

## Rehabilitation with hand lay-up laminate

### APPLICATION ADVICE

**Substrate preparation:** The substrate must be clean and free of all loose particles, dust, oil, grease, waste water residues and other separating substances. The surface tensile strength of the substrate must comply with the relevant technical regulations.

Plastic substrates must be roughened, rinsed and then rubbed dry before applying the hand laminate. When connecting CIPP liners which are curing on site, any preliners and inner liner films in the area where the hand lay-up laminate is applied must be removed. Leaks must be eliminated in advance by suitable measures (injection of PU resin or superficial application of rapid-curing mortars, e.g. MC-Fastpack Injekt LE or ombran W). Mineral surfaces can be dry or matt damp. Standing water must be excluded. Mineral reprofiled surfaces must be provided with a broom finish when fresh.

**Mixing:** The organic-mineral resin ombran SC consists of the two components A and B. These are to be mixed carefully and homogeneously using a fast rotating mechanical stirrer (e.g. cordless screwdriver with anchor or propeller stirrer). When the accelerator ombran SC Cat L is added to the A component, a pre-mixing of approx. 30 seconds is carried out. The mixing time after addition of the B component is at least another 90 seconds. Mixing by hand is not permitted.

**Mixing ratio:** The two resin components are supplied in matched containers from which partial quantities are taken. The mixing is carried out in a volume ratio of 1 : 2 (A : B), whereby mixing batches of 750 ml (A: 250 ml / B: 500 ml) are recommended. It is recommended to use measuring cups with sufficiently accurate measuring scales. The amount of accelerator to be added must be determined in relation to component A (1 – 4 % of the amount (volume) of component A). The accelerator can preferably be taken from its container with a 10 ml disposable plastic syringe (if necessary with a thin tube as an extension) and added to the already measured resin component A. The addition of the accelerator also increases the viscosity of the resin, which can thus be adjusted to the respective substrate roughness.

**Application:** The mixed resin is usually applied with a triple-layered glass fibre mat plus topcoat, whereby a final laminate thickness of at least 3 mm must be maintained.

In order to optimise the workability of the glass fibre mat, the pre-assembled pieces can be rolled through in advance by hand (wear protective gloves!). First of all, a first layer of resin is generously rolled onto the surface to be coated using a short-pile paint roller. Then press individual pieces of the ombran L 450 / ombran L 450 flex fabric fibreglass into the fresh resin, slightly overlapping. In order to optimise the adhesion of the fresh resin in the overhead area or on particularly smooth substrates, the back of the mat can be wetted with resin beforehand (see wallpapering). The glass fibre mat pieces can be made up to fit by tearing (optimises the transitions between the glued pieces) or cutting. Afterwards the glass fibre mat is generously rolled over with resin and thus completely impregnated and all individual fibres are bound. After the application of each complete layer, the mat must be vented using a so-called venting roller (e.g. metal disc roller). For this purpose, the respective laminate layer is rolled over the entire surface and, if necessary, several times under pressure. The entire process is repeated twice more, resulting in a 3-layer laminate.

If necessary, more layers can be applied. It is also possible to dowel the laminate with stainless steel including washers screws, whereby the screws should be covered with at least two additional layers of laminate. However, setting the dowels may lead to new leaks in the structure.

Before applying the final topcoat, the applied laminate must be completely overworked with a so-called ventilation roller (e.g. metal disc roller) and thereby pressure applied to the entire surface in order to press the laminate layers and -fibres closely together and remove any air inclusions.

As a topcoat, a final layer of ombran SC resin needs to be applied particularly generously and evenly. This should only be done when the last laminate layer has started hardening and can no longer be moved. It is recommended to use at least 2 % accelerator to ensure a higher stability of the topcoat from the beginning.

**Water load capacity:** The time at which the hand laminate can be exposed to water depends on the material, substrate and ambient temperature. The lower the temperatures, the longer the curing time. For details on water resistance, see table "Technical data ombran SC" in technical datasheet. For the duration of the application and during the curing phase, it is essential to keep the renovation area

free of water. Before exposure to water, the condition of the laminate should be checked by hand.

Do not accelerate the curing process by heating, as the laminate also cures quickly in thin layers and the curing speed can be flexibly adjusted by adding accelerator.

**Equipment cleaning agent:** Within the pot life, residues of the laminating resin can be removed with MC-Reinigungsmittel U. The cleaning agent used must be completely removed from venting rollers before each use to avoid mixing with uncured, freshly applied reaction resin during venting. It is therefore recommended to use several venting rollers to ensure residue-free drying after every cleaning. Resin which is cured can only be removed mechanically.

**Additional information:** Early exposure to water can lead to white discoloration on the surface of the laminate, UV contact causes the reacted resin to darken; the usability is not affected in either case.

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**Note:** The information contained in this data sheet is based on our experience and is correct to the best of our knowledge. It is, however, not binding. It will need to be adapted to the requirements of the individual structure, to the specific application and to non-standard local conditions. Application-specific conditions must be checked in advance by the planning engineer/specifier and, where different from the standard conditions indicated, will require individual approval. Technical advice provided by MC's specialist consultants does not replace the need for a planning review by the client or its agents in respect of the history of the building or structure. Subject to this prerequisite, we are liable for the correctness of this information within the framework of our terms and conditions of sale and delivery. Recommendations of our employees deviating from the information given in our data sheets are only binding for us if they are confirmed in writing. In all cases, the generally accepted rules and practices reflecting the current state of the art must be observed. The information given in this technical data sheet is valid for the product supplied by the country company listed in the footer. It should be noted that data in other countries may differ. The product data sheets valid for the relevant foreign country must be observed. The latest technical data sheet shall apply to the exclusion of previous, duly superseded versions; the date of issue in the footer must be observed. The latest version is available from us on request or may be downloaded from our website. [2300018904]