

Excellence from the same mold

Safety systems and electronic components that make driving more convenient are at the top of many automobile buyers' shopping list. The smooth operation of these extras often depends on highly miniaturized circuitry. With specially modified Vectra® LCP, these tiny assemblies can be manufactured by injection molding.

MIDs (molded interconnected devices) give designers great flexibility to create three dimensional circuits while integrating mechanical and electrical functions into the polymer component at the same time.

After injection molding, a second operation is used to metallize selected portions of the component's surface. Various methods are available for this, such as the 2 Component MID process.

Hella, for example, relies on this manufacturing technique for a climate sensor – a component that earned them the Grand Innovation Award from the Society of Plastics Engineers (SPE) in 2007. Alternatively, a laser beam can be used to etch the circuit onto the three-dimensional molded part made of the appropriate Vectra® LCP grade. A metal layer is subsequently applied in an electroless copper bath.

Another prize-winning circuit assembly demonstrates just how small components can be when made from Vectra® LCP with the laser direct structuring process: T4T's (Technology for Trains) fully automated coupling system for model trains. LPKF Laser & Electronics AG earned the Industry Award 2007 from the Research Association 3D MID.



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Editorial team
Monika Besant (V.i.S.d.P.), Beate Sauer, Sabine Klümper
(SWK Semnar & Wolf Kommunikation GmbH)
Editorial address
Ticona GmbH, Monika Besant, B2B Communications,
Prof.-Staudinger-Straße, 65451 Kelsterbach/Germany
Design/layout
Annette Schwab, Peter Niepagenkemper
SWN Kommunikation & Design GmbH, Werrastraße 7,
60486 Frankfurt am Main

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