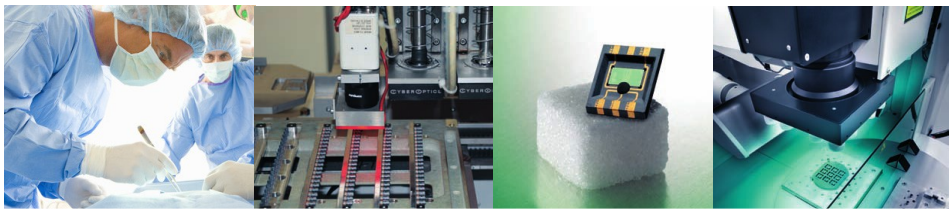
mechatronic



The term– MID Molded Interconnect Devices – describes the manufacturing process and the function of the component

Prototyping

Effective production process of samples for LDS-MID at 2E

Advantages

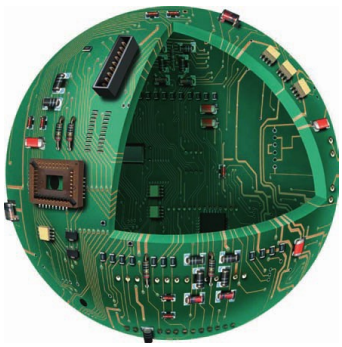
- Original material/series-ready
- Within two weeks
- Complete functionality

Application areas

- Medical technology
- Pharmaceuticals
- Diagnostics
- Biotechnology
- Analytic

Comparison of manufacturing processes

	Hot embossing	2-shot	LDS
Surface	Sn, Au, Ag, Ni	Sn, Au, Ni	Sn, Au, Ni
Conductor thickness	18 µm – 70 µm	6 µm – 8 µm	6 µm – 8 µm
Conductor width	min. 300 µm	min. 250 µm	min. 150 µm
Dimensions	2.5 D	3 D	3 D
SMD assembly	yes	yes	yes
Wire bonding	yes	yes	yes



About us

2E is a company working in the interdisciplinary field of mechatronics and produces components and systems for the following sectors

- Automotive
- Industrial electronics
- Medical technology
- Automation

Our core competence includes MID-technology,mass production of precision injection molded housings with inserts, and electrical connectors as well as systems for sensor and micro fluid technology.

Our MID demonstrator shows the possibilities of MID technology with regard to miniaturisation and reduction of part variety Mechanical as well as electrical functions can be integrated I n one single component .

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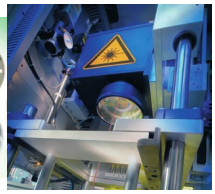
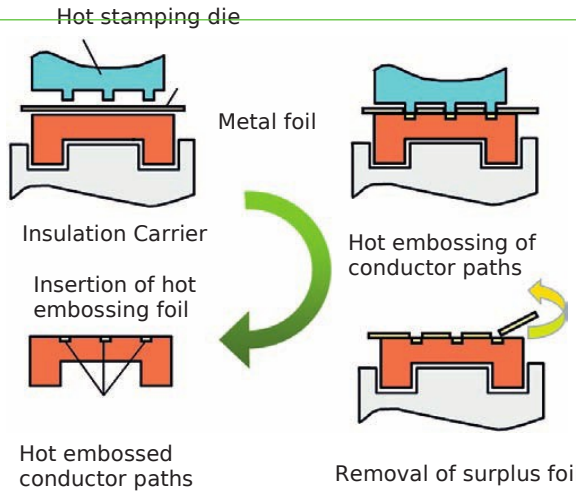


Hot embossing process

The conductor paths are embossed on the plastics with a certain pressure and temperature using a hot stamping die

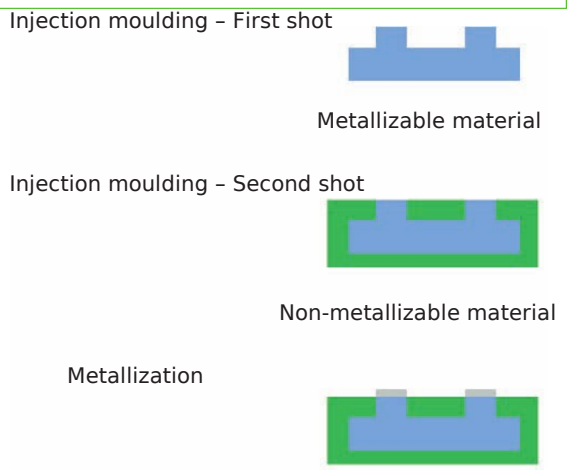
In general, hot embossing is applicable when plane areas(approx. 50x50mm) are provided for the layout. By choosing the film thickness, the ampacity can be adapted to therequirements.



Two Shot Injection Moulding

In two steps, a metallizable and a non-metallizable plastics are injected to an MID base body. Then the conductor paths are metallized in an electroless plating

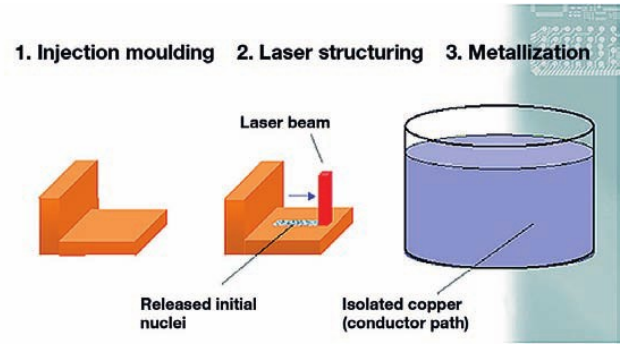
Due to comparatively high tool costs and a rather minor possibility of modification, 2-shot technology is applied when MID inconnection with large quantities is demanded. Variants are only possible through the assembly



Laser Direct Structuring (LDS)

First of all the layout of the conductor path is written on the injection moulded component by laser.At the same time a compounded additive is activated in the plastics.Subsequently, the conductor path is build by electroless plating.

Apart from miniaturisation and an extremely fine structuring of the conductor path, the possibility of easy and flexible layout modifications are the benefits of LDS technology. Moreover, the LDS material can be machined so that a fast and reasonable production of samples is possible.



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