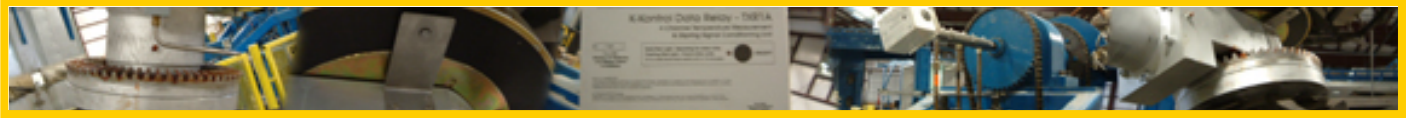


Benefits Measuring Mould Temperature



K-Kontrol™ Export Pack, an integrated full time mould temperature measurement system, can help you save costs in labour, energy bills, scrap rate and quality through...

▪ **Reducing labour costs.**

How much time do your operators waste waiting for the moulds to index out of the cooler and how long do they wait to index moulds into the oven? Is their time being used efficiently or are they just filling in spare time?

With **K-Kontrol™ Export Pack** integrated into your machine the controls of the machine can fully automate the indexing, leaving your operators to get on with other important jobs – project work, post-operative task, tidying, weighing powder, etc – without stopping to worry about the time.

▪ **Optimising cycle times by:**

- **Adjusting for changes in the ambient conditions.**

How long is your cycle? Most rotomoulders will give their answer in minutes. Polymer is not that interested in the time but more in the temperature and the rate of cooling. Far too often the ambient cooling temperature is disregarded, assumed constant or at best respected only between seasons of the year. But the effect of the ambient temperature variation in one day can have a major impact on the cycle time or if that is constant, on the temperature of the part, which means you are either over cooling or under cooling your part. This means your quality is not going to be consistent, especially if moulding critically flat parts with high tolerances.

Through the use of **K-Kontrol™ Export Pack** you can control your mould temperatures to the nearest 2C (3.6°F) every 2 seconds. On a nominal cooling curve of a rotomoulded part it can take anything up to 20 minutes to cool it down to a manageable temperature of say 70C (158°F). With just a 15C (27°F) variation in ambient temperature (say from morning to night) it can effect a potential cycle reduction of SIX minutes on the cooling portion of the curve. Most moulders will not be fully aware of this potential saving as their parts will be de-moulded conventionally at set times. However this variation can be highlighted by simply measuring the surface temperature of the moulded parts throughout the day - you could see as much as a 15C (27°F) difference in demoulding temperature, just caused by the changes in your ambient cooling temperatures.

- **Producing the part at the limits of the processing window.**

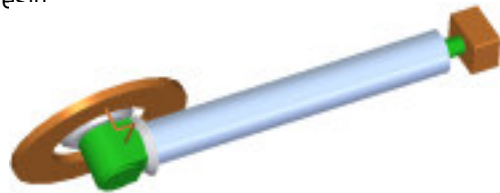
The benefits of using **K-Kontrol™ Export Pack** are not just about quality improvements and hitting the optimum mechanical properties but probably more importantly about quantity improvements. If you are making non-critical parts you may be more interested in how many you can make in an hour and not so much in how strong they are.

- **Accounting for changes in powders.**

One customer changed their powder from a 20 mesh to a 50 mesh. As you might imagine, this greatly reduced their oven time but this was all taken care of with K-Kontrol. Had they been using time-based control, they would have continued to cook for the same amount of time and overcooked the resin.

Identifying faults & process inefficiencies.

With **K-Kontrol™ Export Pack** you can track the temperatures monthly, looking for maintenance issues and taking precautions to prevent future machine downtime. Measuring the mould and oven temperatures on a daily basis will also highlight any problems you may be having during the night shift.



▪ **Remove guess work of new product set-ups by measuring polymer & mould temperatures.**

Moulding a new part without any kind of temperature measurement is reliant on experience, a few wasted parts and a little guess work. With **K-Kontrol™ Export Pack** you can make this process much easier and less stressful knowing exactly what is happening inside the mould. Trial and error is reduced and a more scientific approach adopted.

▪ **Helping to properly balance spiders.**

With so many moulders branching out into new products and diversifying to survive it is important that machine time is fully utilised. This often means that different sizes and shapes of moulds have to be mounted on one arm together. This can prove difficult when trying to balance the optimum cycle times with each of the moulds on the arm.

One customer reported a problem they were having with two parts, one on each side of a straight arm. One was coming out at an optimum cure while the other was getting overcooked. The benefits of **K-Kontrol™ Export Pack** were seen in comparing the mould temperatures of the different parts and making adjustments to the offset heights of each of the moulds until the temperature traces matched. Now they have two different parts on one arm both optimally cooked.