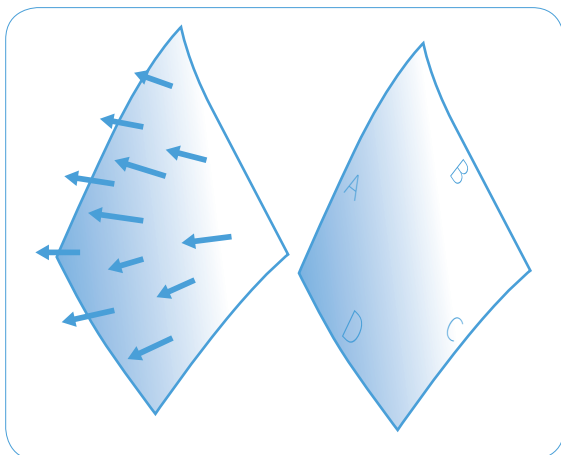
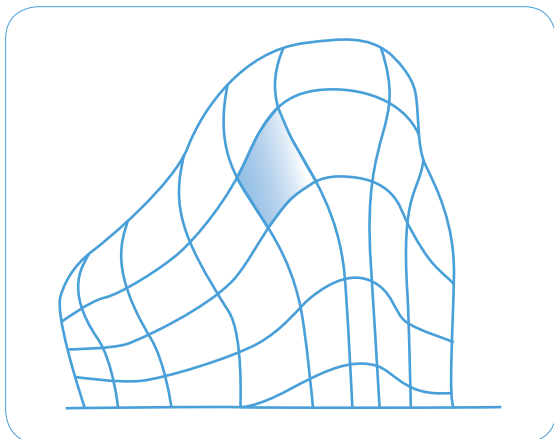
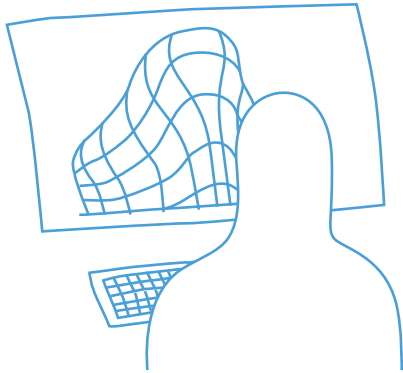


The Adaptive Mould™ Workflow (in 4 steps)

1

Rhino Plugin



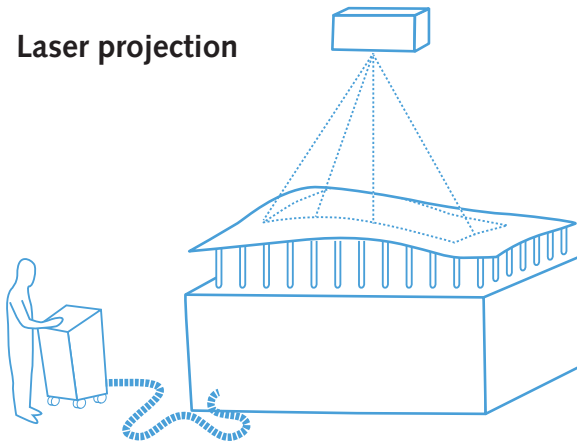
■ AdapaTools is the application used for transferring panel shapes from CAD to the Adaptive Mould. It is incorporated into Rhino3D, an easy to use CAD program for curved shapes and geometries.

■ With AdapaTools it is easy to select the panels of interest and verify the geometry for the tolerances of production.

Optional production requirements can be added when working from AdapaTools.

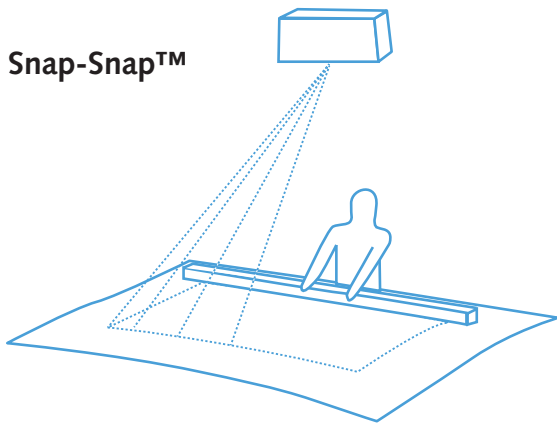
■ For example: The user is prompted to input which side of the panel should be facing the mould side, which lines the laser projection should include as visual guidance, the panel thickness, panel name, edge numbering, etc.

Laser projection

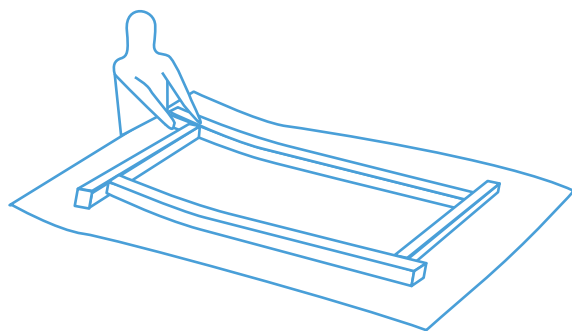


- The 3D laser projector is located over the Adaptive Mould where it can shoot a continuous laser beam that spans the Membrane surface.

Snap-Snap™



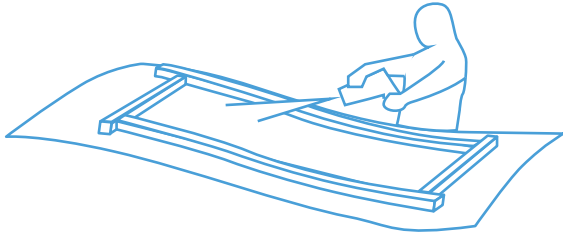
- Through the Control panel the user can select panels to be made and projections for the Laser projector to show. All of which were prepared using the AdapaTools plugin in Rhino3D.



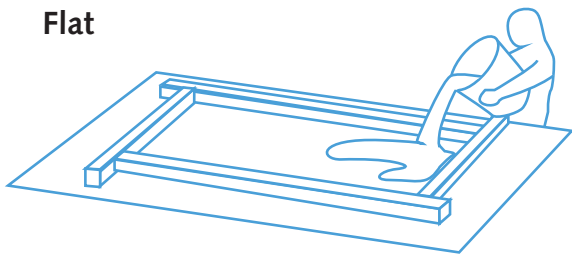
- By using the visible lines from the laser projector, laying out the Snap-Snap™ sides on top of the Membrane becomes easy and fast.

The user will typically use four pieces with a small overlap. It is also possible to lay out inserts or other extra components at this stage by selecting the laser projection from the HMI.

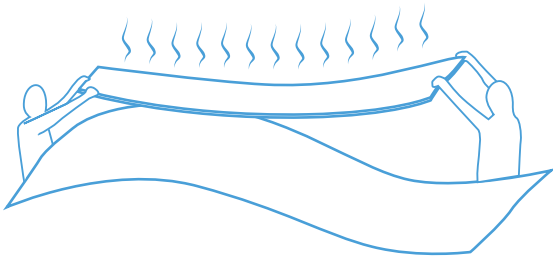
Curved spray



Flat



Thermoforming/curing



■ The process of using the Adaptive Mould for panel production can vary for different material processes.

For spray of GFRC or similar, the user can choose to let the Adaptive Mould take the final shape before initiating the spray process.

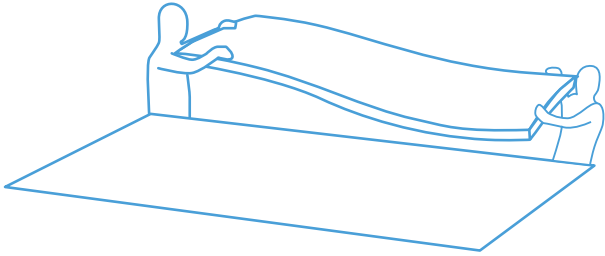
■ For flat casting, when pouring concrete or similar, the Adaptive Mould will be set to a neutral plane position until the material reaches a green state (before it has hardened). At this point the final shape will be taken. The process ensures that the material does not slide to lower areas of the mould surface.

■ For thermoforming it is possible to have the shape in place before placing the heated material on top of the membrane.

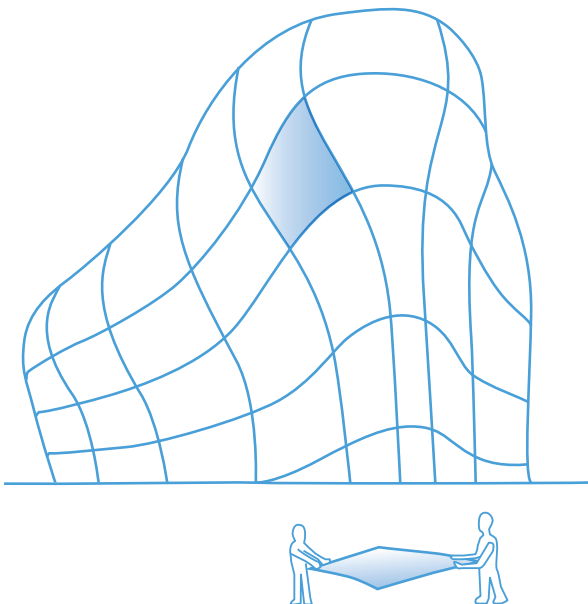
Vacuum thermoforming is also possible, placing the material on top of the membrane at a neutral plane position. Covering the material with a silicone layer by vacuum the final shaping takes place.

Heating elements can be either convection, IR heaters or heat blankets. Similar heating options are available for use when performing post curing of composite lay-ups.

Finishing



Completing the work



■ With the material hardened/cured the panel can be removed. The panel should be removed carefully as to not damage the Membrane.

■ Finally, the panels can be transported to the site.

If the panel is damaged under transport or during mounting it is easy to select the AdapaTools processed file and remake the panel.

The user will have the possibility of having the panel information stored locally in order to have available backup at any time.

adapa
adaptive moulds

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