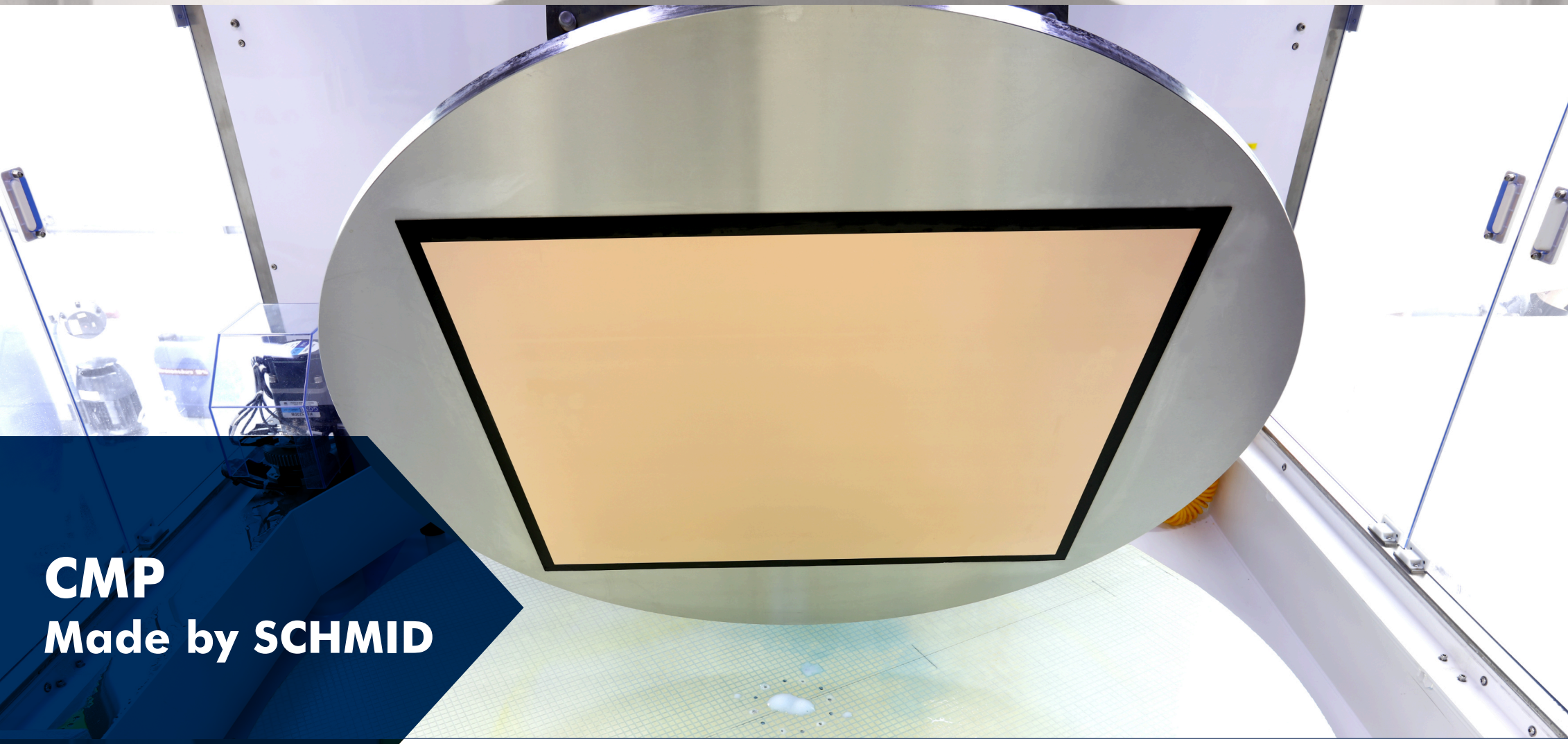

CMP
Made by SCHMID

CHEMICAL MECHANICAL POLISHING

Planarization for next level of ADI + and Substrate Manufacturing

CMP

Details

The novel large substrate SCHMID CMP (Chemical mechanical polishing) line has emerged out of the semiconductor world into printed PCB manufacturing as a critical step for next generation multi-layer boards and substrates. For achieving global surface polishing of plated copper with outstanding uniformity, an always well-defined form factor of the dielectric as well as copper lines, planes and vias is achieved.

The Oscar type of polishing setup achieves fastest planarization with minimal dishing for all kinds of copper-crystal structures. Along with the SCHMID process know how, CMP delivers an optimal tribochemical process resulting in a perfect synergy between friction and corrosion. Especially higher density build up with decreasing feature sizes require accurate layer definition.

In particular, in new processes like embedded traces, HAR via filling or mSAP/SAP, CMP is a key to high yield and access to new low DK epoxy materials.

The CMP as a part of the SCHMID embedded trace technology supports all requirements for industry 4.0. Different interfaces to customers MES are available. The web-based HMI allows to run and control the system from different devices.

Technical Data

- Head: ∅ 930 mm, 30-100 rpm, max. 1450 kg, ±15° swing range @ 0-5 rpm
- Platen: ∅ 1480 mm, 30-100 rpm with cooling structure
- Pumps: 2 slurry pumps for separate slurry supply, 0,980 l/min each
- Loading & Unloading: manually, dry-in/wet-out
- Conditioner: Swing arm type nylon brush
- Control: PLC & Touch Screen
- Structure: Simple, robust and high rigidity
- High uniformity: NU < 10 %
- Repeatability: WTWNU < 7 %
- Planarisation factor: ~ 2
- Removal rate: ~3µm/min
- Dishing: <2µm
- Working size: Max. 25 x 25 inch (635 x 635 mm)
- Dimensions: 2600x2700x2500 mm (WxDxH)

Advantages

- Solution for high-end HDI+ and IC substrates with structures down to 2µm
- Best in class process which combines material flexibility with leveling uniformity
- Field proven solution suited for large substrate sizes up to 25" x 25"
- Offers a new universe for PCB design in combination with the SCHMID embedded trace technology

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