

### 1. GENERAL

ECOLAN® pond liner is an elastic, synthetic EPDM rubber liner, which is manufactured according to the strictest standards with computer-controlled, inspected machines. ECOLAN® pond liner is a Dutch product.

ECOLAN® pond liner is an elastomer, which is changed from a plastic condition to an elastic condition by means of an advanced vulcanisation method. This means the elasticity is preserved under all circumstances, and that no softeners can be released.

Because of this sophisticated production process, ECOLAN® pond liners meet the highest quality requirements and acquire the properties needed to produce high-quality sealing systems by means of a simple, effective method.

### 2. ACCESSORIES

**ECOLAN® contact adhesive:** black contact adhesive for adhering liners together or to metal or upright walls, and for finishing edges and detailed finishing.

**ECOLAN® multikit:** sealant for waterproofing seams and details. Also suitable for adhering ECOLAN® pond liners to a variety of surfaces and carrying out repairs.

**ECOLAN® spray adhesive:** Sprayable contact adhesive for adhering the liner to a variety of surfaces such as timber, metal and stony materials.

**ECOLAN® prefab corner pieces:** Ready-made corner pieces from ECOLAN® liner with homogeneous vulcanised seams.

**ECOLAN® prefab liner sleeves:** Ready-made sleeves manufactured from ECOLAN® liner with homogeneous vulcanised seams for covering posts.

**ECOLAN® plastic edging strips:** durable, maintenance-free edging strips consisting of black plastic boards and posts.

**ECOLAN® protective layer:** Non-woven polyester layer of 350 gram/m<sup>2</sup> to protect ECOLAN® liner against sharp objects in the ground.

**ECOLAN® Wall connection profile:** Aid to attach ECOLAN® liner to the wall and produce a neat finish.

### 3. POSITIONING ECOLAN® LINER

The following instructions should be followed for positioning ECOLAN® liners.

- Prefab membranes, ordered to measure, should be unfolded in accordance with the enclosed roll-out sketch.
- ECOLAN® is an elastic material and should always be positioned and fitted without tension. Also pay attention to the stability of the ground and the weight of the water it has to hold.
- Folding / rolling up the material may cause some tension, although this will be very low. You should therefore leave ECOLAN® lying unfolded for about 30 minutes before fitting it. However, water can be put into the pond immediately after unfolding.
- Only adhesives and kits supplied by ECOLAN® should be used. These should not be thinned.
- Surfaces that are to be adhered have to be clean, dry and oil and grease free.

- All groundwork should be completed before the pond liner is fitted.
- When using ECOLAN®, it is important that you only work with clean products and tools. This also applies to footwear and clothing.
- Before you position the pond liner, the ground should be thoroughly checked for sharp objects (sharp stones, glass, branches, the remains of roots, etc.); these have to be removed. It is advisable to put down ECOLAN® protective layer first. Take any necessary precautions in connection with emerging groundwater and ground gas.
- When unrolling/unfolding membranes and liners, bear in mind that all sharp or jagged obstacles should be avoided or covered.
- For shore/bank planting do not use Bamboo species or Reed/Cane or Common Reedmace (for example *Thypha latifolia*, *Thypha angustifolia*, *Phragmites australis*) or other species with aggressive rhizomes/root growth. Even the tough ECOLAN® pond liner cannot withstand these species.

### 4. CONNECTIONS WITH ECOLAN® LINER

#### GENERAL

Always make sure that surfaces to be adhered are dry, clean and oil and grease free. ECOLAN® pond liner can be cleaned with water and green soap. Rinse thoroughly with water to make sure no soap remains on the liner. Make the liner grease free with methylated spirit, which you apply with a clean cloth (never pour the methylated spirit onto the liner!). Allow the methylated spirit to evaporate completely. Minimum ambient temperature of 5 °C.

#### SEAMS

##### 4.1. With ECOLAN® contact or spray adhesive:

The membranes are joined with an overlap of at least 12 cm. Mark the edge of the top membrane on the bottom membrane.

Fold back the top membrane and apply the contact or spray adhesive thinly and equally onto the bottom membrane from 2 cm off the marking line to the liner edge. Also put adhesive onto the top membrane from 2 cm off the liner edge, in a 10 cm wide strip. Make sure there is no adhesive within 2 cm of the edge.

Allow the adhesive to dry/evaporate until it is dry to the touch. This can take 10 to 20 minutes, depending on the weather conditions. The drying time can be shorter when the weather is hot.

After this, the membranes can be firmly pressed together with pressure rollers. The remaining loose 2 cm overlap **must** be finished with the ECOLAN® multikit sealant. Apply this evenly between the top and bottom liner, pressure roll until it has a thickness of 1 mm and give it a neat finish. Remove the excess sealant for example with a small spoon or the bottom of the sealant-cartridge.

#### FEED-THROUGH

##### 4.2. Creating a round feed-through

Mark the center of the round feed-through pipe on the ECOLAN® membrane. Draw a circle around this point of 1/3 of the diameter of the feed-through, or a circle with a diameter which is 6 cm smaller than the feed-through diameter.

Your choice depends on the diameter of the feed-through.

Diameter of feed-through <10cm: hole is 1/3 of the feed-through diameter.

Diameter of feed-through >10cm: hole is the feed-through diameter minus 6cm.

Punch this marked-off area from the liner (or use scissors for larger diameters).

Make sure there are no notches in the edge of the hole.

**NB: Prevent tears and make sure no liner will be stuck to the feed-through afterwards! You can do so by allowing some extra room in the liner.**

Before you put the membrane across the drain, apply Multikit on the feed-through in the area where it is fitted to the ECOLAN® liner.

Carefully pull the membrane across the feed-through and press downwards. The tension in the liner caused by the stretching it over the drain will automatically make it move upright and give a tight waterproof connection.

#### FITTING

##### 4.3. Fitting ECOLAN® liner to a concrete, metal, wooden or other edge

###### 4.3.1 With contact or spray adhesive

Mark the liner at the spot where the connection is to be made; the connecting edge should be at least 12 cm wide.

Apply ECOLAN® contact adhesive or ECOLAN® spray adhesive to both surfaces (see Point 4.1.). After the required adhesive evaporation time the liner can be adhered against the surface, after which it has to be pressure rolled with a small roller. Apply ECOLAN® multikit sealant to the outermost 2 cm, pressure roll until it has a thickness of 1 mm and give it a neat finish. Remove the excess sealant for example with a small spoon or the bottom of the sealant-cartridge

###### 4.3.2 With multikit

Mark the spot where it is to be fitted and put two ECOLAN® multikit sealant lines horizontally on the surface, fit the ECOLAN® liner immediately and pressure roll. This method is suitable for working on an upright surface of up to 50 cm (1 mm liner). If the upright surface is higher than that, ECOLAN® contact adhesive or ECOLAN® spray adhesive should be used to adhere the surface, see 4.3.1.

###### 4.4. Finishing details and corner pieces

Feed-throughs, clasp feed-throughs, ECOLAN® prefab corner pieces, ECOLAN® liner sleeves and other liner details can be waterproofed with ECOLAN® multikit sealant.

###### 4.5 Securing folds

This can be done with ECOLAN® multikit sealant. Prepare the fold and apply a line of ECOLAN® multikit sealant approximately 1 cm inside the fold. Pressure roll the liner. For larger folds, use ECOLAN® contact or spray adhesive first and finish the fold with ECOLAN® multikit sealant (see also Point 4.1.).

###### 4.6. Applying ECOLAN® wall connection profile

Position the threaded holes of the ECOLAN® wall connection profile above the water line. Leave 5 mm leeway between two profiles. Seal the top with ECOLAN® multikit sealant.

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