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MODERN PLASTICS WORLDWIDE

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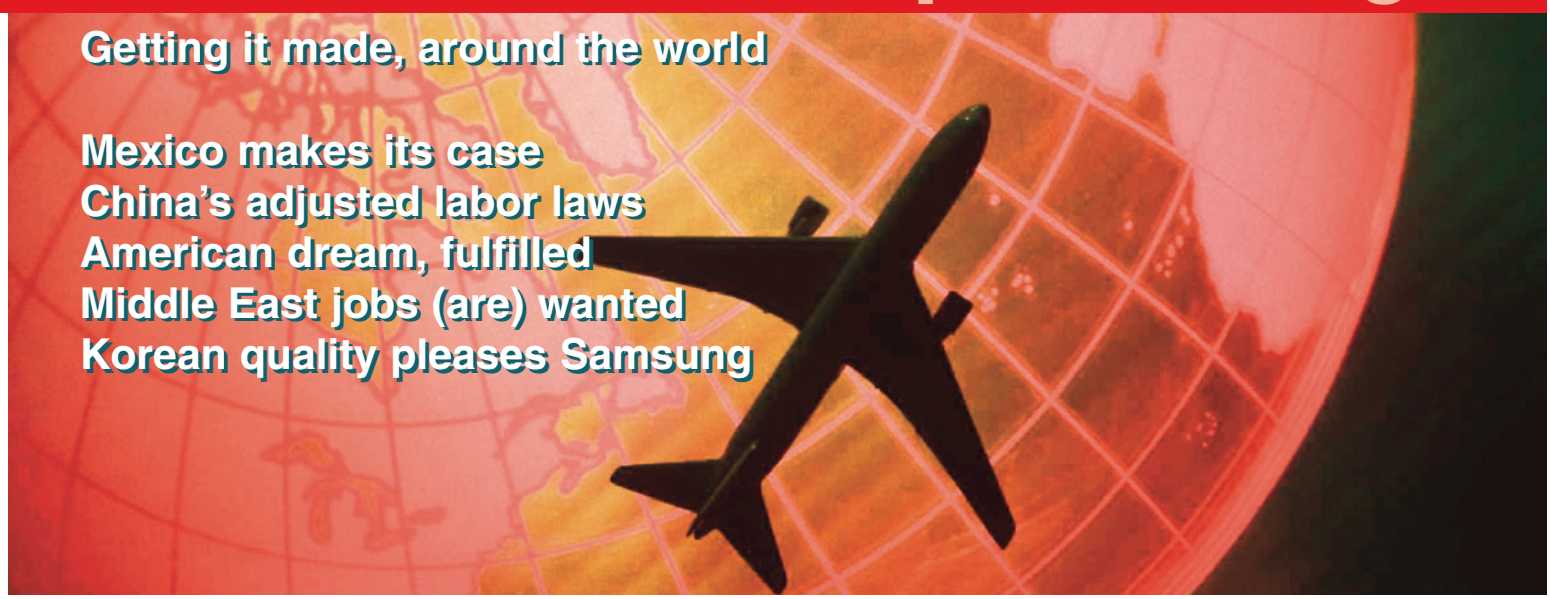

Getting it made, around the world

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ASSEMBLY & SECONDARY PROCESSING

Plasma without problems: next stop might be barrier treatment

Plasmatreat's CEO Christian Buske (right) and Joachim Schüßler, sales manager, demonstrate the firm's Openair plasma treatment system.

When MPW last covered Germany company Plasmatreat's Openair process, it was still fine-tuning its Openair plasma treatment for inmold use (see **MPW** July 2006 for more). Unlike most plasma systems, Openair systems operate at atmospheric pressure, with no need for a vacuum or closed container. The firm strutted its stuff at last October's K show when it partnered with other firms on a cell for molding thermoplastic picture frames, activating the moldings' surfaces with the Openair system then automatically sealing the picture frame with a foamed PUR gasket. That application had plasma applied ex-mold; at this October's Fakuma trade show in southern Germany, a similar application will be molded but with inmold treatment and PUR adhesion.

Among the 'never-stick-together' material combinations shown **MPW** during a recent visit to the firm's facility in Steinhagen, Germany were, for example, a fuel cap molded by Müller Technik of PP and TPU, and inline plasma-treated parts combining PA and ABS, among others.

The problem with combining such disparate materials inmold is not the process, says Christian Buske, the firm's founder and CEO, but rather that parts designers still generally don't consider it as an option. Processors using the company's Openair systems typically mount them on a robot arm so that the plasma treats exactly the right spot on a substrate, but does so outside the mold.

Commercially, Buske says the firm sells more than 300 of its systems annually, for more than 100 new applications. More than 70 automotive applications use the system. The firm has three lines running for dashboard production, with the long-glass-fiber PP carriers treated via OpenAir before being overfoamed with PUR. Fiat's Casino and Audi's Q5 are among vehicles whose dashboards are held together via OpenAir. As water-based coatings grab greater interest in automotive and other technical parts applications, Buske predicts that the use of plasma systems to improve surface tension on plastics substrates will hit an even higher level of use.

Beyond automotive, it is starting to get very interesting, as Buske says the firm is hard at work developing an atmospheric plasma jet that not only changes a substrate's surface tension, to enhance adhesion, but also can add a level of barrier protection with the plasma. Openair systems already see use at some packaging processors—Bericap treats closures prior to decorating them, and Reckitt Benkiser uses a system to treat extrusion blowmolded HDPE bottles to ensure wet labels stick well. The current development focus at Plasmatreat is on a means to add a barrier to plastic closures, Buske says, but other applications could also include treatment of films or other parts: even, potentially, as a substitute for other plasma coating systems on beverage bottles.

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