



## Applications with Aquapour



Figure 6. Different ducting tool pieces made from a composite mold



Figure 7. Tool for an inlet duct



Figure 8. Another ducting tool



Figure 9. Tool and hollow composite wheel



## Pressure Bag Application with Aquapour 4015





## Applications with Aquacore



Figure 10. A complex-geometry part being machined from a block of paste-based tooling material



Figure 11. An F-16 replica machined from a block of paste-based tooling material

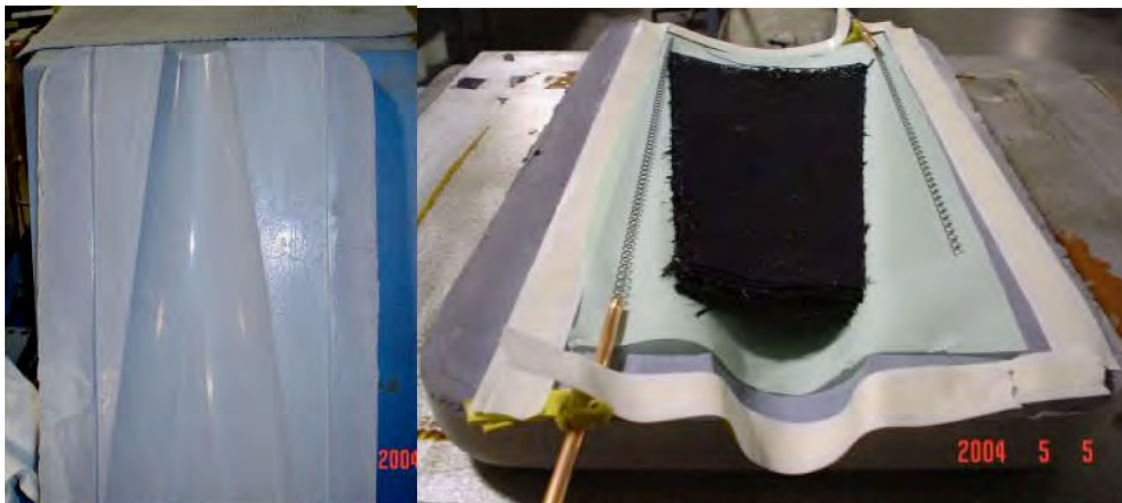


Figure 12. A water-soluble tool fabricated for VARTM of graphite/BMI composite system



## 2K-Sealer 3073 - For heavy requirements

The 2K Silicone Sealer 3073 produces a very smooth surface on the inside of the part. It makes a fast and safe sealing possible. The Sealer prevents penetrating of the resin into the part itself at high temperatures and high pressures. Thanks to its flexibility the sealing can be pulled out simply. The pictures show an application at 180°C and 7bar of pressure.





## Stiffener Application with Aquacore 1024

Mandrel length 5.0 meter, for a perfect surface the mandrel was sealed with Airtech Teflease MG2, Prepreg application at 180°C and 7bars of pressure.





## High Performance Part for a BMC Bicycle

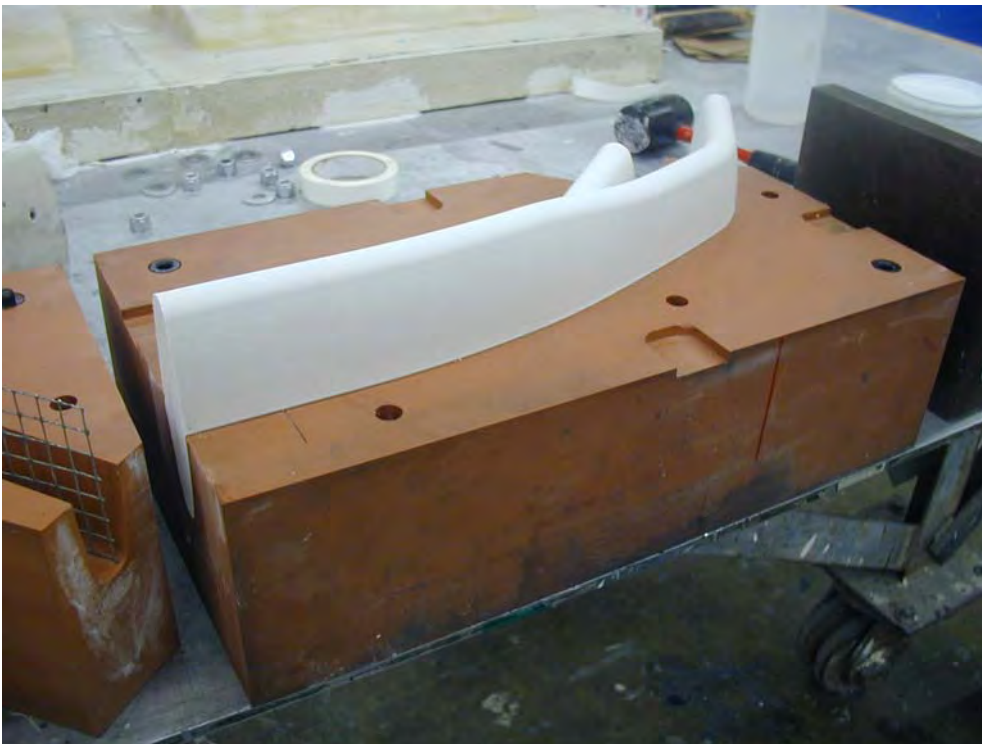
Part was made in one step with an Aquacore 1024 mandrel inside.





## Application with Aquapour 4015

These pictures show how a mandrel can be produced in a simple way.





## Applications of Aqua Products

Two-piece manufactured with Aquapour, hollow, wall thickness 10mm, bonded with Aquafill 5003, sealed with Aquaseal.







## Applications of Aqua Products

Silicone mould with assistance of fiber glass.



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## Applications of Aqua Products

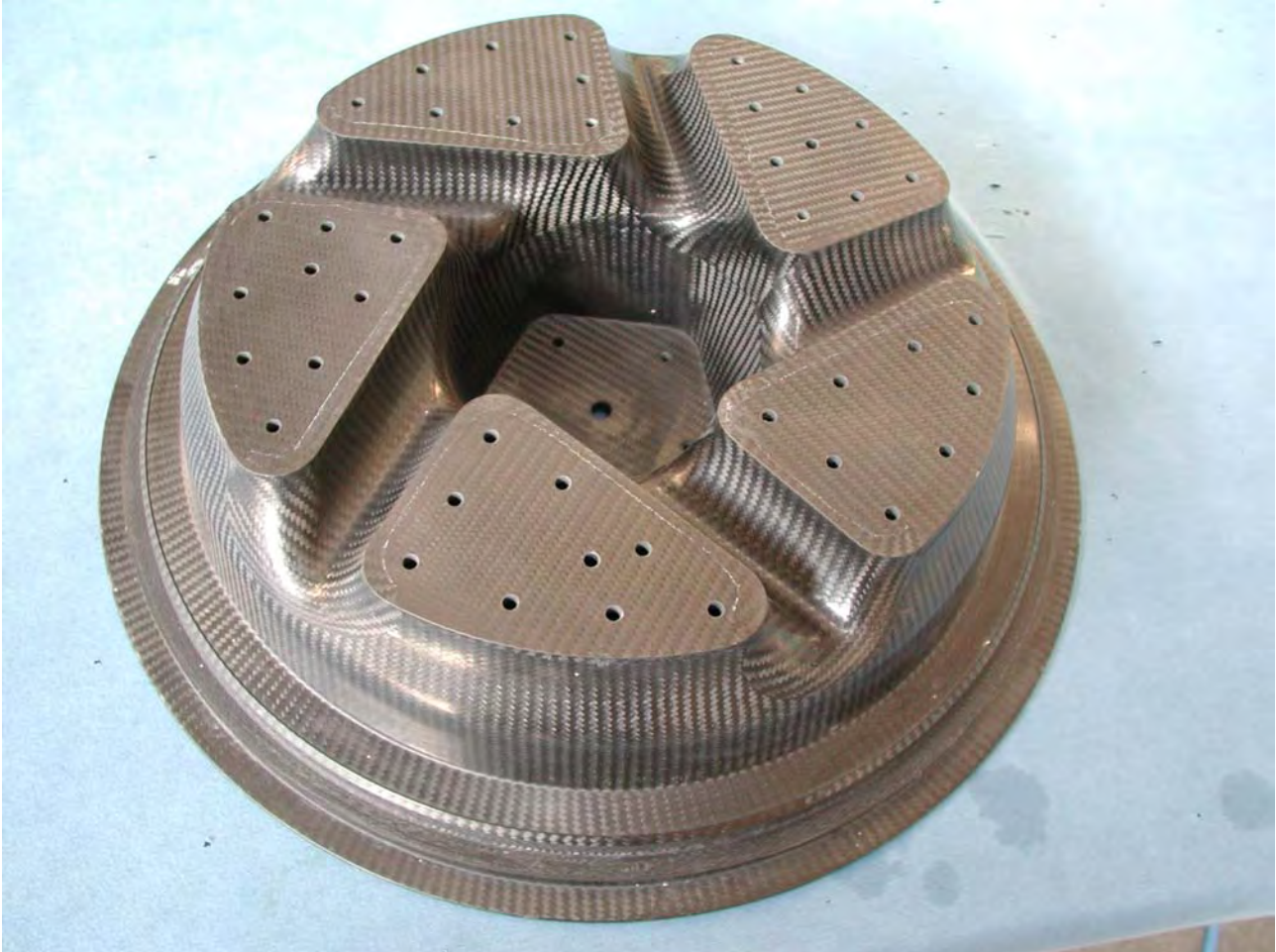
Aeoboard 70 epoxy modelling material for production of the carbon mold





## Applications of Aqua Products

Carbon mould to produce the wheel

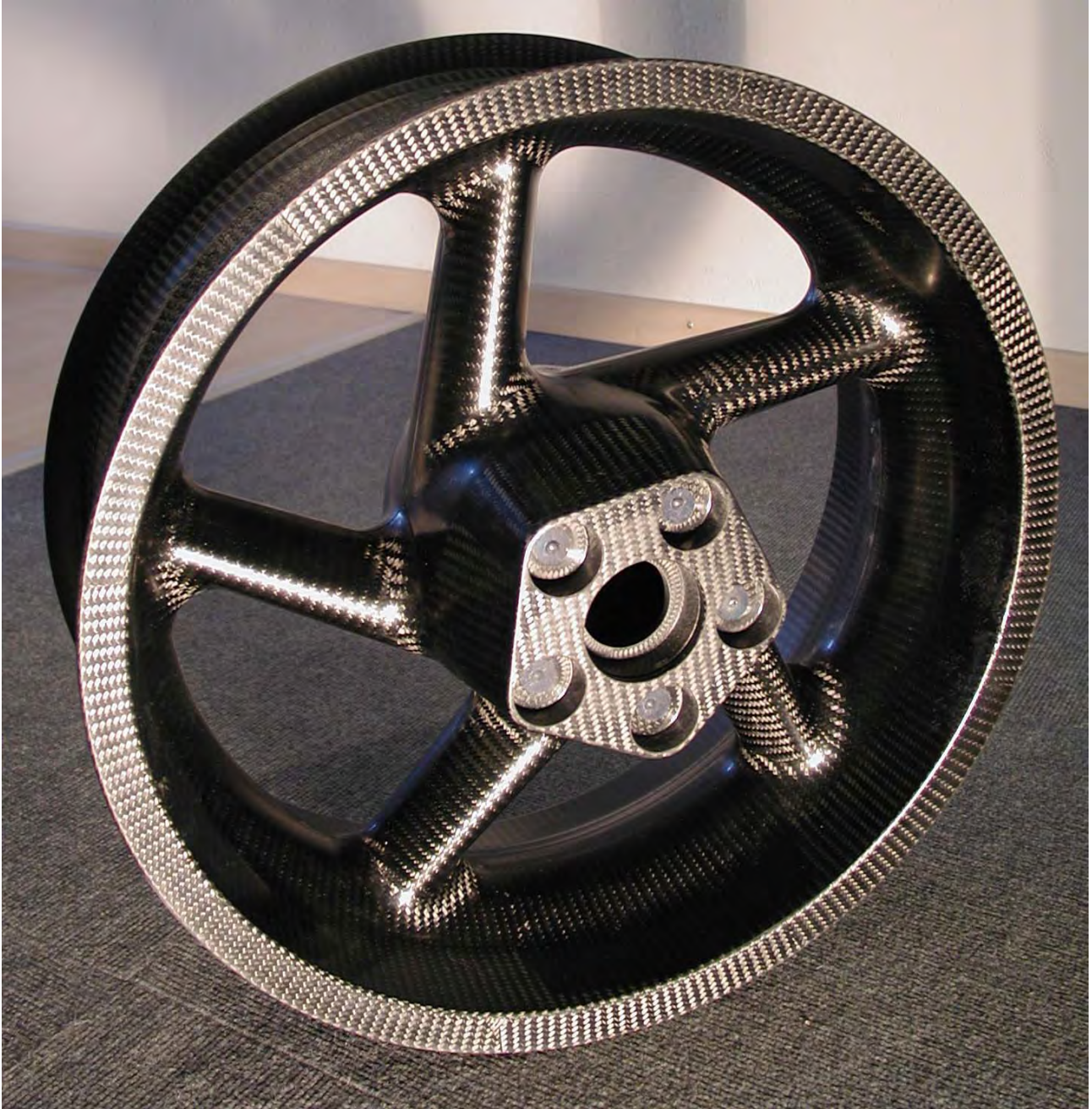


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## Applications of Aqua Products

Finished component.







## Applications of Aqua Products

Aquacore mandrel production for filament winding.

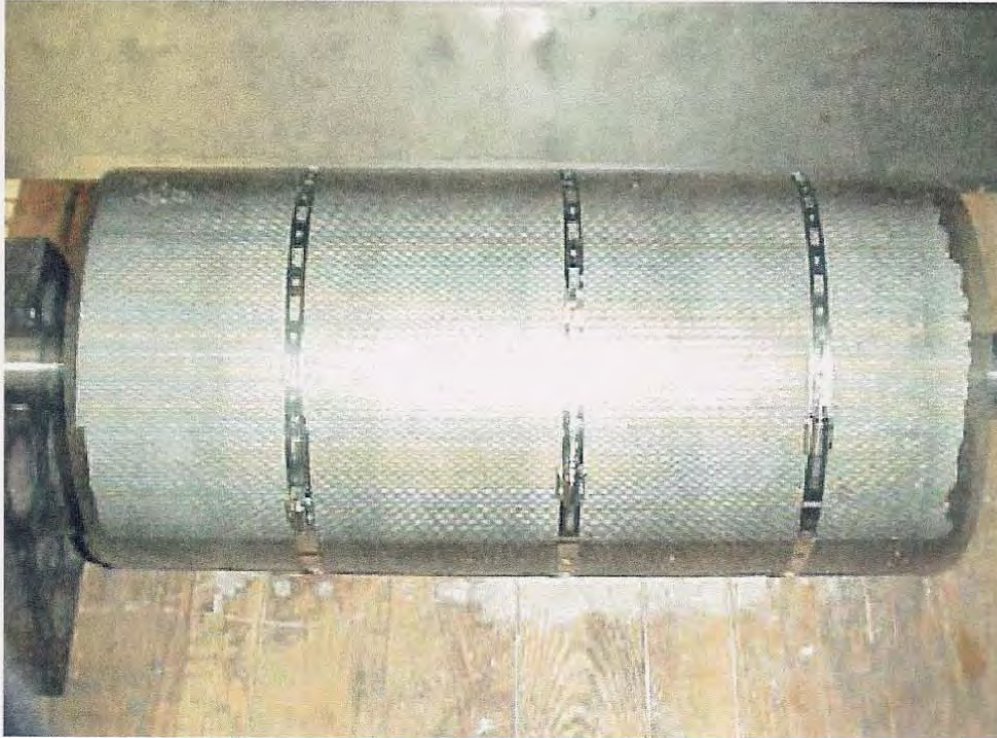


Figure 10. Convection Oven Drying the Mandrel

- 4.3.3.5 Install perforated mesh, per Figure 3, ensuring the end of the mesh is butted together and not overlapped.



Figure 3. Install the Perforated Mesh



## Applications of Aqua Products

Aquapour mandrel for filament winding  $\varnothing$  1.2m. Used for tanks and structures for launchers, orbit transfer systems and satellites



## AM80 und Aqua Test bei Carbotech

Prepreg auf versiegelte Aquakerne auftragen. Total 4 Lagen (1x 200gr diagonal, 1x 400gr gerade, 2x 200gr diagonal).



Kerne in Vakuumsack verpacken.





Kerne im Vakuumsack, danach in Autoclave bei 120°C und 6bar, für ca. 3h.



AM80 und Aqua Test bei Carbotech

AS3818 mit Freekote 700NC Versiegelung hat sich perfekt gelöst. Ausgewaschen innerhalb 30min.



Fertiges Bauteil



Die Silikon Versiegelung war auch dicht.

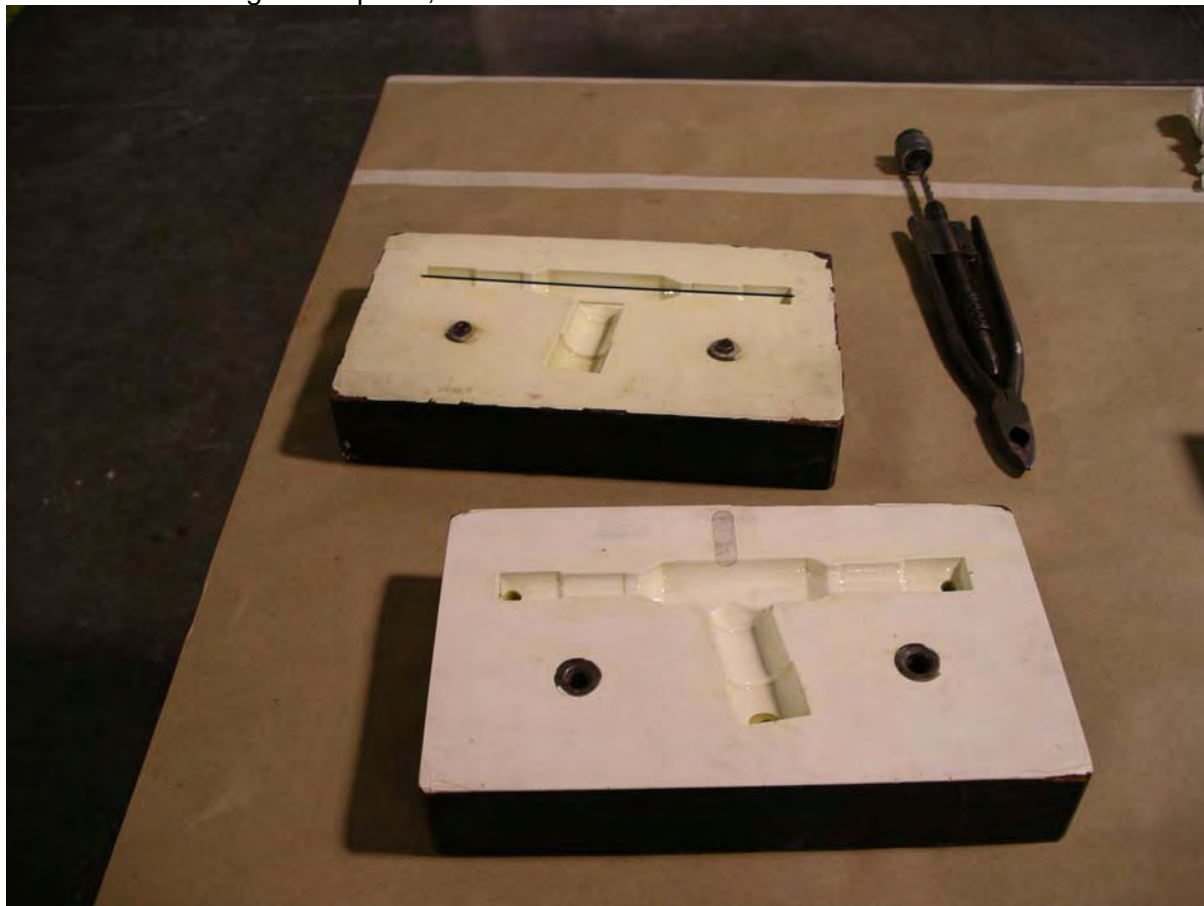


Die Silikon Versiegelung liess sich vollständig herausziehen.



## Examples of molds used with Aquapour 4015

1. Small polyurethane mold (20 x 15 cm) for Aquapour4015.  
Mold Release Agent: Rape oil, brushed on



2. Finished Aquapour 4015 mandrel, with and without Aquaseal 3818

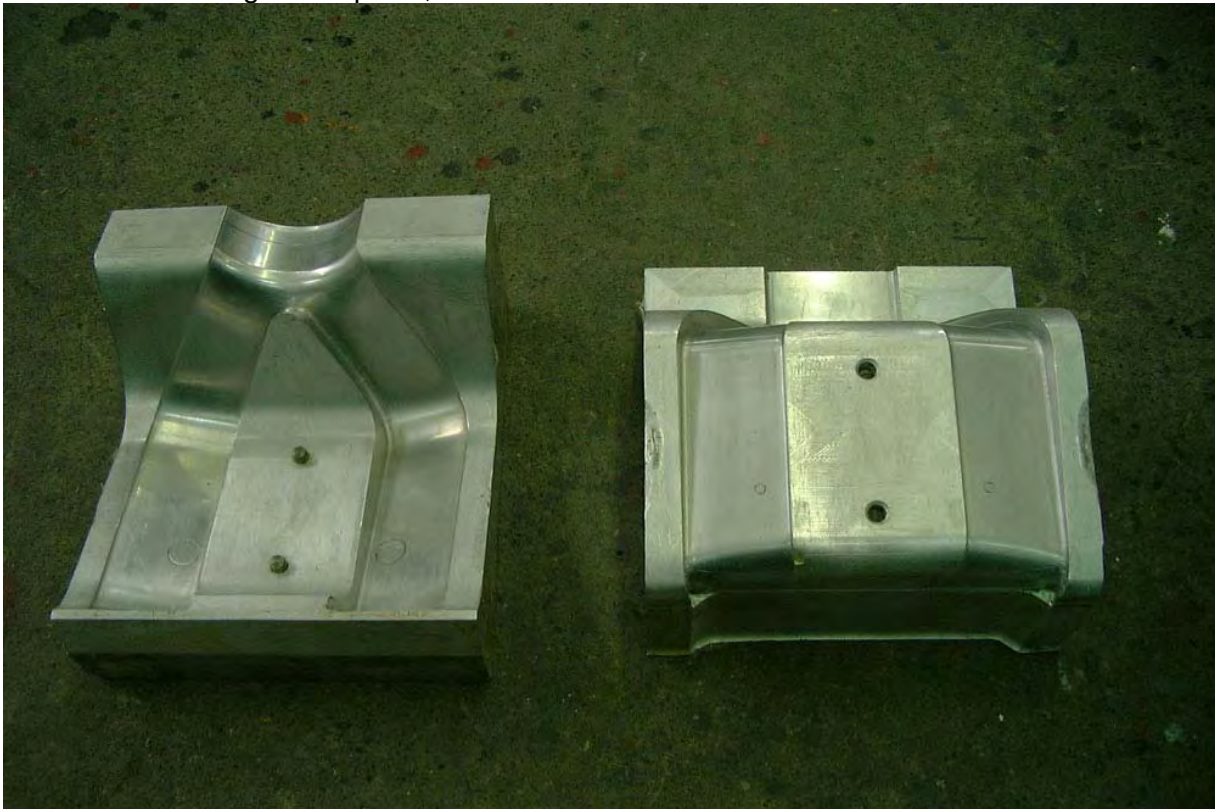


Examples of molds used with Aquapour 4015

3. Finished Aquapour 4015 mandrel, with and without Aquaseal 3818.  
Material was poured in a Silikon mould



4. Aluminum mold (30 x 30 cm) for Aquapour 4015  
Mold Release Agent: Rape oil, brushed on



Examples of molds used with Aquapour 4015

5. Finished part, unfortunately used without a Release Agent on the Sealer, that's the reason of the spots in the part.



3. Aluminium mold big (80 x 50 cm) used with Aquapour 4015.  
Mold Release Agent: Rape oil, brushed on



Examples of molds used with Aquapour 4015

3. Pour the Aquapour, after that shake the mold to prevent air bubbles on the surface



Examples of molds used with Aquapour 4015

4. Wait for approx. 60 min.



5. With the rest material pour a sculpture like this, on this way you can control the surface if it is dry enough





Examples of molds used with Aquapour 4015

6. Scrape off the rest material



7. Demold it very carefully after approx. 60min.



Examples of molds used with Aquapour 4015

7. Use compressed air for demold the mandrel complete

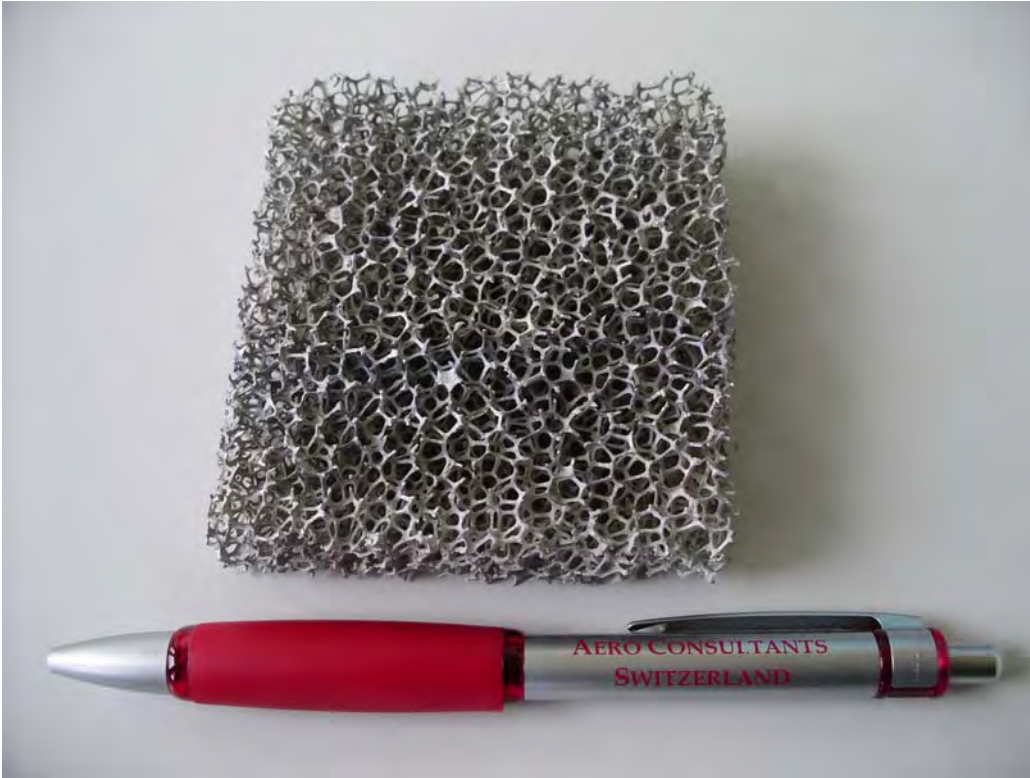


8. Finished mandrel after the drying time in the oven





**Application with Aquapour 4015 as molding material, liquid Aluminium,  
750°C / 1382°F, 5 hours**



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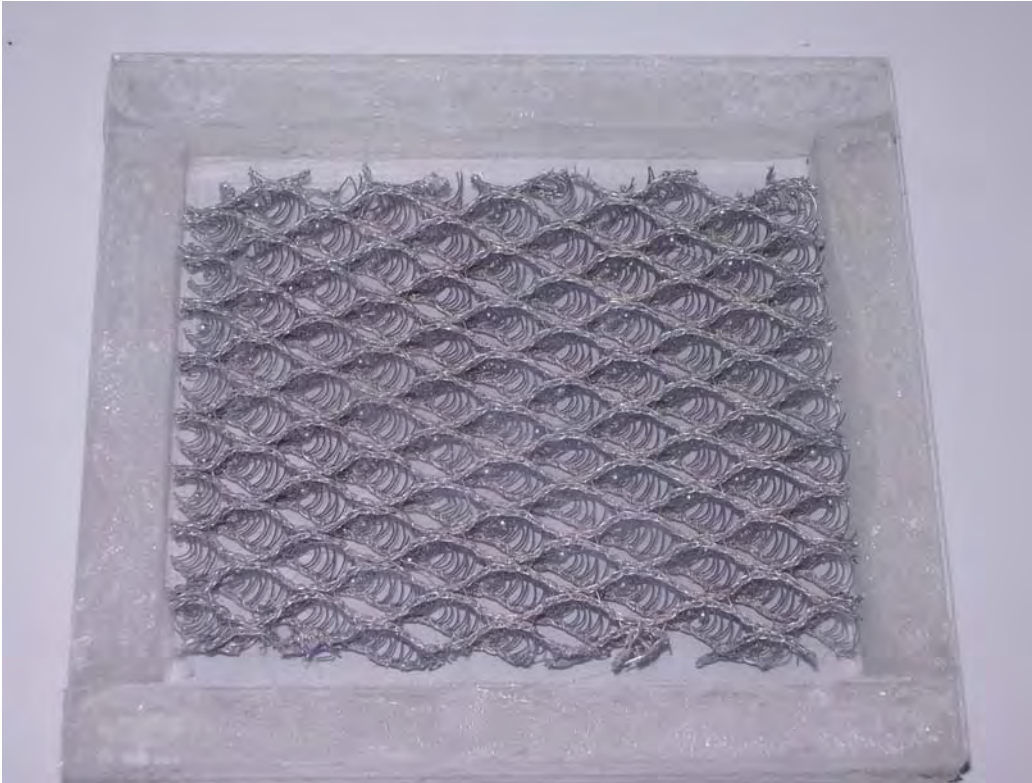
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**Application with Aquapour 4015 as molding material, liquid Aluminium,  
Diameter  $\varnothing$  0.2mm**





**Application with Aquapour 4015 as filling material for the brass 10ppi, recasted liquid Aluminium, after this washed out the Aquapour**



**Application with Aquapour 4015 as filling material for the brass 20ppi, recasted with composite Aluminium hollow balls, after this washed out the Aquapour**





### 3D-Printing parts produced with Aquapour





### 3D-Printing parts produced with Aquapour



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