Investigation and solutions for product and material failures

NORNER is an independent innovation and technology centre with leading expertise in advanced analytical testing, microscopy techniques and sample preparation

Industrial Impact

The production and use of products in today's society involve a broad range of requirements. Unfortunately, these products do break, disintegrate or fail from time to time. Product and material failure represents huge costs in repair, replacement, down time and involvement by personnel.

Norner has the competence, equipment and resources required to investigate product and material failures, document the reasons for it and provide conclusive reports with suggested solutions.

Our specialised microscopy lab has supported a wide range of industries ranging from polymers, packaging and plastic processing to solar energy and offshore. We serve our customers in a personalised way and enjoy working with our international clients.

Norner Services

Product failure analysis
In order to provide appropriate conclusions from our analysis we have a dedicated team with long experience in the field of microscopy and analytical techniques. Surgical precision is required for sample preparation and a functional understanding of the product is necessary for the evaluations.

Product documentation
We carry out similar investigations to document the quality of products. This might be as a follow up from a failure analysis made earlier or directly with new products or customers who need verification that potential weak point of their products are as safe as possible.

Quality improvement
Product development
Product improvement
Seminars and training

Norner Confidence

We strive to achieve a close cooperation with our customers in order to facilitate a good flow of information. Any information regarding the product, its production and use is vital for the investigations and conclusions we provide. In this way we have a high focus on meeting our customer needs.

Our microscopy team of experts deliver conclusive reports where the documentation through high quality pictures have priority combined with other analytical information.
Norner's three business areas reflect our value chain approach:

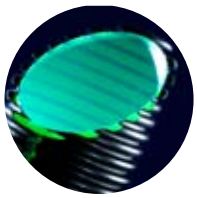
Scientific Laboratories
Applied Research
Plastic Solutions

Norner is approved according to ISO 9001:2008.

norner™





Our Insight

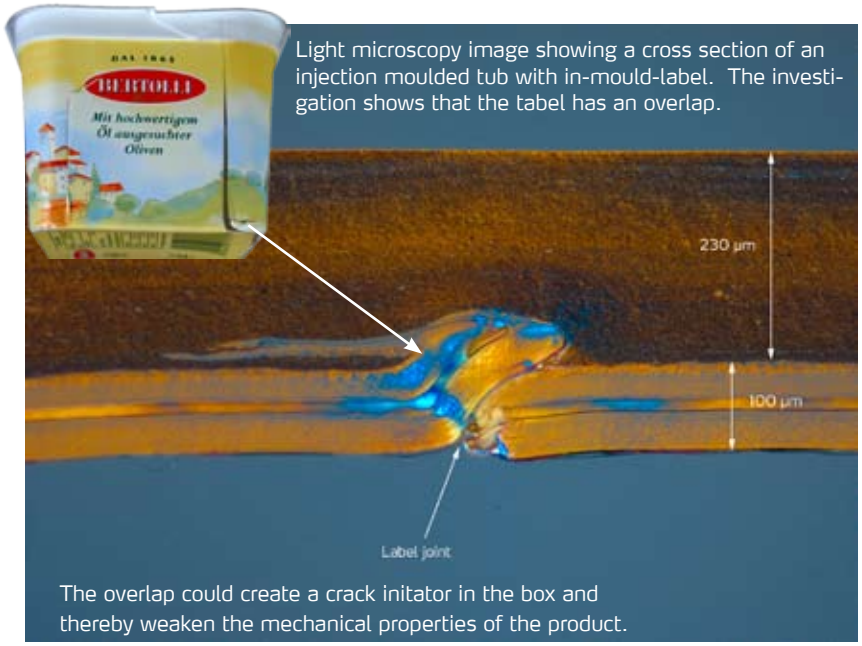
Materials and products
Plastics parts and packaging, injection, blow and rotational moulding, extruded pipe, cable insulation, films, laminates, compounds and alloys.
Catalysts, polymer powders, morphology and homogeneity.
Metals and inorganic materials.

Failure categories
Mechanical strain, pressure burst, stress introduced by processing, chemical stress cracking, gels and inhomogeneities, contamination, inclusions, design of product and mould.

Laboratory regulations
Norner operate more than 300 approved test methods in line with international standards and is ISO9001 certified.

Way of working
- Gather necessary information
- Receive relevant samples
- Start the task on macro level
- Investigate further at micro or nano level
- Smart use of supportive techniques
- Draw conclusions and give recommendations

Project description



Light microscopy image showing a cross section of an injection moulded tub with in-mould-label. The investigation shows that the tabel has an overlap.

The overlap could create a crack initator in the box and thereby weaken the mechanical properties of the product.

Our Facilities

- Scanning Electron Microscope (Phillips XL30 ESEM)
- EDS (EDAX sapphire) - element detection and quantification
- Leica DM600M and several other light microscopes
- Hot stage light microscope
- Leica MZ APO Stereo microscope
- Leica Photo macroscope
- Image analysis tools
- Advanced sample preparation equipment

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Innovation through Insight

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