KH perfects piano black finishes

Kunststoff Helmbrechts combines two-component moulding and three IML foils to make the piano gloss CD/Radio panel for the new Ford C-Max car

German moulder Kunststoff Helmbrechts (KH) is producing an in-mould decorated radio/CD control panel for the new Ford C-Max car using a combination of two-component injection moulding and three decorative foils.

The company is also producing IMD components for the latest Audi models. The black high gloss Ambition dashboard-mounted ventilation slots for the Audi A1 are produced by KH using a 3mm transparent colourless thick film applied in the injection mould. This gives an impression of depth that cannot be achieved with paint, says KH's CEO Axel Zuleeg.

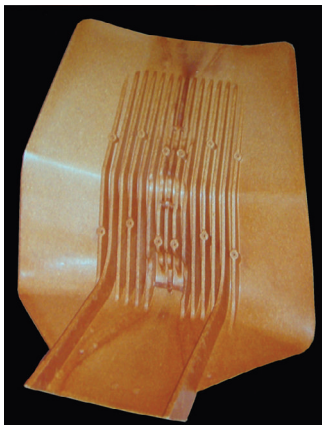
Foils for the Ford C-Max and Audi projects are produced at the KH Foliotec subsidiary. The C-Max project includes a high gloss black film printed with five colours for the centre of the panel and two metallic effect foils for each of the air vent surrounds.

The centre foil is printed with two black layers, the first defining the marking outlines and the second ensuring light penetration is completely blocked. Two white layers are then applied to pick out the lettering in the unprinted areas before a final clear protective lacquer is applied. The lacquer prevents colour erosion during injection of the resin onto the foil and ensures a high bond strength.

The centre black foil with its 15mm deep curvature in X and Y directions is preformed in a Foliotec fully automatic Speedform machine, which is also used to shape the metallic effect foils.

Moulding wood in 3D

Visitors to this year's Wood & Natural Fibre Composites Congress in Germany got to learn about single stage injection moulding of three-dimensional wood plastics composites (WPC), in which the wood veneered surfaces are laminated in the injection mould.



The non-veneered side of the Werzalit real wood veneered WPC office chair back

The technology was presented at this year's conference by Dr Matthias Schulte, R&D manager at German polypropylene based WPC compounder Werzalit, and Cathrin Funke from the IKP plastics institute at Paderborn university.

The scientists used highly deformable beech wood veneers which have proved to yield best results. They tested the technology first in a flat 110mm by 190mm two-cavity mould with 5-17mm radii, then in a deeper 500mm by 700mm 3D office chair back mould with 4mm corner radii.

The scientists identified 40 material and moulding parameters as having an influence on finished parts. They looked particularly closely at injection speed, holding pressure (higher better for both) and mould temperature (lower is better) in terms of fibre break-out, glue thread line visibility, veneer line dilatation, blistering and adhesion.

Mould temperature was found to have the highest influence on bond strength, warping and surface quality.

Heidelberger extends print deal

Printing press manufacturer Heidelberger Druckmaschinen is extending its research deal with the Darmstadt University of Technology for another two years.

The partners are working on functional printing, specifically new applications for the print media industry, and developing new surface finishing technologies. 'Functional' properties are those that enhance the print medium, such as new, decorative, visual, electrical, and electronic characteristics, says Heidelberger.

Recent research has focused on new effects with structural coating and special optical effects in 3D.

Heidelberger is providing the printing technology for the cooperation project - a Gallus RCS 330-HD rotary press. It has four printing stations and four printing processes - flexographic, screen, offset, and gravure.

Heidelberger and the university began the partnership in 2007. Over the past three years they predominately worked on simple display elements as demonstrators. Examples include thermochrome inks that can be used for special effects on packaging.

New colour tools from X-Rite

Colour science specialist X-Rite has launched a spectrophotometer to help paint departments match paints with colour samples.

The iVue measures colour at a distance, so paint specialists can compare objects with curved surfaces such as lamps or bowls. The machine measures in either the horizontal or vertical position and reduces non-value-added activities such as frequent calibrations and cleaning of optics.

X-Rite is launching the iVue at the Eurocoat 2010 show in Genoa, Italy, in November.