The insert-overmolding of coated glass under high pressure is the latest patented technology of PENTACON. The process requires a high level of precision in the construction of injection molds and the injection molding process in general.

**Whats new at this approach?**

The insert-overmolding of planar glass surfaces is not a novelty in the field of plastics technology. However, the work with coated glass is a challenge for engineers and technicians. Especially high pressures and temperatures frequently result in fractures and cracks.

**How it works**

1. the glass pane is inserted into the form and fixed
2. the form will be closed, the edge of the glass will be sealed under high pressure with a patented method
3. the plastic is injected into the form
4. the form will be opened and the edge of the glass has been surrounded by the plastic material

**Advantages**

With our new method, the usage and processing of glass will be greatly expanded. Especially the mounting of assembled components is no longer needed, since the surrounding unit is made from a single mold. This not just lowers costs, also the usage of alternative materials saves money or even part weight. Further advantages are:

- the glass edge is protected and already the molded surrounding may feature additional elements such as threads
- glass panes can simultaneously be joined and sealed with other multi-functional parts made of plastic
- the procedure can be used with all common types of plastic as well high-tech materials

**Application area**

- medical technology (testing tubes, etc.)
- sight glasses/ fittings
- technical glass products
- optical filters
- displays, touch panels, gauges

**Technical parameters**

Currently, we are working with plane glasses of 10 x 10 mm up to 250 x 250 mm at thicknesses of 1 up to 10 mm. The blank glass is put under pressure of 1.500 bar and a temperature of 400° C.