

# “LIGA2.X” a New Process to Fabricate Single Polymeric LIGA Micro Parts

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## Motivation

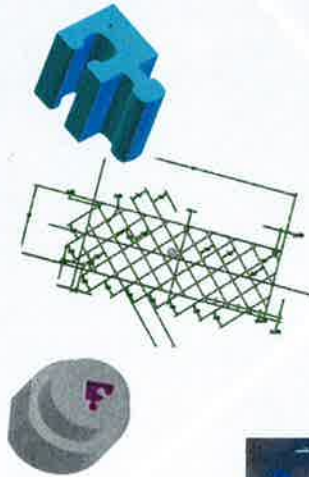
- suitable process for micro injection moulding
- high precision parts, high aspect ratios
- shorter cycle times, reduction of scrap production
- part volumes < 0.5 mm<sup>3</sup>
- flexible arrangement of single cavities in a multicavity mould
- rework free replicated parts
- high dimensional accuracy of the replicated parts



## Mold insert fabrication

LIG, X-ray Lithography, nickel electroplating, mechanical processing

Part design  
using 3D CAD  
software



Mold concept  
three plate multi  
cavity mold



**LIGA2.X** a modified LIGA  
process sequence for the fabrication  
of polymeric single micro parts

## Micro injection molding

5 ton Microsystem 50 injection molding machine



## Conclusion

A new process sequence could be developed to fabricate LIGA micro parts without requiring any rework. The replication of LIGA2.X mold inserts with semi crystalline POM could be shown using a Microsystem 50 micro injection molding machine. This is a new chance for the use of LIGA mold inserts in the plastic industry to fabricate cost effective LIGA micro-parts in large scale.

## Acknowledgements

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