



## Press Release

Schaffhausen, 17 November 2006

### **The smallest cavity temperature sensor of the world!**

Cavity temperature sensors gain more and more importance especially for the open and closed loop control in the injection molding process. Intelligent electronics detect immediately when the plastic melt reaches the sensor position and send a real-time control signal. In contrast to cavity pressure the position of the melt front is therefore always well-known and can be systematically controlled.

By programming delay times for instance weld lines can be moved to a certain position during the process and kept at this position constantly. In this way weld lines are consciously moved to a position where they have no influence in terms of mechanical strength or surface quality of the molded parts.

In order to react fast enough for real-time controls both, sensors as well as the equivalent electronics must be designed accordingly. The delay time from the melt reaching the sensor until sending a switching signal may not exceed very few "milliseconds" because otherwise valve gates or core pullers react too late, and the melt fills the cavity without control.

In order to reach these fast reaction times first of all the mass of the sensor body must be kept very small. A cavity temperature sensor in the body of a cavity pressure sensor is usually far too slow to detect the melt front on time. Combined pressure/temperature sensors do also not make much sense because they must be placed separate from each other due to the different measuring principles: cavity pressure always near the gate, and cavity temperature usually near the end of fill or wherever they shall be used for control purposes.

PRIAMUS has developed and optimized a number of cavity temperature sensors for these applications. Due to the great demand a new extremely small cavity temperature sensor (type 4009A/4010A) with only 0.6 front diameter was now introduced which confidently may be called the smallest cavity temperature sensor of the world. Type 4011A/4012A is equipped with the same front diameter. This sensor however has a longer measuring body and thus can be used for extremely small mounting proportions.

These miniature sensors are used in many applications such as in optical or medical industry for example, where also for smallest part dimensions an optimum quality must be guaranteed.

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