



Customer Case Study

Vinyl Compounds Ltd

„Using the Thermo Scientific PolyLab QC helps ensure consistent quality of our PVC compounds – across the board.”

Richard Loynes, Commercial Director

Thermo
SCIENTIFIC

The Company

Vinyl Compounds Ltd, is one of the UK's largest manufacturers of PVC (polyvinyl chloride) polymer compounds. With 35 years in the PVC compound industry, the company is at the forefront of PVC technology and has developed literally thousands of grades of compound and dry blends to meet a wide variety of customer applications. Through their continual investment program the company has established a modern manufacturing facility capable of producing in excess of 60,000 tons of PVC compound and dry blend per year.

Vinyl Compounds supplies materials throughout the UK, Europe, America, Asia and Africa and is committed to formulating material for whatever application or requirement. The company's laboratories embrace the latest materials characterisation technology, a key differentiator in the PVC industry.

Their Challenge

Rigid PVC is used in the construction industry for windows, piping, signs, roofing sheet material and other products. More flexible versions serve as an alternative to rubber and are widely used in the manufacturing of clothing, footwear/boot grades, upholstery, electrical cable compounds and many other everyday products. Vinyl Compounds Ltd formulations range from industry-standard mixes to highly technical and customer-specific formulations such as high-performance weatherability, exact color matching, softness, fire retardant or oil resistance.

To mimic the production process at their customers' facilities, Vinyl Compounds had, for years, used a simple, single screw extruder. This device was used to melt PVC compound and extrude it through a die, and it did not contain a torque measuring system. This approach turned out to be insufficient, as modern PVC formulations are very sensitive to process conditions. Uncontrolled process

conditions can ultimately compromise quality, consistency and repeatability of the end product at the customer's site. In order to ensure the highest possible quality for their customers and to be able to process an ever-expanding range of rigid and soft PVC materials, Vinyl Compounds needed to find a modern and versatile extrusion testing solution.

The managers at Vinyl Compounds Ltd knew that the outdated single screw extruder could no longer provide all the necessary information. If the company couldn't deliver material that matched its customers' exact specifications it would interrupt production processes and produce inferior end products. By adopting the latest technology, Vinyl Compounds knew they would be able to ensure customer confidence in their PVC compounds and so turned to Thermo Fisher Scientific, and the equipment sold under the Thermo Scientific brand, to solve this challenge.





„Thermo Scientific rheometry solutions enable us to preserve both our own and our customers’ brand integrity.“

The Thermo Scientific Rheometry Solution

Vinyl Compounds Ltd replaced the old single screw extruder with the Thermo Scientific HAAKE PolyLab QC torque rheometer system with a 19mm 25:1 L/D single screw extruder. The new equipment solved two problems that the outdated single screw extruder could not address: testing for consistency and developing new compounds.

The HAAKE PolyLab QC can relay information such as temperature, torque, viscosity, pressure and texture of the flexible material as it is produced. Using this data, Vinyl Compounds can identify, analyse and, if needed, change variables in the mixing process to eliminate inconsistency.

The HAAKE PolyLab QC also assists with developing new formulations, starting with testing small-scale batches and moving up to full production batches, something the old single screw extruder couldn't do.

The HAAKE PolyLab QC has also helped streamline the PVC compound manufacturing process from beginning to end. By providing customers with batches that meet their exact specifications, the production processes never have to be interrupted or slowed down and customers can consistently produce high-quality products. This commitment to quality preserves brand integrity for Vinyl Compounds Ltd customers, who can confidently deliver a consistent product to their own customers.

Why Thermo Scientific Rheometry Solutions?

Vinyl Compounds Ltd ultimately selected Thermo Scientific instruments over competitive products because they had seen the quality of the equipment, the depth and quality of the training and the superior customer support firsthand.

Thermo Fisher Scientific provided initial product training to Vinyl Compounds personnel, allowing the company to start using the machines on its own. Thermo Fisher application specialists then returned to provide more in-depth training, allowing the

technicians and managers to ask questions about the equipment in order to maximise its features and capabilities. The teams at Thermo Fisher Scientific are committed to supporting all product maintenance, including updates in software, to ensure machines stay current – another reason Vinyl Compounds selected its solution over competitive offerings. Having been a Thermo Fisher customer since 1995, the Vinyl Compounds team knew they would be receiving a superior product and could rely on a high level of customer support from Thermo Fisher.

The Results

Using the Thermo Scientific HAAKE PolyLab QC torque rheometer system, Vinyl Compounds Ltd can produce a range of high-quality rigid and flexible PVC compounds that are consistent across the board.

In short, Thermo Fisher helps ensure that each batch of PVC is made right the first time, every time, preserving Vinyl Compounds Ltd own brand integrity and, most important, enabling its customers to maintain consistently high-quality standards of their own.



About Thermo Fisher Scientific

Thermo Fisher Scientific Inc. (NYSE: TMO) is the world leader in serving science. Our mission is to enable our customers to make the world healthier, cleaner and safer. With revenues of \$12 billion, we have approximately 39,000 employees and serve customers within pharmaceutical and biotech companies, hospitals and clinical diagnostic labs, universities, research institutions and government agencies, as well as in environmental and process control industries. We create value for our key stakeholders through three premier brands, Thermo Scientific, Fisher Scientific and Unity™ Lab Services, which offer a unique combination of innovative technologies, convenient purchasing options and a single solution for laboratory operations management. Our products and services help our customers solve complex analytical challenges, improve patient diagnostics and increase laboratory productivity. Visit www.thermofisher.com.

Thermo Fisher Scientific, one of the pioneers in rheology, successfully supports a wide range of industries with its comprehensive Thermo Scientific material characterization solutions. Material characterization solutions analyze and measure viscosity, elasticity, processability and temperature-related mechanical changes of plastics, food, cosmetics, pharmaceuticals and coatings, chemical or petrochemical products, plus a wide variety of liquids or solids. For more information, please visit www.thermoscientific.com/mc.



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