

The Polymer Training and Innovation Centre use identiPol to train the plastic processors of the future

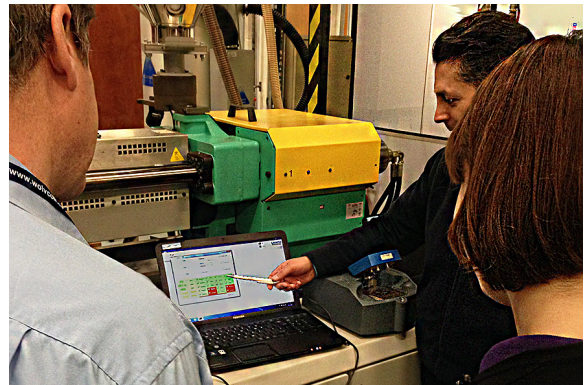
The Polymer Training and Innovation Centre (PTIC), part of the City of Wolverhampton College, was established in 2010 as part of the asset purchase of the former Polymer Industries Industry Training Board. The centre has now added an identiPol system to their facility to bring students up to date with the latest plastic testing and conformance technology.

As the PTIC is an internationally recognised centre in the field of polymer training, education and expertise, it is important to them to keep abreast of the latest manufacturing and testing technologies. The centre boasts an impressive range of manufacturing and processing equipment, together with the typical testing (melt flow, mechanical, impact testing) techniques found in the factory.

Since opening, thousands of students – both local and international – have passed through the centre to study the production and manufacture of plastic materials.

Darren Vater-Hutchison is a Technical Trainer at PTIC and has extensive experience in training students both at the college and at customer sites both in the UK and overseas.

“We have a wide range of equipment here and we take the students through the entire manufacturing process as part of their studies.



PTIC students look on as Darren Vater-Hutchinson demonstrates the identiPol system.

From taking a new tool, machine selection and the setting up of the processing parameters, through to the evaluation of the

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final product. In fact there is very little that we don't cover in training a process engineer to understand all aspects of plastic manufacturing and production” states Vater-Hutchison. “Although we have the typical testing equipment that cover the mechanical

and rheological properties, we were very impressed when we first saw the identiPol that it could offer so much more”.

“We were a bit sceptical at first”, Vater-Hutchison continues “the identiPol was so small and yet claimed to do so much. The system hadn’t been on the bench for more than a few moments before we grabbed some material and gave it to Steve Price from

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Lacerta who was running the machine and said ‘What’s this?’ whilst keeping the bag hidden from him. The identiPol quickly identified the unknown as a Nylon 6,10 and we then started looking more closely at what else it could do for us”

The identiPol unit can also be used to compare incoming batches of material against

known good material before it goes into the production line. As well as comparing different grades from manufacturers for equivalence.

“We think in the design of the identiPol they have got it just right” concludes Vater-Hutchison, “it’s not too technical for a new student to pick up and get to grips with during our short courses and apprenticeships. The software is pretty simple and guides them through everything, so there’s no doubt in my mind that it can easily be used on the shop floor and is perfect for ensuring the quality of the manufacturing process”

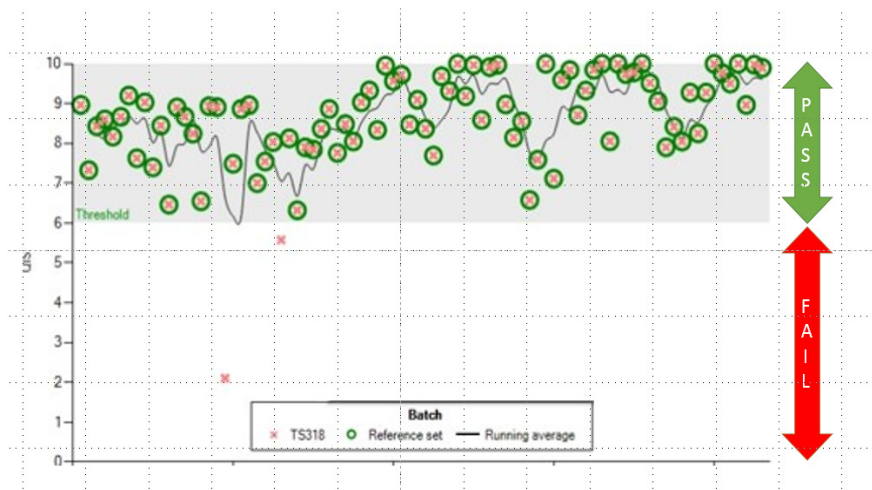
More information about the courses offered by PTIC can be found on their website here: www.wolvcoll.ac.uk/polymer and for more details about the identiPol system from Lacerta Technology please visit here: www.identipol.com

How the identiPol works

The identiPol is a device based on a hybrid of two techniques: Dynamic Mechanical Analysis (DMA) and Differential Thermal Analysis (DTA). These methods produce analytical fingerprints of a material that reflect its thermal and mechanical properties over a wide range of temperatures. Both these techniques, and variants, are used extensively for studying and characterising thermoplastic materials in the scientific world but considerable barriers have prevented widespread use for QA in factory situations.

The identiPol heats a test sample (typically a few plastic pellets that have been moulded

into a patented sample holder within the unit) whilst measuring the softening and melting behaviour of the plastic film. The measured data are then compared to a library of typical plastics for identification, or with previous batches of the same material to give a Quality Index Score (QIS). The QIS value provides a simple “go / no go” of product conformity and is a unique measure of similarity. A QIS of 10 means the samples are identical, a value down to 7 is indicative that they are similar enough to be considered acceptable for use in production. Values lower than 6 indicate the material should not be used in production as it is too dissimilar.



About Lacerta Technology

Lacerta develop and manufacture a broad range of instrumentation used in the analysis, characterisation and quality assurance of plastic materials. Headquartered in Keyworth, UK and supported by a world-wide distribution network, Lacerta offer a range of unique and patented technologies for scientists, engineers and QA professionals.