CASE STUDY

intertronics
adhesives, coatings, sealants & equipment
for your manufacturing and technology applications

Polytec TC 437
Thermally conductive epoxy

Our customer

Variohm

Customer benefits

- Thermal conductivity: 0.6 W/m.K
- Extended pot life
- Low viscosity
- Cures at room temperature
- Custom colour

We pot the green for Variohm with custom thermal potting compound

In setting up a new production project for in-house potting of temperature probes, the engineers at Variohm considered a number of well-known industry standard potting compounds, and they called us in.

Ben Moffat, project engineer at Variohm, was looking for a potting compound that would give them the best thermal conductivity combined with an extended pot life at room temperature, and it needed to be as free flowing as possible to fill the very small cavities in the Variohm M4 to M10 sized thermistor and thermocouple probes. These can typically work at over 100°C and can be called on to work at temperatures of 200 to 300°C, so very high temperature capability was needed as well.

Fortunately, Intertronics Sales Manager Kevin Cook was able to suggest **Polytec TC 437**, a boron nitride filled thermally conductive (0.6 W/m.k) epoxy which cures at room temperature with a two hour pot life and low viscosity.

As Ben Moffat put it:

> *"With Polytec we have about three times the pot life we had before, and the bubbles rise to the top so we can pretty much do what we want with it. Kevin and the team at Intertronics provided a selection of dispensing tips and were helpful in guiding us through the trials process, so that now it is quite quick and clean. Polytec TC 437 is now our preferred material, especially for the high performance and difficult assemblies. The market need is for high temperature thermistors and with the setup from Intertronics we can feel secure at elevated working temperatures."*

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In addition, we were able to supply bulk quantities of the Polytec TC 437 adhesive in a Variohm green to match their corporate style.

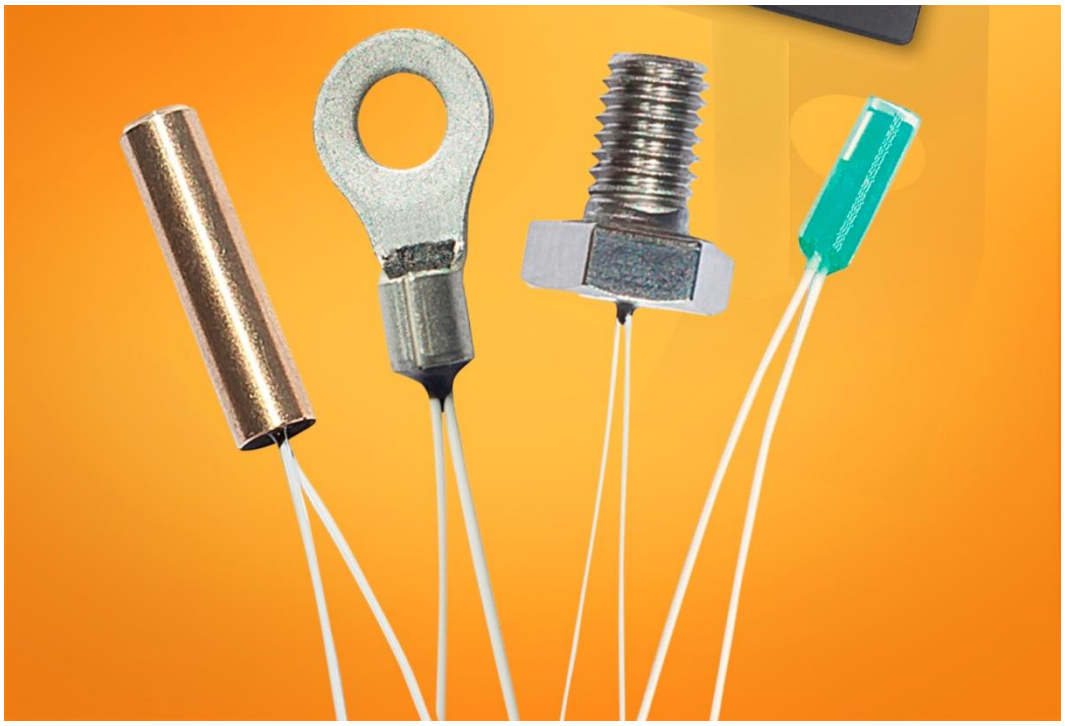
The process is manual at present, so providing a material with user-friendly pot life and viscosity reduced mess and clean up.

As Ben explained,

> *"Manual epoxy potting is as versatile as we need – in future we intend to develop the system by use of a time based dispenser run from compressed air and operated by a foot switch."*

Kevin Cook was also delighted with the product match for his customer.

> *"We provided a thermally conductive potting compound with superior performance and which met Variohm's process needs. Not many companies have the real flexibility to meet customer requirements, including a custom colour - which was a great plus!"*



Polytec TC 437 thermally conductive epoxy

- Excellent thermal conductivity: 0.6 W/m.K
- Process convenient packaging, including twin-packs and premixed and frozen syringes
- Application specific formulations

Applications include: Heat dissipation, chip bonding, heat sink bonding, power semiconductors, electronics, opto-electronics, hybrid microelectronics, automotive

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