

IRS 3078

Polyurethane potting compound

2-K-DOS

Metering, mixing and dispensing system



Our customer

Venta Global

Customer benefits

- Straightforward process with material handling and measurement decreased
- Cost per gram reduced due to bulk material supply
- Fully homogeneous mix

Potting compound and accurate, reliable dispensing for automotive lighting

Venta Global creates lighting solutions for vehicle and machinery manufacturers, offering a complete service from custom design, to delivery. It is a tier one supplier for automotive OEMs in the domestic, leisure, and commercial transport sectors.

In recent years, it has invested heavily in its UK production facility in Hampshire, including streamlining its processes using technology. The company's long-term goal is to deskill processes to enable consistent, reliable results to be produced, remove inconsistencies due to operator variance, and allow future scalability.

Potting for outdoor LED lamps

Venta Global was looking for an efficient way to pot PCBs inside a high-power outdoor LED work lamp. This exterior range is built to last, and must, therefore, be powerful, waterproof, and robust. A potting compound was required that could seal the product, adhere to the components, and prevent water ingress.

Following work together on several successful projects, Venta Global approached Intertronics, a supplier of sealing, potting, adhesive and potting compounds, and dispensing equipment.

After discussing the requirements of the project together, Intertronics recommended that Venta Global trial the **adhere IRS 3078 Polyurethane Potting Compound**, a semi-rigid, room temperature curing, electrically insulating black material. Its low viscosity meant it could flow into all required areas of the product, and its 1:1 mix ratio makes metering, mixing and dispensing it easier, both manually and in subsequent automation.

(continued on next page)

IRS 3078 can be supplied in side-by-side 50ml cartridges, manually dispensed and mixed through a static mixing nozzle. This convenient packaging was an important selection factor, as it allowed product testing without a steep learning curve or initial investment in equipment.

Following testing, Venta Global found IRS 3078 to provide the required technical characteristics and progressed into establishing a production process. For the volumes they were planning, dispensing manually from cartridges would not be suitable. A machine was needed to provide a fully homogenous programmable shot which could be calibrated and mitigate operator variance or reliance.

Added control

Intertronics recommended the **2-K-DOS**, as this machine could accurately meter, mix, and dispense IRS 3078 all in one system. In the 2-K-DOS, the two components of the material are precisely metered using gear pump technology, programmable from a simple control panel. The mix ratio, dispensing rate, and dispensed quantity can be set up accurately, to provide consistent, error-free metering, mixing, and dispensing.

The system is designed with a unique modular approach, and Intertronics could provide it customised to Venta Global's material and process, with appropriate material reservoir sizes and dispensing hose lengths.

Matthew Baseley, Technical Sales Executive at Intertronics, explained:

"A commercial advantage of the 2-K-DOS is that Venta Global could benefit from the cost savings of 5 kg bulk kits of IRS3078, over the 50g side-by-side cartridges that had been used initially for testing, further shortening the payback period. The 2-K-DOS eliminates the need for time intensive, manual processes like weighing and mixing – often a feature of potting compound use. The machine can be simply reconfigured to work with robots or further automation, should Venta need to increase positional accuracy in future."

To prevent the filler within part A settling in the reservoir (which could lead to a potential performance issue), Intertronics added motorised agitation to ensure the filler is held in suspension and part A is fully homogenous before it combines with part B.

Advice and training

Intertronics installed the equipment on site, and provided training to the team at Venta on how to operate the machine, top up the reservoirs, start up and shut down procedures, maintenance programmes, and calibration.

Alongside training dedicated to the system, Intertronics advised Venta Global on an upcoming regulatory change relevant to the use of industrial polyurethanes. As of August 24, 2023, training is required for all professional and industrial users of polyurethane adhesives and sealant products with a total monomeric diisocyanate concentration of >0.1%.

Matthew Baseley, Technical Sales Executive at Intertronics said:

"Ahead of the change in regulations, we're checking in to make sure that all our customers using polyurethanes are aware of and understand what is required."

Roderick Dible, Production Manager at Venta Global, said:

"We've had the machine for over a year now, and it has been running perfectly. At the touch of a button, we can dispense a fully homogeneous mixed and metered shot exactly where it's needed. The



(continued on next page)

Intertronics team were on hand to support throughout, and we benefitted from their technical knowledge, support, and responsiveness. This coupled with the commercial support means I am sure it will not be our last collaboration."

IRS 3078 Polyurethane Potting Compound

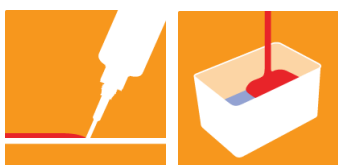
- Flowable, semi-thixotropic
- High impact resistance
- Good electrical insulation properties
- Room temperature curing
- High adhesion
- Packaged in convenient side-by-side cartridges, as well as bulk containers

Applications include: Potting and encapsulating electronic assemblies, bonding of dissimilar materials, Sealing road studs

2-K-DOS Metering, Mixing and Dispensing System

- Able to process mixing ratios from 1:1 to 10:1
- Air-free
- Straightforward integration with robotics or automation
- Digitally controlled shot size and flow rate for precision
- Storage for up to 99 different programs
- Built-in level monitoring system
- Material pot life alarm with automatic purge function to maintain fresh material in the mixing nozzle
- Configured to your material and process
- Reservoir heating and agitation options keep materials flowable, consistent and ready to use
- Modular design means easy maintenance and repair

Applications include: Electronics and LED potting and encapsulation, casting, form-in-place gasketing, Adhesive dots and beads



**Contact us for more information on
our robotics and dispensing products**

t 01865 842842
e info@intertronics.co.uk
www.intertronics.co.uk

intertronics

Station Field Industrial Estate
Banbury Road, Kidlington
Oxfordshire, England OX5 1JD

202306