner

to the formwork or mould After cutting the liner lay it loose into the formwork/mould frame. The formliners with prefix number 1/.. should have been cut





with an over-size of 1-2 mm. So that you can compress them into the dimension frame for getting a tight compressive fit all round.

The liners with prefix number 2/.. should also be cut to an oversize of 1-2 mm. It is easy to compress them so that they will be a tight fit around the edges of the formwork/mould. Please Note: When you allow too much oversize, the formliner will 'bow up' at the edge and form an 'air cushion' which even the pressure of the concrete will not flatten. These 'air cushions' will lead to indentations in the concrete surface.

#### 10.2 Fixing by adhering

Loose formliners have to be refitted into the mould after every cast. To avoid this you can glue the formliner on to the 'tilt-up' or vibrating tables (see 12.) This is always an advantage when you have to produce a series of elements of the same size. Loose formliners will also be more prone to stretching from their constant handling.

### 10.3 Setting & Placing the formwork/mould edges

You can of course place your form - work/ mould dimension frame directly on to the formliners which have shallow patterns or textures of approx. 1-2 mm. Patterns with a depth of up to 5 mm can be sealed sufficiently by a compression band.





For deeper patterns we suggest you make 'pattern stop-offs' (see 19.2) or in symmetrical patterns (ribs or waves) you can use the same formliner piece inverted. (Picture 10) Please Note: If the frame is pressed too firmly on to the formliner for too long, there will be a permanent depression in the formliner giving a noticeable difference to the pattern if and when the frame has to be moved to a different part of the formliner.

#### 10.4 Vibration

It is possible that the frequencies of an external vibrator can make the formliner 'flutter' and draw air under the formliner. This can result in air 'cushions' or 'bubbles' in the formliner which can lead to indentations in the concrete surface. Therefore the vibrator and its vibration frequency must be checked and adjusted correctly.

#### 10.5 Stripping/Striking

Formliners that are laid loose in the mould are generally removed from the concrete elements and replaced back into the moulds ready for reuse. Care should be taken during the stripping/striking process that the formliner will not fall off the concrete element when the tilting table is in the vertical. The formliner would almost certainly be damaged. (Picture 11-13) To avoid this happening you can glue the liners onto the formwork/tilting table. (see 12.)



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#### 11. Application for In-situ Concrete

11.1. Fixing by adhering

When used for in-situ concrete the form-liners must be glued down. (see 12.)

#### 11.2 Fixing by nails

For minimum use or the immediate change of shutter sizes after the first pour, the formliners with prefix number 1/.. can be nailed onto the formwork. The nail centres should be approx. 20-25 cm. Use 'lost heads' or 'ovals' nails so that it is possible to pull the nail heads through the formliner during stripping/striking. Depending on the pattern or texture always nail through the high points of the pattern. This will ensure that nail holes are in the negative part of the concrete and not so easily noticed.

The formliners with prefix number 2/.. should not be nailed to the formwork. Due to the weight of the formliners there would be too much weight placed on the nails when lifted into the vertical position and this can result in the formliner tearing.

#### 12. Adhering

Please Note: It can be to your advantage to glue the formliners onto plywood sheets and use these sheets as auxiliary/'slave' formwork which you can then fix onto your load bearing formwork or casting table. The plywood can be fixed from the rear using wood screws. The plywood can easily be removed from the load bearing formwork after use. It will also be easier to store and dispose of the formliners when they are glued to plywood.

#### 12.1 Principles of fixing

RECKLI-Formliners must adhered completely. Point or spot gluing will lead to stretching of the formliners during stripping/ striking. This type of stretching will lead to raised round areas in the formliner which will show itself as dents in the concrete. It is possible to glue on to steel as well as on timber.

The easiest surface to glue on to is the horizontal surface. Other shutter/mould applications which you might encounter might be inclined, (Picture 17) half or quarter columns etc. On vertical or rounded surfaces the adhesive would flow down to the lowest point leaving insufficient adhesive for a complete fixing. In these applications the Formliner Adhesive should be thickened with our RECKLI-Standardiser 100 to make it more 'pasty'. Please ask for our special advice. On inclined or vaulted surfaces the formliners can slide on the adhesive because of their weight and the adhesive is not a contact adhesive. Therefore the formliner must be clamped, propped or pinned with laths to the formwork/mould until the adhesive has cured. It is easier to add the clamps and laths incrementally as you work round the curve or

You should not walk on or kneel on a freshly adhered formliner as this will push away the adhesive under the formliner and can result in dents in the formliner and show it self as circular raised areas in the concrete.

#### 12.2 Adhesive

RECKLI-Formliner Adhesive SO is not a contact adhesive. It is a 2-component adhesive. The mixing ratio is 4:1 by weight. If it is necessary to weigh out smaller

quantities of adhesive this must be done by weight. For mixing the adhesive a slow speed electric drill with the correct mixing paddle should be used. (Picture 14) The base solution must be mixed first. The hardener is then added to the base solution and mixed thoroughly. To avoid any 'soft spots' or uncured material the adhesive must be placed into another empty, clean container and mixed again. (Picture 15+16) You should use only as much adhesive as you can work with within the pot-life. The pot-life depends on the ambient temperature but as a rough guide you will have approximately 30-40 minutes at 18-20° C.

Adhesive consumption is approx. 750-1000 g/m2. After 24 hours the adhesive is cured. You should give a longer curing time during winter periods with lower temperatures. The formwork, mould or the tilting table can now be used.

#### 12.3 Surface / Formliner rears

All surfaces that you wish to adhere to must be even, clean and dry. Any grease, oil or mud should be sanded off the shutter not washed off. A superior bonding of the formliner to the shutter will be achieved if you sand the rear of the formliners. (Picture 18)

A light sanding which will roughen the rear will be sufficient. (12.4.1.1 or 12.4.2.1)
14 15 16 17







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#### 12.3.1 Timber

The most suitable foundation for RECKLI Formliners are new clean untreated plywood sheets designated as suitable for shuttering. (Picture 19) Resin coated plywood plates must be ground off to the rough timber surface.

#### 12.3.2 Steel

Steel must be rust free and the work will benefit from a light sand-blast. If this is not possible the minimum should be the use of an angle grinder to the surface. When using **RECKLI Formliner Adhesive SO no primer is** required.

#### 12.4 Adhering

12.4.1 Formliners with prefix number 1/.. 12.4.1.1 Roughening of the formliner rear

Lay the formliners onto their patterned surface for roughening the rear by using a grinding machine. Circular grinding machines or belt sanders are better suitable for this work than vibratory grinders. The grinding dust must be removed completely by sweeping or rubbing off or by blowing off with compressed air.

#### 12.4.1.2 Checking dimensions with a 'Dry run'

Lay the liners loosely onto the surface to be adhered, adjust them and check against your measurements. Lay out a temporary right angle on to your shutter/mould and lay

the formliners onto a clean surface.

#### 12.4.1.3 Adhering/Gluing

After mixing the RECKLI-Formliner Adhesive SO (see 12.2) pour it onto the surface to be glued and spread the adhesive evenly over the surface using the supplied serrated trowel. (Picture 19+20) Take care that you spread the adhesive equally. Spread only so much adhesive over the formwork surface as you need for the gluing of one formliner or that you can work with within the adhesive's pot life. Make sure that the edges of the formliner have sufficient adhesive as this is the most critical area of stress when stripping and concrete will always try to enter at the edge of the glue line and get behind the formliners. Lay the formliner onto the fresh adhesive along the temporary right angle. (Picture 21) Please take care that there are no air bubbles under the liner. The best way to avoid this is by sliding the formliner backwards and forwards on the adhesive. Then apply the adhesive for the next liner. Press the liner against the first one making sure you coat the vertical surface of the first formliner with adhesive to give a grout free join. (Picture 22) Any surplus that has been squeezed out can be

wiped off after fixing or left to dry and sanded down.

the liners against this frame. Remove and stack Carry on in this order until you reach your total shutter requirement. When fixing the formliner onto the shutter check that the formliners will reach the required point on the shutter/mould. Use rips of plywood / wood and pin down edges of liner to prevent them from lifting. You need gentle pressure on the edges for 24 hrs. minimum. Nail through the liner into the plywood. Note: Do not drive the nails home, excessive pressure will raise the edge of the formliner and take it out of contact with the shutter. If using steel shutters use weight on the timber/ply rips.

### 12.4.1.4 Gluing onto vaulted or curved

The formliners 1/.. are flexible and can be deformed to various degrees to accommodate shutter and mould shapes but because they are flexible and have a 'spring' value you will have to support/contain the formliners to the shutter/mould profile until the adhesive cures. To reduce the 'spring' in the formliner you can cut kerfs in the rear of the formliner which makes curving the formliner easier, on extreme curves you can cut V's in the back of the liner. The depth of these cuts will depend on the thickness of the formliner. Cut only into the rear thickness of the formliner do not cut near the pattern thickness. (Picture 23+24)









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12.4.2 Formliners with prefix number 2/.. 12.4.2.1 Roughening of the formliner rear

Before gluing/adhering the rear of the formliner must be roughened. Lay the formliners onto their patterned surface for roughening the rear by using a grinding machine

Circular grinding machines or belt sanders are better suitable for this work than vibratory grinders. The grinding dust must be removed completely by sweeping or rubbing off or blowing off with compressed air.

Then turn the formliner back onto its rear side and roll it up again on to the 'transport jacket' (cardboard roll) making sure that formliner is in the right position to be rolled out onto the Formliner Adhesive and shutter. The use of the stripping jackets will make it easier to move the formliners around the working area.

#### 12.4.2.2 Checking dimensions with a 'Dry run'

Roll the liner loosely onto the surface to be adhered, adjust and check against your measurements. If necessary mark reference points on the shutter/mould. Lay out a temporary right angle on to your shutter/mould and lay the liner against this frame. Roll the liner loose onto the surface to be adhered and straight and fit it exactly. Take note of any pattern that has parallel ribs or grid details.

#### 12.4.2.3 Adhering/Gluing

Mix the adhesive (see 12.2) pour it onto the shutter/mould surface, spread the adhesive with a serrated trowel. Lifting the formliner by its stripping jacket, place it next to the start of the vertical part of the right angle 'setting out' frame roll the liner slowly onto the fresh adhesive.

Make sure that the edges of the formliner have sufficient adhesive as this is the most critical area of stress when stripping and concrete will always try to enter at the edge of the glue line and get behind the formliners. Please take care that there are no air bubbles under the formliner.

For the fixing of large formliners or when there is a shortage of manpower an alternative method of fixing you might employ could be this.

After the 'Dry-run' roll up the formliner again with the cardboard roll until in the middle of the shutter. Then mix the formliner adhesive (see 12.2) and pour it in front of the rolled up half of the formliner and spread it equally over a strip of approx. 75-100 cm along the length of the liner. (Picture 25+26)

An even and uniform thickness of the adhesive is most important. Check against excess adhesive which can lay in pools. In moving the adhesive with the serrated trowel you should look for the distinctive 'tram-line' effect on the adhesive the shutter/ mould surface should be clearly visible. Now roll the liner onto the fresh adhesive and repeat the pouring, spreading and rolling the liner along the shutter/mould strip by strip until you reach the end of the first liner half. Make sure that there are no air bubbles under the formliner. Press out the air to the front and the sides. During fixing check that you are reaching your datum/pattern points on the formliner or the parallel running of ribs or joints if there are any in the patterns. Now roll up the second half of the liner to its middle until you reach where you have started spreading the adhesive for the first half and repeat the first half procedure until you reach the end of the second formliner half.

#### 12.5 Removal of glued formliners

When the formliner adhesive has been mixed and applied correctly the fixing should be considered permanent.

The removal of glued formliners should be considered a major task and would be very difficult to remove them from the shutter/ mould without damage to the formliner. Therefore it can be an advantage not to glue the formliner directly onto the structural formwork but onto separate plywood sheets as 'slave' formwork and then to fix these to the structural formwork.

If it is absolutely necessary to remove formliners from the shutter/mould you can use the peel-off method. Cut in at the glue line on one corner pulling the formliner up and cutting away at the glue line carry on until you have a large enough piece of formliner to attach a clamp to which can be attached to a crane, fork lift etc. to apply more force while cutting away at the glue line. Any residue can be sanded off the shutter and formliner with a belt sander.







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#### 13. Release Agents

#### 13.1 Choice of release agent

The choice and application of the correct release agent is most important to obtain an efficient release and high a quality concrete finish. We supply three different release agents depending on the application.

RECKLI-Stripping Wax TL contains solvents.

RECKLI-Stripping Wax TL contains solvents.
RECKLI-Stripping Wax TL-W is water-based.
These two release agents are more suited to pre-cast concrete. RECKLIStripping
Wax TL-SO also contains solvents and is especially designed for in-situ concrete.
(Table 2)

#### 13.2. Application

The stripping wax must be brushed or sprayed on a minimum two times. (Picture 27) The release agent should be applied laterally and longitudinally. It is most important that in any rib patterns the vertical part of the ribs should be sprayed at 45° from both sides of the formliner to ensure correct coverage. Surplus wax must be removed by a brush or clean cloth. You can also blow it off with compressed air.

### 13.3 Protection of the wax film against weathering

After evaporation of the solvents in Stripping Wax TL and TL-SO or the drying of the water-based Wax TL-W you can use the formliner/mould. To avoid any damage by rain and weather to the wax film you should protect the liners with polyethylene or any light plastic covers. (Picture 28) If the wax film has been reduced or damaged it should be reapplied.

Note: You will find that a 'fan' spray will give the best and most even application of the Stripping Wax's TL and TL-SO. Make sure that your sprayer has solvent resistant gaskets.

#### 14. Bar spacers

Bar spacers that offer the largest contact areas should be used. Chair type spacers give a point loading and will press into the formliner (Picture 29) and will therefore show through the concrete. The minimum concrete covering over the reinforcement is always measured from the deepest point in the concrete surface. Therefore the bar spacers must be set onto the highest points of the formliner pattern. It is of great advantage to hang up the reinforcement for avoiding a loading of the liners. (Picture 30)

#### 15. Concrete Casting

RECKLI-Formliners allow the use of all types of cement based concrete. When using external vibrators you should note that some of the vibration frequencies will by absorbed by the elasticity of the formliner. This can be compensated for by a longer vibration time.

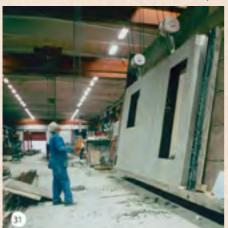


| Table 2           |                            |                          |
|-------------------|----------------------------|--------------------------|
| Application       | Type                       | Consumption per coat     |
| Pre-cast concrete | RECKLI-Stripping Wax TL    | 50 -100 g/m <sup>2</sup> |
|                   | contains solvents          | 2 coats required         |
| In-situ concrete  | RECKLI-Stripping Wax TL-SO | 50 -100 g/m <sup>2</sup> |
|                   | contains solvents          | 2 coats required         |



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#### 16. Striking / Stripping

16.1 Striking / Stripping timing

It is easier to release RECKLI-Formliners within 24 hrs of casting. Specification and striking times for your particular application should overrule RECKLI's suggestion.

#### 16.2 Unfixed formliners

Formliners that are laid loosely in the mould will peel off of the concrete during stripping due to their weight. (Picture 11-13) If this should not happen due to the depth of pattern, peel off the liners carefully starting from a corner. Do not tear at the formliner, doing so could exceed its stretching capacity.

#### 16.3. Adhered formliners

Release the pre-cast concrete elements from their moulds or the shutter from the concrete.

The releasing of the element from the mould or the shutters from the concrete should be done slowly and carefully. You must allow the formliners time to stretch and release themselves from the concrete they should need the minimum effort from you. (Picture 31-35)

In every instance avoid the use of sharp or edged tools to hasten the stripping process as damage will be done to the formliners.

#### 17. Cleaning

#### 17.1 Formliner surfaces

When the formliners are provided with the correct amount of Stripping Wax the formliner will be clean and ready for reuse after striking/ stripping, reapply more Stripping Wax ready for the next cast.

If, for any reason it becomes necessary to clean the formliner, take a dry, clean rag and soak it with the relevant Stripping Wax and clean off any cement splashes or dirt on the formliner.

#### 17.2 Tools and equipment

For cleaning tools and equipment after use, use RECKLI-EK-PU Thinner. Clean thorough ly while the formliner adhesive is fresh. Use a brush, it is not sufficient to lay the tools in the thinner. You will not be able to remove the cured 2-component material once it has hardened.







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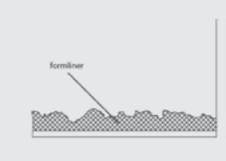




#### 18. Joints / Corners / Edges

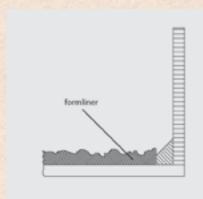
18.1. Use of profiled fillets

Profiled fillets for shaping corners, edges and joints should be considered. You must calculate the thickness of the profile as to what part of the pattern it is required to be aligned to i.e., top, middle or bottom. The thickness of the formliner back must also be considered. (see sketch 1-5) (Picture 36-39)





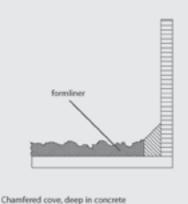
Butt joint

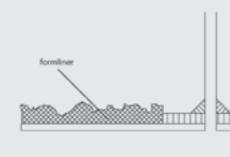






Smooth frame with chamfer deep in concrete







Smooth frame with chamfer high in concrete



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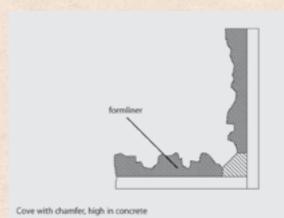


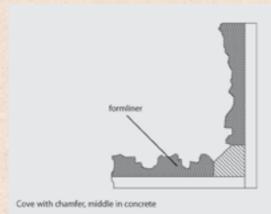
#### 18.2 Formliner joints

When placing formliners with coarse or rank patterns side by side care must be taken to see that the joints from this operation are sealed correctly. RECKLI-Formliner Adhesive can be used after you have glued the formliner down. You can also use standard building One Component Silicone applied to the formliner when the adhesive has cured. We do not advise butting or mitring formliners together for 90° corners for such kind of patterns. They will never look good.

Make a feature at the corners by introducing a plain band to the pattern, the corner will look sharper and straighter. The formliner will also have a straight line to finish to. (see sketch 6-9)

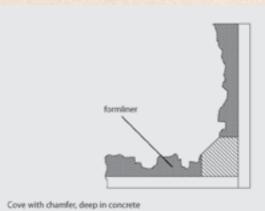
Of course for patterns with straight lines like ribs and waves it is of advantage to cut the liners mitred for 90° corners. (Picture 40+41)





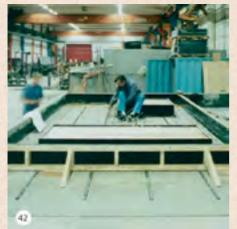




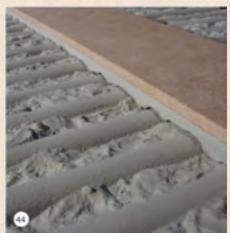


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#### 19. Stop-offs / Counter impressions

19.1 Cuts out

Pattern stop-offs for i.e. windows, doors or lighting can be formed by cutting out the shapes in the formliners and inserting a frame. This is suitable if the same openings are to be used in the same position for every use of the formliner. (Picture 42)

### 19.2 Pattern stop-offs using RECKLI-Mould Paste PU

If they are to be used once or twice or the formliner needs to be used in a different position then RECKLI-Mould Paste PU should be used. (Picture 43+44)

Select the area for the pattern stop-off and paint on RECKLI-Mould Wax exceeding the area by at least 100 mm all round. On textures, shallow patterns deep ribs place a frame larger than the required stop-off.

Use clay or Plastercine to fill in the space between the bottom of the frame and the pattern detail.

On deep rib patterns, to save material block off with timber pieces. Paint the frame, clay, Plastercine with a coat of Mould Wax. Mix and pour the Mould Paste PU inside the frame forcing the material into the pattern detail with a spatula. You can mix and pour wet on wet material to reach the required level which should be approx. 6mm higher than the highest part of the pattern. Place a clean dry board onto the fresh Mould Paste PU making sure it is level. Leave to harden. When hardened remove from formliner and trim off surplus material for sharp square or

#### 19.2.1 Properties of RECKLI-Mould Paste PU

cut bevelled edges.

RECKLI-Mould-Paste PU is a pasty elastic 2-component material. The mixing ration is 10:1 by weight. If using only part quantities from a drum the amounts of base solution and hardener must be weighed out, never mix by volume. For mixing use a slow speed electric drill with the correct mixing agitator.

Mix only so much paste as you can work with within the pot-life. The pot-life is approx. 10-15 minutes depending on temperature. The curing time is approx. 1 hour. The consumption depends on the type of pattern.

The specific weight is approx. 1.4 g/cm3.

#### 19.2.2 Removing of mould wax residues

To avoid different colours in the finished concrete, the area treated with RECKLIMould Wax must be removed and cleaned by using RECKLI-Stripping Wax. Soak a clean cloth with RECKLI-Stripping Wax TL, TL-SO or TL/W and wash and clean off the areas where the Mould Wax remains.

If this procedure is not carried out carefully, colour differences in the finished concrete surface should be expected.

#### 19.3 Inverted formliners

For symmetrical patterns (ribs or waves) you can use the same formliner pieces inverted for stop-offs. (Picture 10)

### 20. Repairing / Patching & Equalizing of Formliners

20.1 Repair

With RECKLI-Elasto Filler you can patch and repair damaged or torn formliners. To get a correct bonding of the Elasto Filler to the formliner the damaged area holes or tears must be clean, dry, dust, oil, wax and grease free. The area to be repaired or filled must be roughened by sand paper.

The filler must be applied quickly and within the pot life time. Surplus material must be removed while the material is still fresh.

Texture and shape modelling must be done also within the pot-life.

Any hardened residue can be ground off after approx. 2-3 hours. After 4-5 hours you can load the repaired area.

Tears and splits: Carefully clean and pretreat the sides of the split or tear as above mentioned. Under the tear lay a piece of polyethylene to avoid unwanted bonding of the paste. Apply RECKLI-Elasto Filler to the sides of the tear and press the tear together.

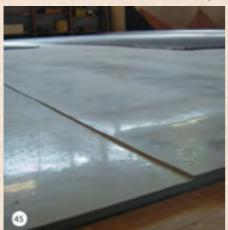
Surplus filler can be removed with cloth or spatula and is best removed while fresh. Cured filler you can only remove by sanding or cutting. After curing turn the liner on to its front side. Grind out 3-5 cm left and to the right of the tear line and approx. 3 mm deep. Fill this recess with the Elasto Filler and smooth it. After 2-3 hours hardening it can be ground level. Turn the formliner back onto its rear and apply RECKLI-Stripping Wax to the repaired area.

Note: We must categorically point out that a repaired seam cannot possibly give the same result as an undamaged formliner. There is always the possibility of the repaired formliner tear showing through in the patterned surface even when the repair has been carried out extremely careful.

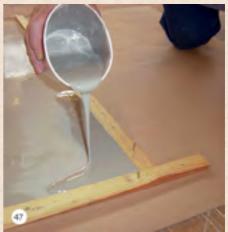


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#### 20.1.2 Properties of RECKLI-Elasto Filler

RECKLI-Elasto Filler is composed of 2 liquid components. The mixing ratio is 8:1 by weight. After mixing the hardener with the base component a thixotropic action will take effect after about 2-3 minutes.

The thixotropic effect increases until the end of the materials workable time. In this time RECKLI-Elasto Filler can be used as a pourable material and as a filler. The pot-life takes approx. 10 minutes at + 18° C. The layer thickness can be up to 10 mm in one application. Consumption depends on the area to be repaired. The specific weight is approx. 1.4 g/cm3.

Note: To extend the workable time of Elasto Filler spread the mixed filler onto a board as a thin coat.

#### 20.2 Equalizing of formliner rears

As already mentioned (see 9.) dimensional tolerances of some mm in the rear wall thickness of the formliners is unavoidable. (Picture 45) Therefore, sometimes it is necessary to adjust the thickness of the formliner rear. This you can do by grinding down the thicker one or by increasing the

thickness of the thinner one.

Turn the liners on to their pattern sides put them together and grind or sand down the thicker parts along the edges in a flat strip until you have reached the thickness of the thinner formliner. (Picture 46)

Be sure to 'feather' away the grinding or sanding to the centre of the formliner so that you do not leave a step.

When the difference of the rear thickness' is too big, it could be easier not to grind the formliner down but to increase the thickness of the thinner one. Turn the liners on to their pattern side. Clean the area to be levelled by grinding or sanding this also acts as preparing the foundation.

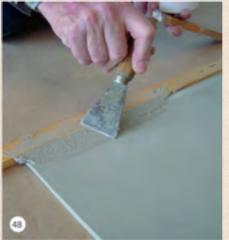
Place a piece of timber along the edge to be levelled to the required height. Paint the board with RECKLI-Mould Wax allow to dry and fix along the formliner edge which you wish to fill level. Mix the RECKLI-Formliner Adhesive SO (see 12.2) and pour it onto the roughened rear part of the formliner. (Picture 47)

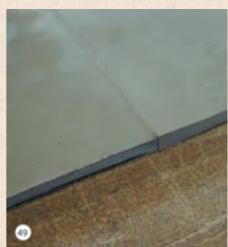
Being a liquid it should find its own level. Take RECKLI-Elasto Filler (see 20.1.2) for the levelling material when the area to be levelled is not too large. (Picture 48)

After the Formliner Adhesive or the Elasto Filler has cured remove the board along the formliner edge. If necessary grade the repair into the formliner by grinding or sanding which will also remove any high spots. The formliner is now ready for use. (Picture 49)

#### 21. Waste disposal

RECKLI-Formliners are made from Poly - urethane Elastomers. The code of the European Waste Register is 12 01 05.







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### 22. Product & Consumption Table

22.1 Material - Please refer to the relevant technical pamphlets, too.

| Material                     | Application                                 | Consumption                              |
|------------------------------|---|--|
| RECKLI-EK-PU Thinner         | Cleaning of tools and equipment             | Depending on the degree of contamination |
| RECKLI-Elasto Filler         | Repair of damaged formliners                | depending on the volume of damage        |
|                              | and equalizing of formliner rears           | or filling, $\gamma = 1.4$               |
| RECKLI-Formliner Adhesive SO | Adhesive for full entire surfaces on steel  | Approx. 750-1000 g/m <sup>2</sup>        |
|                              | or timber and equalizing of formliner rears |  |
| RECKLI-Mould Paste PU        | For making pattern stop-offs                | Depending on the pattern, $\gamma = 1.4$ |
| RECKLI-Mould Wax             | Release agent for RECKLI-Mould Paste PU     | Approx. 150-200 g/m <sup>2</sup>         |
|                              | and for steel or timber gauges while        |  |
|                              | equalizing of formliner rears               |  |
| RECKLI-Standardiser 100      | Thickener for Formliner Adhesive            | 1-5 %                                    |
|                              | for gluing on vaulted or curved surfaces    |  |
| RECKLI-Stripping Wax TL      | Release agent for pre-cast concrete,        | Approx. 100-150 g/m <sup>2</sup>         |
|                              | contains solvent                            | depending on the pattern                 |
| RECKLI-Stripping Wax TL-SO   | Release agent for in-situ concrete,         | Approx. 100-150 g/m <sup>2</sup>         |
|                              | contains solvent                            | depending on the pattern                 |
| RECKLI-Stripping Wax TL-W    | Release agent for pre-cast concrete,        | Approx. 100-200 g/m <sup>2</sup>         |
|                              | water-based                                 | depending on the pattern                 |
|                              |   |  |

| Tool/Equipm ent                      | Application /Use  |
|--------------------------------------|---|
| Boards/rips/laths                    | Restraining of formliner during and after adhering, boards for pressing into            |
|                                      | Mould Paste PU for stop-offs  |
| Brush                                | Cleaning tools  |
| Buckets                              | To decant after mixing 2-component material in original container                       |
| Circulargrinder/beltgrinder          | Removing residue of adhesive film / grinding rear of formliner for better bonding /     |
|                                      | grinding of recesses for strengthening of repaired tears / equalizing of formliner rear |
| Cbth/mags                            | Removing of Mould Wax residues while using Mould Paste PU /                             |
|                                      | soaking up of surplus of Stripping Wax  |
| Gauging/pointing trowel              | Scraping material from pails or drums   |
| Hand circularsaw                     | Cutting of formliners index 1/ and pattern stop-offs                                    |
| M arker-pencil                       | Marking of stop-off lines   |
| Metal/woodstraightedges              | Straight edges for cutting liner index 2/   |
| M ixing paddle                       | For electric hand drilling machine for mixing 2-component material                      |
| Polyethylene                         | Protection of formliners and Stripping Wax application against weathering               |
| RECKLIForm linerKnife/hand panelsaws | Cutting of formliner index 2/   |
| Sandpaper                            | Cleaning and sanding of formliners / removal of surplus Elasto Filler and levelling     |
|                                      | of repaired areas   |
| Screw clamps                         | To apply pressure to boards while Formliner Adhesive cures / clamp preparation          |
|                                      | for peeling off of glued formliners   |
| Semated trowel                       | Spreading of Formliner Adhesive   |
| Slow speed electric hand drill       | Mixing of 2-component material  |
| Spatula                              | Mixing and application of Elasto Filler, cleaning and pointing joint lines and smaller  |
|                                      | quantities of Formliner Adhesive  |
| Spray                                | Application of Stripping Wax  |
| Stanley or RECKLI-Formliner Knife    | Peel off of adhered liners from form-work   |
| Tape measure                         | Checking of formliner measurements  |
| Weighing scales                      | Weighing out of smaller quantities of 2-component materials                             |
|                                      |   |

## **CR Type N-Concrete Surface Retarder**

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For the production of premium exposed aggregate concrete, available in dierent washing depths

#### **RECKLI CR Type N**

is a solvent-based concrete surface deactivating agent used to produce new to coarse exposed aggregate concrete using the negative or positive process. RECKLI CR Type N is available in 3 dierent washing depths. (Light / Medium / Heavy)

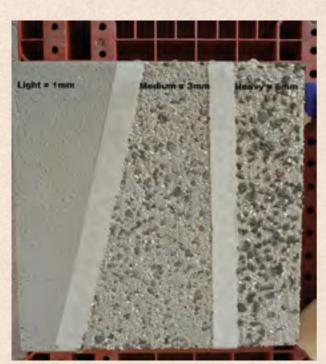
#### **Benefits:**

- Homogeneous washing pattern
- Quick and easy washing
- Low consumption
- · Very short drying time
- Easy formwork cleaning

#### **Areas of Application:**

- Architectural façade elements
- Precast concrete elements
- Cast-in-place concrete elements
- Roughening of separating joints
- Cast stone and general concrete products

Please follow the instructions of the corresponding technical data sheet when applying the product.



| RECKLI CR |            |          | Aggregate      |
|-----------|------------|----------|----------------|
| Type N    | Colour     | Size     | Washing depth  |
| Light     | brown      | 2-4/8 mm | Approx. 1.0 mm |
| Medium    | grey       | 8-12 mm  | Approx. 3.0 mm |
| Heavy     | red-violet | 16-22 mm | Approx. 6.0 mm |

Washing depths are approximate only. They depend on the cement grade, w/c ratio, aggregate mix and powder ratio. We will be pleased to assist you with the selection of the most appropriate type.











### **Concrete Surface Retarder**

**Experience and Quality** 

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RECKLI-CR TYPE N

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#### **PROCESSING**

Thoroughly stir RECKLI-CR Type N with a whisk before each use.

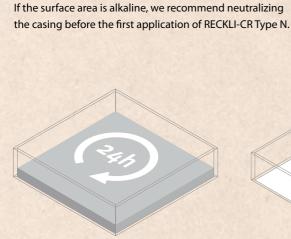
Apply a thin and even coat of the material with a short-pile paint roller or a suitable sprayer onto the surface.

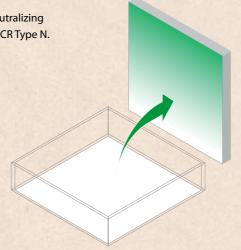
Allow the material to quickly dry (depending on weather conditions this could take between 15 and 60 minutes) you can then introduce the concrete.

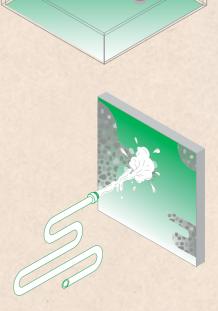
The concrete mix, production process and time, thickness of the elements and the relative setting temperature must be determined by trial and error. For best results please avoid segregation and setting of the concrete that occurs too early.

The ideal running time must also be determined by means of experimentation. The concrete should not set until approximately 1 hour after placement. The casing should be heated two hours after placement, at the earliest.

Any data compiled during the trial and error phase should be applied. Unavoidable changes to the parameters set during the trial and error phase can generally be compensated for by using a different RECKLI-CR-N type or by altering the production process or the concrete mix.







#### RINSING ELEMENTS

Elements can generally be rinsed after 18 to 24 hours. They should remain in the mold for at least 8 hours. If need be, RECKLI-CR Type N can be washed off later on, even after 48 or 72 hours.

Just to be sure, try a preliminary test. The washing cycle should remain the same within one series. In order to even out potential fluctuations in the production parameters and in order to reduce the washing depth, elements can be exposed to fresh air for 2 to 12 hours prior to the wash (time to be determined in the preliminary test). Washing yields best results when done with a high pressure washer. Dry brushing with subsequent washing is also a possibility.

#### **CLEANING YOUR TOOLS**

Tools can be cleaned with the RECKLI-EK-PU thinner.

#### RECOMMENDATION

Electrical equipment used in connection with RECKLI-CR Type N (dosing pump motors, etc.) in particular should be explosion protected. We recommend the use of Teflon gaskets.

#### APPLICATION RATE

approx. 80-150 g/m<sup>2</sup>

#### **PACKAGING**

20kg canister

#### **STORAGE**

Store in a cool place with decent ventilation, frost resistant.

#### SHELF LIFE

12 months from the manufacturing date, as long as the original seal has not been broken. Open containers should be resealed airtight immediately.

#### SAFETY PRECAUTIONS

RECKLI-CR Type N contains solvents. The work area should be well ventilated. Smoking and open fires should be avoided at all cost. Skin and eyes should be protected from spray. Please refer to the safety precautions regarding dangerous substances and hazardous regulations found on the label, as well as the material safety data sheet issued by the German Standards



### **Surface Protection**

**Experience and Quality** 

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RECKLI surface protection and RECKLI Graffix® protect your high-quality objects with impregnation and surface protection systems that are adapted perfectly to the requirements of the concrete. RECKLI Graffix® also protects the concrete against graffiti over a long period. A facade is essentially a building's advertisement. RECKLI Graffix® Basic »invisibly« protects every kind of concrete surface against graffiti vandalism. The colourless impregnation provides long-term protection and can be applied to fresh concrete without changing its appearance or texture. The long-term protection and weather resistance makes looking after facades that have been impregnated with RECKLI Graffix® Basic extremely easy and economical.

Surface protection systems shield surfaces of exposed concrete from water, dirt and graffiti. Water has a tendency to run hazardous substances, microorganisms and salts over the concrete surface. Over time, these substances attack the structure and can lead to spalling.

RECKLI protection systems seal new and older surfaces of exposed concrete either with no color or with an optical effect. They are suitable for the follow-up treatment of concrete component façades, in-situ concrete constructions, artificial stone and Terrazzo flooring.

#### **COLORLESS IMPREGNATION**

RECKLI OS-D, OS-HO and OS-Premium protection systems can be applied to new concrete. They penetrate the surface and form a chemical bond. Since this type of impregnation does not create a film, the coloring of the concrete surface remains unchanged.

#### **EFFECT IMPREGNATION**

RECKLI OS-Intensiv and OS-W are especially suitable for processed and absorbent surfaces such as exposed aggregate concrete, structural concrete or acidified concrete. These protection systems can be applied to new concrete. The materials penetrate the surface and form a film with a matt or silky finish that intensifies the concrete's coloration.

#### **GRAFFIX**

This product combines the protective properties of a colorless impregnation with permanent protection against graffiti. Graffix does not alter the concrete surface's coloring. It can be applied to new concrete at the prefabrication plant. Othermaterials usually require 28 days for hardening. Our in-house cleaning solution RECKLI Graffix Cleaner removes graffiti without compromising the protective film. This allows for a veryeasy and economical cleaning of façades. The cleaning process can take place up to 5 times. Thereafter, the surface has to be re-impregnated.

### **SUMMARY**

**Product advantages** 

#### **RECKLI-CR TYPE N**

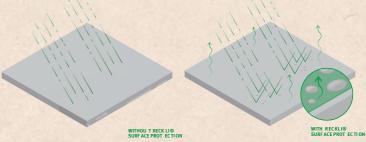
homogeneous washing 13 different washing depths minimal use (80-150 g/m²) extremely fast drying time big time frame for rinsing low casing cleaning

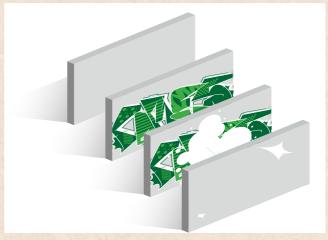
#### **RECKLI-CR TYPE PV**

and curing compound

homogeneous washing 12 different washing depths minimal use (approx. 200 g/m²) very light washing sprayable odorless and environmentally friendly integrated follow-up treatment







#### **RECKLI-CEMGEL K | KS**

consistent quality
high-grade acids guarantee
precise washings
odorless thanks to its gel-like
viscosity
can be applied in a vertical or
horizontal manner
no drip build up

#### **RECKLI-OS**

alkali-resistant for optimum
effect on new concrete
can be applied the same day as
the concrete has been poured
UV-resistant
a wide range of products for every
application and optical effect
adapted to RECKLI concrete parting
agents

#### **Terms and Conditions**

1.0 Definitions & Interpretation

Accession means any Goods which are installed in or affixed to other goods; ACL means the ralian Consumer Law in Schedule 2 of the CM:

1.2 Reckli means Global Enterprising Company Pty Ltd trading as Reckli Form-Liners & Moulds, ABN

12.1 The Marians is usual Enterprising Company Pty Ltd trading as Reckli Form-Liners & Moulds, ABN 20.109 492.426;
13.3 Amount Payable means all amounts payable by the Customer at any time to Reckli and/or Reckli's Related Corporations (whether or not those amounts have become due for payment under these Conditions) in relation to the Goods or the contract between the Customer and Reckli (including, but not limited to, any invoiced amount, interest, fees, costs or expenses);
CCA means the Competition and Consumer Act 2010 (Cith);
1.4 Conditions means these terms and conditions;
1.5 Confidential Information means all information (in any form, whether written, electronic or otherwise) including any proprietary information, data, trade secrets, ideas and know-how (including systems, processes, techniques and algorithms), throughout the world in or relating to the Goods or the Services, Customer means a person or representative who makes a contract with Reckli on the terms of these Conditions;
1.6 Delivery Programmer means the Customer's proposed delivery dates for the Goods and/or Services;
1.7 Goods means any goods supplied by Reckli which are the surviver of an order a contract with records.

of the Services: Customer means a person or representative who makes a contract with Reckli on the terms of these Conditions;

1.6 Delivery Programme means the Customer's proposed delivery dates for the Goods and/or Services;

1.6 Delivery Programme means the Customer's proposed delivery dates for the Goods and/or Services;

1.7 Goods means any goods supplied by Reckli which are the subject of an order, or part of those Goods where the context allows;

1.8 EST means the tax payable on Taxable Supplies within the meaning of the GST Act, GST Act means the A New Tax System (Goods and Services Tax) Act 1999 and any related Act imposing such tax or legislation that is enacted to validate, recapture or recoup such tax;

1.9 Lead Time means the minimum period before the proposed despacth date by which the Customer must provide Working Documentation which period shall be notified by Reckli or request.

1.20 Processed Goods means Goods which, after delivery, become part of a product or mass by being manufactured, processed, assembled, commingled or otherwise dealt with so that their identity is lost in the product or mass.

1.21 PPSA means the Personal Property Securities Act 2000 (Cith);

1.23 Beraled Corporation has the meaning given to the term "related body corporate" in section 50 of the Corporations Act 2001;

1.23 Services means services supplied by Reckli to the Customer in relation to Goods the subject of an order which the seen accepted by Reckli.

1.23 Services means services supplied by Reckli to the Customer in relation to Goods the subject of an order which has been accepted by Reckli; 
1.24 Specification includes chemical formulae, ingredients, architectural drawings, working drawings or other plans and accompanying schedules as varied or amended from time to time; 
1.25 Variation means any modification, amendment or change to the terms of an order submitted by the Customer (whether or not such order has been accepted by Reckli) including, without limitation, in relation to scheduling and re-scheduling, badding requirements, delivery times or delivery sites; 
1.26 Working Documentation means architectural drawings, site drawings, working drawings, construction drawings and schedules or any other document or operational information provided by or on behalf of the Customer to Reckli for the purpose of the transactions contemplated by these Conditions; and Working Hours means between 7:00am and 5:00pm, Monday to Friday (inclusive) excluding nublic holidays.

excluding public holidays.

1.27 In addition, the following terms have the same meanings given to them in the PPSA:

(a) financing statement; (b) proceeds;

(C) purchase money security interest;

(d) security agreement

(e) security interest; and(f) verification statement.

(t) vertication statement.
2.0 Offers, Orders & Requests.
2.1 A written offer issued by Reckli to the Customer is an invitation to the Customer to purchase. A written offer expires on the date specified as an expiry date. In oexpiry date its specified, the written quotation expires 30 calander days after the date of the written offer.
2.2 Reckli may withdraw, revoke or vary a written offer any time prior to the Customer submitting and Reckli accepting an offer (which may be by way of an order) in response to the invitation to purchase comprised by Recklis written offer.
2.3 A contract for the supply of Goods is made when Reckli communicates in writing its acceptance of the Dustomer's offer.

of the Customer's offer

2.4 An order from the Customer on terms which are inconsistent with the terms of a written quotation is an offer by the Customer to buy Goods from Reckli. In those circumstances, a contract for the supply of Goods is made if:

(a) Reckli communicates that it is prepared to supply the ordered Goods only on the Terms of these Conditions; and

(b) the Customer accepts delivery of the ordered Goods in which case the contract is deemed to have

(p) the Customer accepts delivery of the ordered booso in which case the contract is deemed to have been made as at the date of the Ustomer's order.

2.5A contract made pursuant to clauses 2.3 or 2.4 is wholly documented by any specific terms agreed by Reckil and the Customer in writing including, without limitation, in a quotation and these Conditions, 2.6 To the extent that any inconsistency arises between the terms of an offer and any clause of these Conditions, the terms of the offer prevail to the extent of the inconsistency.

2.7 Where in the period between acceptance of an offer and delivery of the relevant Goods, Reckil incurs an increase in the cost of producing and/or delivering the Goods, Reckil reserves the right to incurs an increase in the cost of producing and/or delivering the Goods, Reckil reserves the right to increase the effect direct of the order the reserve to delivering the reserves the right to increase the effect direct of the order the second secon

incurs an increase in the cost of producing and or delivering the cloods, Neckol reserves the right to increase the offered price of these Goods at any time prior to delivery (a "price escalation"), provided that the Customer may, if it does not agree to the price escalation, terminate part or all of the contract within 7 days after receiving notion of such price escalation. 2.8 These Conditions of Trade apply to the exclusion of any terms and conditions of trade of the Customer whether or not any inconsistency arises, and bind the Customer both personally and as trustee of any trusts of which the Customer is a trustee.

3.0 Specifications and Working Documentation

3.1 If the Customer's order refers to a Specification or Working Documentation then

3.1 If the Customer's order refers to a Specification or Working Documentation then: (a) the Customer represents and warrants to Reckli that any such Specification or Working Documentation does not and any Goods produced by Reckli pursuant to such Specification or Working Documentation will not breach or infininge upon the rights or properly of any third party including, without limitation, patent, design, copyright or other intellectual property rights and the Customer indemnities Reckli and must hold it harmless from and against any loss, damage, liability or cost suffered or incurred by Reckli airsing out of a breach by the Customer of the representations and warranties made ant to this cla

by it pursuant to this clause; (b) the Customer releases Reckli from and waives any rights or causes of action it may at any time have had against Reckli but for this release in relation to any fault or defect in any Goods made pursuant to the Customer's Specification or Working Documentation arising, whether directly or in-directly, out of the terms of the Specification or Working Documentation provided by the Customer

to Reckli; and (c) the Customer indemnifies Reckli and must hold it harmless from and against any loss, damage, itability or cost suffered or incurred by Reckli attributable, whether directly or indirectly, to the terms of any Specification or Working Documentation provided by the Customer to Reckli.

3.2 Subject to dause 111, unless otherwise stated on a quotation, Goods will be supplied by Reckli within the tolerances in regard to quantity, weight, dimension and chemical composition as specified in the relevant order or, if not specified, as consistent with usual industry practice. Where the total mass or length of any item supplied includes a fraction of a tone, the Customer must pay for that fraction on a prorata basis.

3.3 Notwithstanding any other provision of these Conditions, it is a term of the contract that Reckli has discretion to refuse to supply Goods and/or Services to the Customer (without liability to the Customer).

customer) where:
(a) Goods or Services are unavailable or insufficient for any reason whatsoever;
(b) the Customer has failed to comply with terms on which Reckil has agreed to provide credit to
the Customer or

(b) the Customer has failed to comply with terms on which Reckli has agreed to provide credit to the Customer; or (c) the Customer or a Related Corporation of it has breached a contract with Reckli or a Related Corporation of it, including these Conditions. 3.4 The Customer agrees that it does not rely on the skill or judgement of Reckli in relation to the suitability of any of the Goods for a particular purpose. 4.0 Delivery and Risk 4.1 Reckli s delivery obligations are subject always to the Customer providing Reckli with:

4.0 Delivery and Risk
4.1 Reckl's delivery obligations are subject always to the Customer providing Reckli with:
(a) a 28 day Delivery Programme, updated weekly, and
(b) Working Documentation no later than the Lead Times for the corresponding Goods;
(c) unless Reckli agrees otherwise in writing.
4.2 Subject to dause 4.1 Reckli will deliver Goods to the Customer as follows-.,
(a) Reckli reserves the right to arrange transport by any means in its absolute discretion;
(b) delivery will be made during Working Hours to the location agreed (delivery point) for the purpose of clause 2.5;

of clause 2.5;
(c) Reckii or its transport contractor will deliver the Goods as close (Drop Spot) to the delivery point as, in the opinion of Reckii or its transport contractor, it is safe or prudent to do so and delivery occurs and risk in the Goods passes to the Customer when Reckii's or its transport contractor's delivery vehicle arrives at the Drop Spot;
(d) the unloading of Goods at a Drop Spot is the Customer's responsibility at its own cost and risk but Reckii or its transport contractor may without liability to the Customer, unload the Goods at the Drop Spot if the Customer requests Reckii or its transport contractor wishes to unload and the Customer leasess and forever discharges Reckii and its transport contractor from and against any claim, cause of action or liability arising out of the unloading of Goods at the Drop Spot;
(e) where the Customer attends Reckii's premises to acquire Goods, Reckii may, in its discretion:

transport contractor from and against any claim, cause of action or liability arising out of the unloading of Goods at the Drop Spot; (e) where the Customer attends Reckli's premises to acquire Goods, Reckli may, in its discretion: (1) deliver the Goods into or onto the Customer's vehicle in which case risk in the Goods passes to Customer and delivery is effected when the Goods are set down in or on the Customer's vehicle in which case risk in the Goods passes to the Goods passes to the Customer's vehicle in which case risk in the Goods passes to the Customer and delivery is effected when the Goods are set down along side the Customer's vehicle in which case risk in the Goods into or onto the Customer and delivery is effected when the Goods are set down along side the Customer's vehicle in Customer's vehicle in Customer's vehicle onto the Customer's vehicle on the Goods into or onto the Customer's vehicle.

4.3 Where Reckli'd in its transport contractor enters the Customer's premises or the premises of a third party nominated by the Customer as a delivery point, the Customer releases Reckli from any claim the Customer may at any time have had against Reckli but for this release in respect of damage occasioned to the Customer's premises or injury to persons arising out of the delivery by Reckli or its transport contractor of Goods to such premises.

4.4 A statement on an invoice or delivery docket given to the Customer by Reckli as to the quantity, description, date and place of delivery of Goods will be a conclusive statement and bind the Customer

description, date and prace to remisery or second mines of any fault, damage or defect in Goods or 4.5 If the Customer does not advise Reckli in writing of any fault, damage or defect in Goods or honor defeating the second made nursuant to these Conditions within

48 hours of delivery:
(a) the Customer is deemed to have accepted the Goods and is deemed to agree that the Goods are not faulty, damaged or defective and comply with a contract made pursuant to the terms of these Conditions; and

(a) the Customer is oberned to nave accepted the Goods and is exemined to agree that the course are not faulty, damaged or defective and comply with a contract made pursuant to the terms of these Conditions; and (b) the Customer releases and discharges Reckli from and against aity claims, actions, loss or liability relating to any fault, damage or defect in the Goods or any failure of the Goods to comply with a contract made pursuant to these Conditions.

4.6 if the Customer advises Reckli in writing of a fault, damage or defect in Goods or a failure of Goods to comply with the terms of a contract made pursuant to these Conditions within 48 hours of delivery then Reckli will, if in its opinion the Customer's advice is reasonable and the Customer has not used the Goods, replace the Goods that appear to be faulty, damaged or defective or not in compliance with the terms of a contract made pursuant to these Conditions and Reckli will have no additional liability to the Customer.

4.7 Unless otherwise agreed by Reckli and the Customer in writing, Reckli will bundle or package Goods the subject of an order in its discretion and the Customer releases and forever discharges Reckli from any liability or claim arising out of such bundling or packaging by Reckli.

4.8 Reckli will not be liable for any loss incurred as a result of delay or failure to make any supply of Goods or Services or to observe any of these Conditions and timetretly or indirectly to an event of force majeure, being any cause or circumstance beyond Reckli's reasonable control, including but not limited to, any ack of productions by any government or any semi-government authorities or emblatines or pack into capacity or raw materials, strikes, lockouts, labour disputes, fres, floods, acts of God or public enemy, malicious or accidental damage, delays in transport, breakdowns in machinery or restrictions or prohibitions by any government or any semi-government authorities or embargoes. During the continuance of an event of force majeure, etclery and pr 5.0 Retention of Title 5.1 The Custom

5.0 Heteration of lite 5.1 The Customer agrees that legal and equitable title to the Goods is retained by Reckli until the Amount Payable has been paid in full by the Customer for the Goods, the Services and all other goods and services supplied to the Customer at any time. Prior to title in the Goods passing to the Customer,

the Customer:
(a) holds the Goods and any Processed Goods as bailee and fiduciary agent of Reckli;
(b) must store the Goods and such part of the Processed Goods separate from its own goods and those of any other third party in such a way as to clearly indicate at all times that the Goods and such part of the Processed Goods are owned by Reckli; and (c) must ensure that, at all times, the Goods and such part of the processed goods are properly stored,

protected, readily identifiable and insured. 5.2 The Customer hereby agrees to accept this appointment as bailee and fiduciary agent of Reckli.

3.2 The Customer neroy agrees to accept us appointment as barier aim moutany agent or neckni.

5.3 The Customer may only install or affix the Goods to other goods (so that they become an Accession to those other goods) or use or permit the Goods to be manufactured, processed, assembled, commingled or otherwise dealt with (so that they become Processed Goods) in the ordinary course of the gied or otherwise dealt w tomer's normal business.

5.4 The Customer may sell or deal in the ordinary course of business with the Goods, and such part of

13-4 The Dissister In 192 and veel and the untillary course of the Dissisters with the Goods, and such part of the Processed Goods or any Accession provided that (a) any such sale or dealing is at arms' length and on market terms; and (b) the Customer holds the proceeds of any sale of or dealing in the Goods and such part of the proceeds of any sale of or dealing in the Processed Goods on trust for Reckli in a separate identifiable account as the beneficial property of Reckli and the Customer must pay such amount to Reckli

5.5 For purpose of this clause 5, "such part" means an amount equal in dollar terms to the amount 5.5 For purpose of time causes 5, "such part" means an amount equal in oblier terms to the amount owing by the Constomer to Reckil at the time the Goods are used in the manufacture of, or incorporated into, the Processed Goods or Accession.
5.6 Notwithstanding any other provision to the contrary, Reckil reserves the following rights in relation to the Goods until the Amount Payable has been paid in full by the Customer in respect of the Goods and all other goods and services supplied to the Customer at any time:
(a) legal and equitable ownership of the Goods;

(b) to retake possession of the Goods; and (c) to keep or resell any of the Goods repossessed.

5.7 In the event of a breach of this contract by the Customer including, without limitation, failure by the Customer to pay any Amount Payable by the required date, the Customer must return the Goods to Reckli immediately on demand. If the Customer does not return the Goods to Reckli on demand, Reckli

is entitled (without further notice) to: (a) enter upon the Customer's premises at any time to do all things necessary to recover the Goods or any Processed Goods:

(b) take possession of the Goods or any Processed Goods wherever located; (c) take possession of any Goods which have become an Accession, wherever located; and/or

(d) appoint a person to be a receiver of all or any of the Goods, Accessions, Processed Goods or other

property the subject of the security interests created by the contract. 5.8 The Customer hereby grants full leave and irrevocable licence to Reckli and any person authorised

by Reckli to enter upon any premises where the Goods, Processed Goods or Accessions may for the time being be placed or stored for the purpose of retaking possession of those Goods, Processed

(a) must pay Reckli all costs and expenses incurred or payable by Reckli for registering, maintaining or

releasing any security interest, charge, mortgage or caveat in connection with the ontract, or recovery of the Amount Payable or in otherwise enforcing ARCs rights against the Customer; (b) must pay the costs of registering any PPSA financing statement and such costs may be invoiced or debited against the Customer's credit account; and

debited against the Customer's credit account; and (c) indemnifies Recdif for all fees (including legal and debt collection fees on a full indemnify basis), costs and expenses incurred or suffered as a result of any and all prosecution, actions, demands, claims or proceedings brought by or against Reckl in connection with the retaking possession of the Goods or the excress by Reckl in of its rights under this clause, and the Customer shall repay all such fees, costs, losses, damages, expenses or any other sums of money on demand. 5.10 The Customer acknowledges and agrees that the contract between the parties comprises a se-curity agreement and that Reckli is entitled to register a financing statement in respect of the security interests view under that contract.

curity agreement and that neural interests given under that contract.

6.1 The price of Goods or Services or both will be Reckli prevailing price at the time of delivery and

6.1 The price of Goods or Services or both will be Reckli prevailing price at the time of delivery and does not include GST unless expressly stated to the contrary.

6.2 Where a party to these Conditions (Supply Maker) makes a Taxable Supply (within the meaning of the GST Act) under or in connection with these Conditions to another party to these Conditions (Recipient) and the consideration otherwise payable for the Taxable Supply is not specifically stated to include GST, the Supply Maker will be entitled to recover from the Recipient as an additional amount the amount of any GST payable on the Taxable Supply, and the Recipient must pay such GST at the same time that the consideration for the Taxable Supply is payable.

6.3 The amount of any cost recovery or compensation for costs under or in connection with these Conditions shall be reduced by the amount of any Input Tax Credits (within the meaning of the GST Act) available in respect of those costs.

6.4 A party to these Conditions will not be obliged to pay any amount in respect of GST to the other party unless and until a Tax Invoice (within the meaning of the GST Act) has been issued in respect of that GST.

6.5 In addition to payment of the price for Goods, the Customer is responsible for and Reckli may

of that GST.

6.5 In addition to payment of the price for Goods, the Customer is responsible for and Reckli may recover from the Customer:

(a) taxes (other than income tax), stamp duty or other statutory charges or levies whether State or Federal payable in relation to the supply of Goods;

(b) the cost of delivery of Goods including, without limitation, costs relating to long loads, wide loads, escorted loads, drop traillers, crane trucks (including associated personnel), particular duranage requirements, palletising or crating of materials, early deliveries (at or around 7:00 am), delivery loads of less than 10 tonnes, delivery to non-metropolitian sites;

(c) the cost of providing materials necessary to manufacture Goods in accordance with a Specification or Working Documentation including, without limitation;

(d) costs incurred by Reckli ansing out of late notification by the Customer of a change to an agreed delivery schedule with such costs to include, without limitation, costs of double handling, storage of material, trailer hire and scheduling of production and delivery;

(e) storage charges where Goods are not collected immediately upon being made available for collection and Reckli's premises;

(f) demurrage costs or charges incurred by Reckli for attendance at a delivery point after the expiration of the first three quarters of an hour such charges to be calculated at master carrier rates;

(g) legal and collection costs and disbursements on an indemnity basis incurred by Reckli in relation to a breach of these Conditions by the Customer;

(i) all costs or charges, expenses or any other outgoings incurred by Reckli with respect to any Variation by the Customer;

(ii) all costs or charges incurred by Reckli with respect to the recovery or return of Goods from the Customer;

(ii) all costs or charges incurred by Reckli with respect to the recovery or return of Goods from the Restore of the section of the section

(h) all costs, charges, expenses or any other outgoings incurred by Reckli with respect to any Variation by the Customer;
(i) all costs or charges incurred by Reckli with respect to the recovery or return of Goods from the Customer (including re-stocking charges) whether or not such recovery or return of Goods occurs in relation to any breach of these Conditions; and
(i) the cost of any testing or inspection of Goods, or testing or inspection of products or materials required by the Customer be used in relation to the manufacture of Goods.

6.6 The Customer must pay to Reckli any costs, charges and expenses (including all stamp duty and legal fees on an indemnity basis) incurred by Reckli in connection with these Conditions, the exercise or attempted exercise of any power, right or remedy under these Conditions, and the failure of the Customer to comply with these Conditions.

7.0 Payment and Credit Terms
7.1 Unless Reckli has agreed to provide credit to the Customer, payment for Goods and/services must be made by the Customer in immediately available funds on or immediately prior to despatch of the Goods.

7.2 Unless otherwise agreed by the Customer and Reckil, Reckil will be entitled to deliver the Goods in one or more instalments. Where delivery of the Goods is effected by way of part delivery, Reckil will be entitled to invoice the Customer for pro-rata progress payments in respect of Goods delivered. 7.3 Where Reckil has agreed to provide credit to the Customer, Reckil will submit an invoice to the Customer for Goods or Services or both supplied to the Customer, Reckil will submit an invoice to the Customer for Goods or Services or both supplied to the Customer for Goods or Services or both supplied to the Customer, Reckil will submit an invoice to the Customer for Goods or Services or both supplied to the Euclider for Health submit and invoice together with any additional charges (if any) must be paid by the Customer to Reckil by no test than the stated date of Reckils invoice. All payments are claimed under the Building & Construction Industry Security of Payments Act (VIC) or equivalent in each state or territory.

7.4 Reckil is entitled to allocate and apply amounts received from the Customer to any part of the Amount Payable or any other amounts due to Reckil in any manner required to preserve any purchase money security interest it has in any Goods, and desplie any instruction, request or direction from the Customers to how payments should be applied any instruction, request or direction from the Customer as to how payments should be applied any instruction, request or direction of the Customer as how payments should be applied with interest at the rate prescribed from time to time in the Penalty Interest Rates Act 1983 (Vic) on all overdue amounts owed by the Customer to Reckil which interest will be accurated daily and will be appayable together with the overdue amount. All payments made by the Customer will be first applied to the accurated interest.

7.6 The Customer must not retain or withhold any money oving to Reckil notwithstanding any breach or alleged breach by Reckil of these Conditions inclu

Reckli under these Conditions.
7.7 Reckli may, at any time, without cause, vary, suspend, limit or withdraw any credit granted to

7.7 Reckli may, at any time, without cause, vary, suspend, limit or withdraw any credit granted to the Customer.

7.8 If the Customer breaches a provision of these Conditions including, without limitation, a provision relating to the payment of money or if the Customer, being a natural person, is the subject of any personal insolvency event including, without limitation, arising out of the Customer committing an act of bankruptcy or if the Customer, being a company, has a receiver, receiver and manager, official manager, trustee, administrator, other controller (as defined in the Oroprations Act or similar official appointed or steps are taken for such appointment over any of the assets or undertaking of the Customer or if the Customer expense and present of the customer expense payment of its debts generally or is or becomes unable to pay its debts when they are due or is presumed to be insolvent under the Corporations Act or if the Customer exases or threatens to cease to carry on business or any quarantee or security given to Reckli in relation to the Customer is purported to be revoked or asserted to be unenforceable then Reckli may, without limiting any other rights it may have been extended to the Customer and require immediate payment of all moneys owed to Reckli by the Customer any contract in force between Reckli and the Customer of Goods or performance of Services pursant to any purchase order accepted by Reckli, (c) suspend performance under or terminate, in either case without Reckli incurring liability to the Customer, not being contracts for the sale or supply of Goods.

or supply or goods. 7.9 The Customer as beneficial owner charges in favour of Reckli all of its interest in all of the pre and future real property of the Customer as security for the due and punctual payment of all debts and monetary liabilities owed by the Customer to Reckli pursuant to a contract on or including the terms of these Conditions, including the Amount Payable. The Customer acknowledges that Reckl has a cay eatable interest in any real property owned by the Customer and consents to Reckli lodging

a caveat to note its interest.

7.10 Upon demand by Reckli, the Customer agrees to immediately execute a mortgage on terms

satisfactory to Reckli to more particularly describe the security interest conferred by this clause. 7.11 Should the Customer fail within a reasonable time of such demand to execute such mortgage or should the Customer be in default of any of its obligations under the contract, then the Customer irrevocably appoints Reckli and each of its authorised officers, jointly and severally, as its attorney with authority to do on its behalf any thing that it may lawfully authorise an attorney to do including, without limitation, to make, sign, execute, seal, register and deliver any document and to take possession of use, sell or otherwise dispose of any property of the Customer, including real property, and the Customer ratifies all acts and things done by Reckli and its authorised officers in exercising this power of attorney. A third party may rely on a certified copy of these Conditions as evidence of Reckli's appointment as the Customer's atto

appointment as the customer's attorney. 7.12 The Customer grants a security interest in the Goods to Reckli to secure payment of the Amount Pavable. The security interest:

(a) extends to and continues in all proceeds, Accessions and Processed Goods; and

(b) is a purchase money security interest to the extent to which it secures payment of that part of the Amount Payable which comprises the aggregate unpaid purchase price of Goods. 7.13 The Customer must not do no permit anything to be done that may result in the purchase money security interest granted to Reckil ranking in priority behind any other security interest. 8 O PPSA

8.1 The Customer

es its right under section 157 of the PPSA to receive a copy of the verification statement

(e) warners are injet model section. In or the model or to receive a copy of the reinfluence section of a financing statement or a financing change statement relating to a security interest created under the Contract; and (b) contracts out of its rights to receive any other notice or statement under any other provision of the

Interest treated under the Contract, and (i) contracts bould its rights to receive any other notice or statement under any other provision of the PPSA (including for the avoidance of doubt, any of the provisions specified in clause 8.2).

8.2 To the fullest extent permitted by the PPSA the parties agree to contract out of the following provisions of the PPSA: sections 95, 117, 118, 120, 121(4), 125, the second sentence of section 126(2), sections 129(2), 129(3), 130, 132(3)(d), 132(4), 135, 142 and 143, which sections (or parts of sections) do not apply to the contracts between the Customer and Reckti.

9.1 These Conditions set out the entire agreement between the parties in relation to their subject matter. The terms of the United Nations Convention on Contracts for the International Sale of Goods, 1980 (the Vienna Convention) and all other terms or conditions in relation to the subject matter of the section of the subject matter of these conditions, whether implied by use, statute or otherwise, are expressly excluded.

9.2 No statement or recommendation made or advice, supervision or assistance given by Reckti, its employees, agents, transport contractors or representatives whether oral or written must be construed as or constitutes a warranty or representation by Reckti or a warrier of any clause in these Conditions. Reckti is not liable for loss or damage arising directly or indirectly from any act or omission to act arising directly or indirectly from any such statements, recommendations, and or constituted to clauses 4.6 and 9.4, Reckti is not liable for any loss or damage, however caused (includ-

or assistance.

3. Subject to clauses 4.6 and 9.4, Reckil is not liable for any loss or damage, however caused (including, but not limited to, by the negligence of Reckil), suffered by the Customer in connection with a supply of Goods or Services under these Conditions.

9.4 if the COA or any other legislation implies a condition or warranty into these Conditions in respect of goods or services supplied, and Reckil's liability for breach of that condition or warranty may not be excluded but may be limitled, clause 9.3 does not apply to that liability and instead Reckil's liability for any breach of that condition or warranty is limitled to:

(1) in the case of a supply of Goods, Reckil dioing any one or more of the following (at its election): (a) replacing the Goods or supplying equivalent goods; in renarint the Goods:

In epacient the Goods; 
(c) paying the cost of replacing the Goods or of acquiring equivalent goods; 
(d) paying the cost of having the Goods repaired; 
or 
(2) in the case of a supply of Services, Reckli doing either or both of the following (at its election); 
(a) supplying the Services again; 
(b) paying the cost of having the Services supplied again.

9.5 Notwithstanding any other provision of these Conditions, Reckli is not liable to the Customer for 
any indirect, special or consequential loss or damage suffered or incurred by the Customer arising out 
of a breach by Reckli of a contract made pursuant to these Conditions or a negligent act or order 
of Reckli or a breach of a statutory doty or obligation by Reckli. The phase "indirect, special or consequential loss or damage" is deemed to include the following: economic loss, loss of opportunity, loss 
of profit or revenue, loss or damage in connection with claims against the Customer by third parties, 
liquidated sums or liquidated damages.

10.1 Where and only to the extent that the supply of Goods is to a "consumer" (as that term is defined

10.1 Where and only to the extent that the supply of Goods is to a "consumer" (as that term is defined by the ACL) then, in respect of that supply: (a) the Special Conditions are incorporated into and form part of these Conditions, and apply as part of the contract between the Customer and Reckli; and (b) clause 9 does not apply and, except as stated otherwise in the Special Conditions, nothing in these Conditions excludes, restricts or modifies any Consumer Guarantee applying under the ACL. 11.0 Miscallenous

Uniformities received the conditions is intended to exclude, restrict or modify rights which the Customers 11.1 Nothing in these Conditions is intended to exclude, restrict or modify rights which the Customers where under the CCA or any other legislation which may not be excluded, restricted or modified.

may have under the CCA or any other legislation which may not be excluded, restricted or modified by agreement.

11.2 A party waives a right under these Conditions only if it does so in writing. A party does not waive a right simply because it fails to exercise the right, delays exercising the right or only exercises part of the right. A waiver of one breach of a term of these Conditions does not operate as a waiver of another breach of the same term or any other terms or any other terms or any other terms or any other pursuant or these conditions. This does not affect the validity or enforceability of the remaining provisions in that jurisdiction, or of the deleted provision in any other jurisdiction.

11.4 Reckli may assign or otherwise deal with the benefit of any contract made pursuant to these Conditions without the consent of the Customer. The Customer may not assign its rights under a contract or lease, licence or loan the Goods to any third party or grant a security interest in the Goods without prior notice to and written consent from Reckli.

11.5 The Customer must not disclose Recklis Confidential Information unless the Customer receives the prior written consent of Reckli, such information enters the public domain (other than as a result of a breach by the Customer) or its use or disclosure is required by law.

a breach by the Customer) or its use or disclosure is required by law.

12.0 Jurisdiction.

The law of the state or territory in which Reckli delivers Goods to the Customer is the proper law of these Conditions. The parties irrevocably submit to the nonexclusive jurisdiction of the courts of Montanda.



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