impact solutions

services & capabilities

UKAS accredited | test laboratory & innovation centre

UKAS TESTING

who are impact solutions?

Who Are Impact Solutions?

Impact Solutions is a leading test laboratory and innovation centre equipped with extensive expertise and technical know-how. We are UKAS and ISO 17025 accredited (No. 0402), based in our 27.500 sq ft state-of-the-art facilities in central Scotland.

As an independent client focused laboratory, we're committed to delivering an exceptional and proficient service. We go the extra mile to understand your technical and market challenges offering rigorous and bespoke testing - following with the comprehensive scientific data needed to capitalize on your product investment.

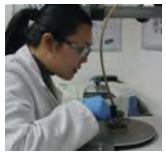
Constantly expanding to market changes, we have a unique approach to problem solving by delivering on sustainable development and innovations.

www.impact-solutions.co.uk

+44(0)1324 489182

info@impact-solutions.co.uk

Our Services



Materials Analysis & Characterisation

Product & Process Innovation

Product Testing & Certification

Expert Witness & Consultancy

Scale-up & Prototyping

Business & Funding Support

Incubator & Start-up Space

Contents

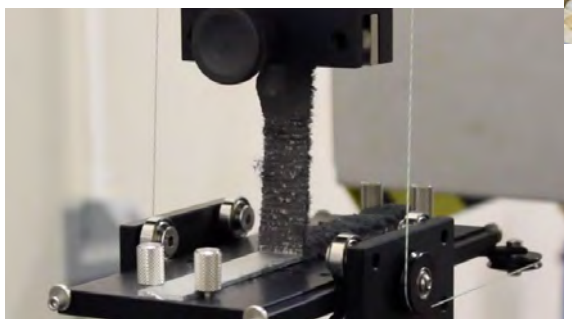
Mechanical testing is fundamental to understanding the behaviour and limits of a materials performance. To ensure product quality and service life, it is necessary to perform short and long term mechanical testing at every stage of production. We can test from raw materials to final product using methods such as tensile strength, impact properties, deformation with temperature and creep. Our team have industry experience stretching back 50 years, giving us a wealth of knowledge to draw on when carrying out mechanical testing for commodity and engineering polymers as well as composites.

Failure Analysis | **Material Characterisation** | **Product R&D** | **Quality Assurance** | **Expert Witness**

In addition to mechanical testing, Impact Solutions can support companies formulation and material development to optimise processing and performance in-use, with additives such as mineral fillers, lubricants, plasticisers, pigments, anti-oxidants and fibres.

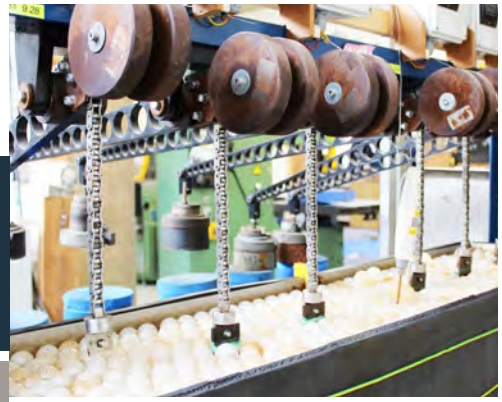
Mechanical tests include:

- Tensile, Modulus, Poisson Ratio, Yield Point, Flex etc.
- Impact, Hardness
- Heat Distortion Temperature, Vicat
- Fatigue



Environmental stress crack resistance (ESCR) is an important property of polymers to understand when developing a product and is a common cause of brittle failures. Unlike impact fractures, environmental stress cracking occurs in components after a period of time, often under loads where the polymer would not be expected to fail in air.
A number of tests have been developed to determine the environmental stress crack resistance of plastics, two of the most common being the Bell Telephone Test (BTT) and the Full Notch Creep Test (FNCT).

Impact Solutions is one of the leading laboratories for the analysis of environmental stress cracking and is UKAS accredited to carry out these tests.



material analysis & characterisation

Material analysis is an essential tool in identifying materials, assessing if they meet specification and determining their properties to understand how they will react to a given environment.

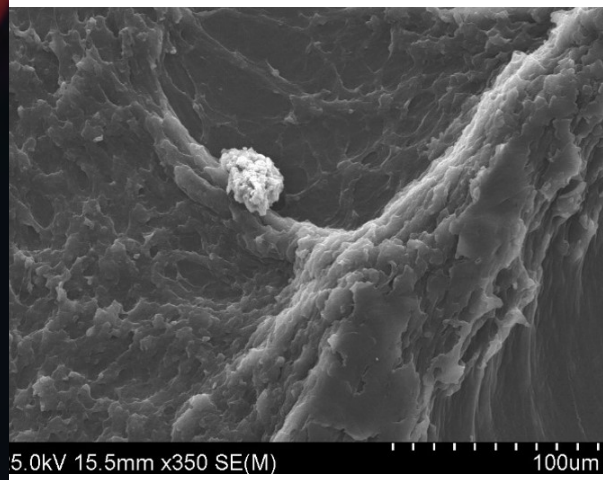
Impact Solutions can perform a full suite of material analysis and characterisation, investigating everything from rheological and structural properties to flow behaviour and chemical composition.

Material analysis techniques are often used by Impact Solutions to carry out failure analysis. FTIR, DSC, optical and scanning electron microscopy can check the mode of failure, crack propagation and characterise chemicals or contaminants present.

A product's aesthetic properties and durability can also be assessed through material analysis with techniques like haze, colour, tear and abrasion resistance.

Material analysis & characterisation tests include:

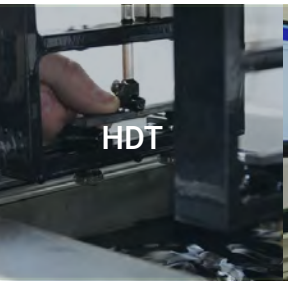
- Rheology
- MFI
- Density
- Microscopy
- Intrinsic viscosity

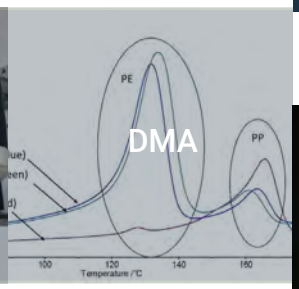


Thermal analysis techniques allow the measurement of physical, chemical, and thermodynamic changes taking place within a material under differing temperatures. These methods can pinpoint when and at what temperature significant changes occur allowing for the identification of material, their properties and how they react to temperatures. Impact Solutions is one of the few material laboratories which is UKAS accredited (no.0402) in providing these techniques.

Thermal properties of plastics and composites strongly depend on molecular structure. Thermal analysis techniques help determine properties such as the glass transition, melting of crystallites and thermal degradation of macromolecular chains in thermoplastic resins. These tests give our customers the critical data and confidence they need to fully understand the characteristics of their material or end product.

We are capable of assessing the entire thermal behaviour of plastics and plastic composites through the following techniques: heat deflection temperature, differential scanning calorimetry, thermogravimetric analysis and dynamic mechanical analysis.





techniques for assessing thermal behaviour of plastics and plastic composites

Analytical testing is used to accurately identify the composition, contents and quantities of different compounds and elements within materials. These techniques can provide full characterisation, material verification, identification, and levels of impurities.

Impact Solutions can offer a range of analytical testing such as GCMS and ICP-OES able to identify chemical composition, heavy metal content, toxicity analysis, RoHS, as well as reveal the content of hazardous compounds which are regulated under REACH. With our state-of-the-art equipment, we are set up to quantify the levels of persistent organic pollutants (POPs), brominated compounds, phthalates and other harmful volatile molecules.

Analytical testing can provide necessary insight which will help improve material performance and resolve failure or contamination concerns.

Some of our analytical equipment include:

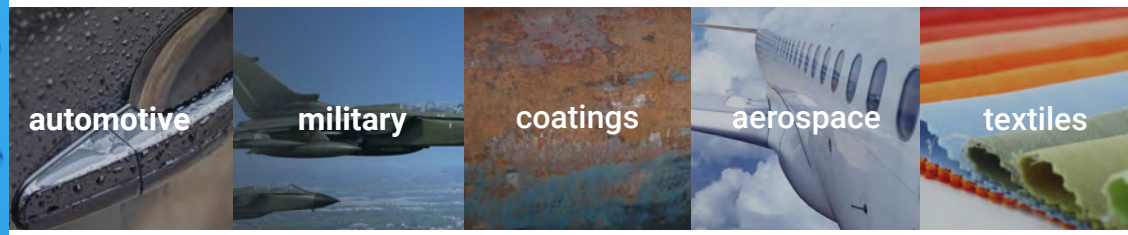
- Elemental Analyser
- HT-GPC
- FTIR
- ICP-OES
- GCMS

accelerated weathering & environmental testing

Accelerated weathering and lightfastness testing is designed to test the durability of your product under various climatic conditions. Any product which experiences direct sunlight is susceptible to the damaging effects of sunlight, UV and weather damage and requires testing to check material performance and lightfastness over time.

Using an accelerated weathering unit, the weathering process is accelerated by around 8 times with the equipment able to simulate conditions anywhere around the world. Samples can be evaluated for colour change and fading due to exposure of natural and artificial sunlight under a variety of conditions.

Impact Solutions are able to undertake UKAS accredited testing under our flexible scope allowing us to offer a variety of test methods and standards throughout a number of industries including, ISO, SAE J, ASTM, DIN, EN, PV, Ford, VW, Nissan and many more.



we work throughout a number of industries

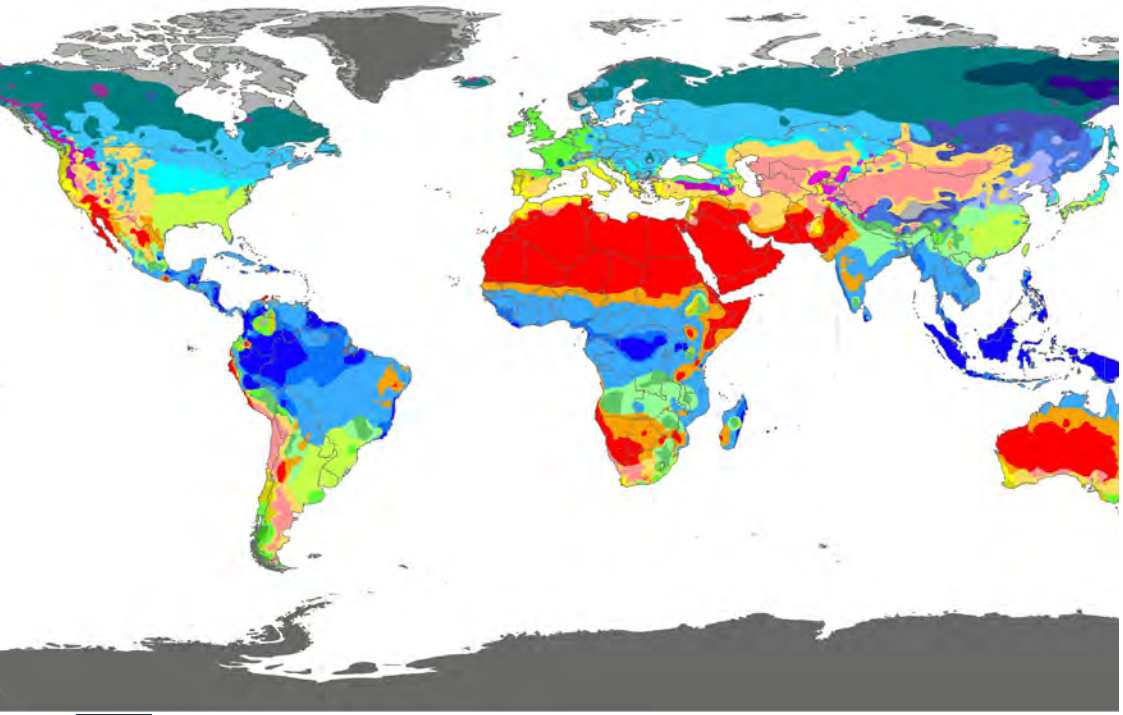
Our weathering lab is home to a bank of Q-Sun Xe-3 Xenon Arc Chambers with full spray capabilities and QUV accelerated weathering testers. There are several UV options available to run, including UVA, UVB and UVC. These units can be booked on a tray basis and our capacity enables us to tailor our running standards to meet your needs.

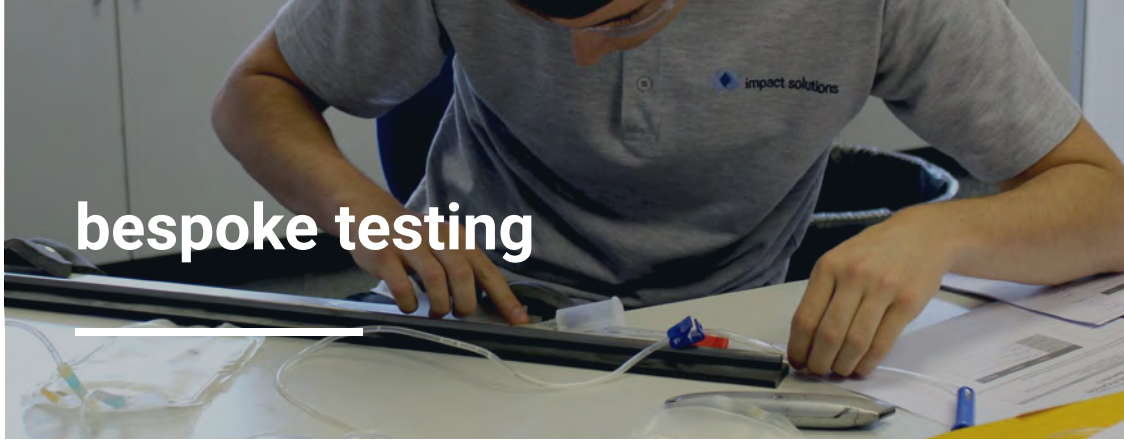
A selection of accelerated weathering & lightfastness standards:

- ISO 4892-2
- ISO 4892-3
- FLTM B0116
- SAE J 2412
- SAE J 2527
- MIL-STD-810G
- ISO 105 B04
- ISO 105 B06
- ISO 105 B0
- PV1303
- PV3929
- PV3930

Materials experience various environmental conditions during their performance and service life. These conditions include high and low temperatures, sun light, humidity, salt water damage and oxidation. Thus, the characterisation and performance of materials under actual working conditions are vitally important.

Impact Solutions is fully equipped and UKAS/ISO accredited to undertake accelerated weathering testing such as UV and Xenon exposure, cyclic temperature, humidity, vibration and shock testing. This testing helps us to understand how materials in industries such as automotive, aerospace, construction and infrastructure perform throughout their life. All environmental tests can be combined with mechanical tests, colour, grayscale, gloss and haze assessment to fully understand the material behaviour.





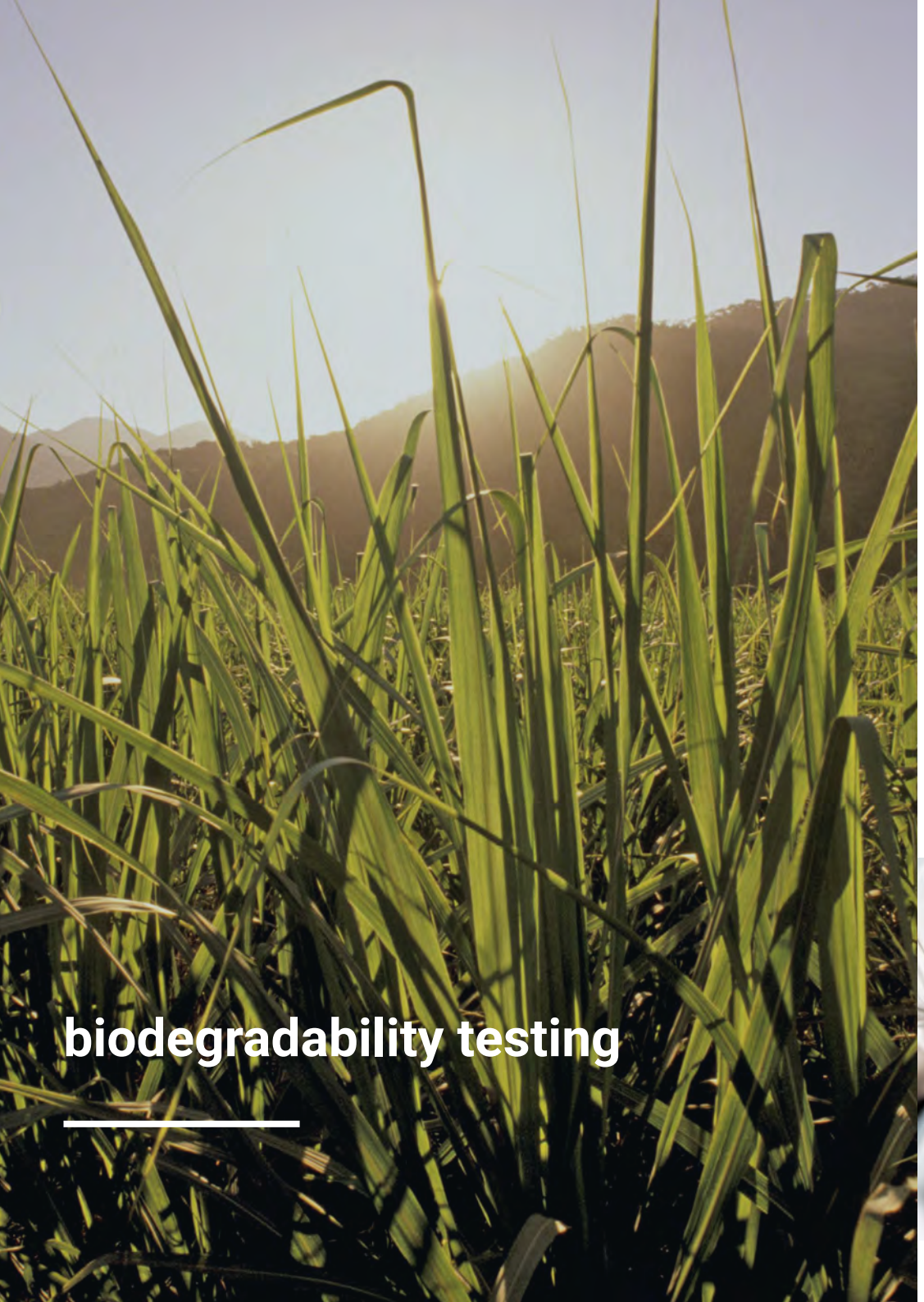
bespoke testing

We understand our clients have very specific needs and challenges which often aren't met through standard testing. Impact Solutions offer a unique bespoke testing service, working with you to develop new standards, test method and equipment to test products to real-world conditions.

We have decades of industry knowledge and technical expertise to draw upon, setting us apart from other test facilities.

This work has seen us deliver new methods for testing products across multiple industries, from cutting edge materials to life saving equipment:

- Medical Devices
- Custom Packaging
- High Performance Materials
- Oil and Gas
- Trading Standards
- Utilities
- Expert Witness



biodegradability testing

Biodegradable plastics describe a group of plastic materials that can naturally degrade in a specific environment, within a specified time frame. For a plastic material to be certified as “biodegradable”, it must satisfy three specified parameters:

1. Degree of degradation
2. Timespan of degradation
3. Surrounding conditions of degradation

To comply with these specifications, standardised test methods such as the BS EN 13432 can be used to assess the materials characteristics.

Impact Solutions can perform a series of biodegradability tests on products as part of the BS EN 13432. We offer a range of material analysis services: chemical, environmental and elemental, as well as biodegradability tests including aerobic and anaerobic.

Biodegradability testing includes:

Material Characterisation

Biodegradability Analysis

Disintegration

Compostability

open innovation

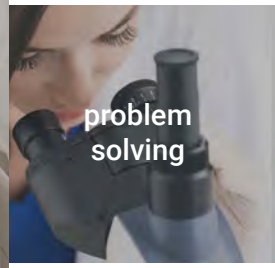
Impact Innovations is our product development and technology accelerator, providing technology research and development support to our customers and partners.

Ideation Fund Develop Scale Launch

We have a strong focus on sustainable innovation and developing technologies - which deliver maximum impact whilst leaving a small environmental and ecological footprint.

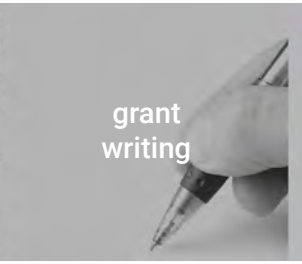
We also work collaboratively with start-up's, SME's, multi-nationals as well as R&D focused companies who are looking to develop their ideas from concept through to commercialisation. We re-conceptualise issues to discover solutions to your problems to capitalise on opportunities.

Our open innovation services:



We've supported companies in successfully scaling their technology and business from start up to multimillion pound companies.

Our large network of industrial partners and academic collaborators allow us to bring together cutting-edge science to the challenges faced by industry.



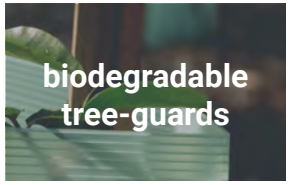
We can support companies to fund their R&D projects via our extensive grant writing experience.

We collaborate with innovators providing access to our state-of-the-art facilities.

Innovate UK ZERO WASTE SCOTLAND Scottish Enterprise

Here are some of our innovation project case studies:

A chemo-mechanical technology that is patented to purify Polyethylene and Polypropylene of odours, colours and contaminants, resulting in a pure recycled resin for use in packaging.



Our innovations team is supporting the development of novel degradable tree guards, replacing the environmentally contaminating plastic guards which can last for centuries in the environment.

Impact Solutions has developed of a novel ultra-sound non-destructive test system for electrofusion welded gas and water pipes. The patented technology has since been commercialised in North America and written into an ASTM standard.

Also known as the Baffled-Oscillation-Separation-System (B.O.S.S), this groundbreaking polymer recycling separation technology uses water to separate PE and PP into a high purity, single-stream recyclate allowing it to go back into high value manufactured products. Now used in plants in the UK, EU and US.

This project focused on developing a rapid deployment structure for military application which was quick to assemble, lightweight and had significant ballistic protection for deployment by troop at vehicle checkpoints.

Plastic packaging containing less than 30% recycled content will be taxed from 2022. We are developing a BSI standard that will help determine the recycled plastic content in packaging materials so businesses are taxed fairly.

failure analysis & expert witness

When products or materials fail in-service it is critical to accurately and quickly identify and assess the cause of the failure, enabling processes to be put in place to mitigate or prevent future recurrences. This is at the heart of failure analysis.

Failures can happen for a host of reasons including material fatigue, molecular degradation, oxidation, brittle fracture or by how the product was originally designed and/or its use during service. Impact Solutions have a wide range of in-house equipment allowing fast turnaround times for failure analysis testing both on and off-site.

With our experience in material and product design coupled with our top-class material characterisation facilities, Impact Solutions can investigate the cause of failures and provide solutions for failure reduction in future. Our track record has helped companies save millions by quickly getting answers to their plastic failures in order that they put in place corrective actions as quickly as possible. We work with you to evaluate the failure and propose solutions.

Our failure analysis approach:

1.Material Characterisation **2.Visual Inspection** **3.Microscopic Examination** **4.Generate Test Programme** **5.Results & Analysis**

Testing for failure analysis:

- **Optical and scanning electron microscopy** coupled with an EDX to look at the failed surface and, failure mode and for contamination.
- **Infrared spectroscopy** to check the base resin, contamination, degradation, oxidation.
- **Thermal analysis (DSC)** to check for contamination & obtain history.
- **Thermogravimetric analysis (TGA)** to check stability of failed parts.
- **Gas chromatography mass spectrometry (GCMS)** to check the additives and for contaminates.
- **TGA-FTIR** - Evolved gas analysis for full quantitative and qualitative analysis of the failed parts.
- **ICP-OES** & **HT-GPC**

As an independent and accredited test laboratory, Impact Solutions are ideally placed to provide expert witness services. Our testing and certification expertise in polymeric and composite materials has been used as an invaluable tool to undertake legal challenges. We have an extensive track record of successful expert witness and legal cases, providing testing services, expert testimonies in court as well as for insurance companies and stakeholders.

Our experts cover a wide range of industries where polymers and composites are used such as: construction, infrastructure, automotive, oil & gas, energy, consumer, and electronics.

As a leading UK laboratory, we can offer the most rigorous testing able to stand up in a court of law and can provide a high degree of flexibility allowing companies and legal firms to observe testing in the laboratory under supervision.

Unrivalled experience in materials

A fully equipped UKAS laboratory

Track record of successful cases

Flexible hours & scheduling

Full access to laboratory & experts

pipes

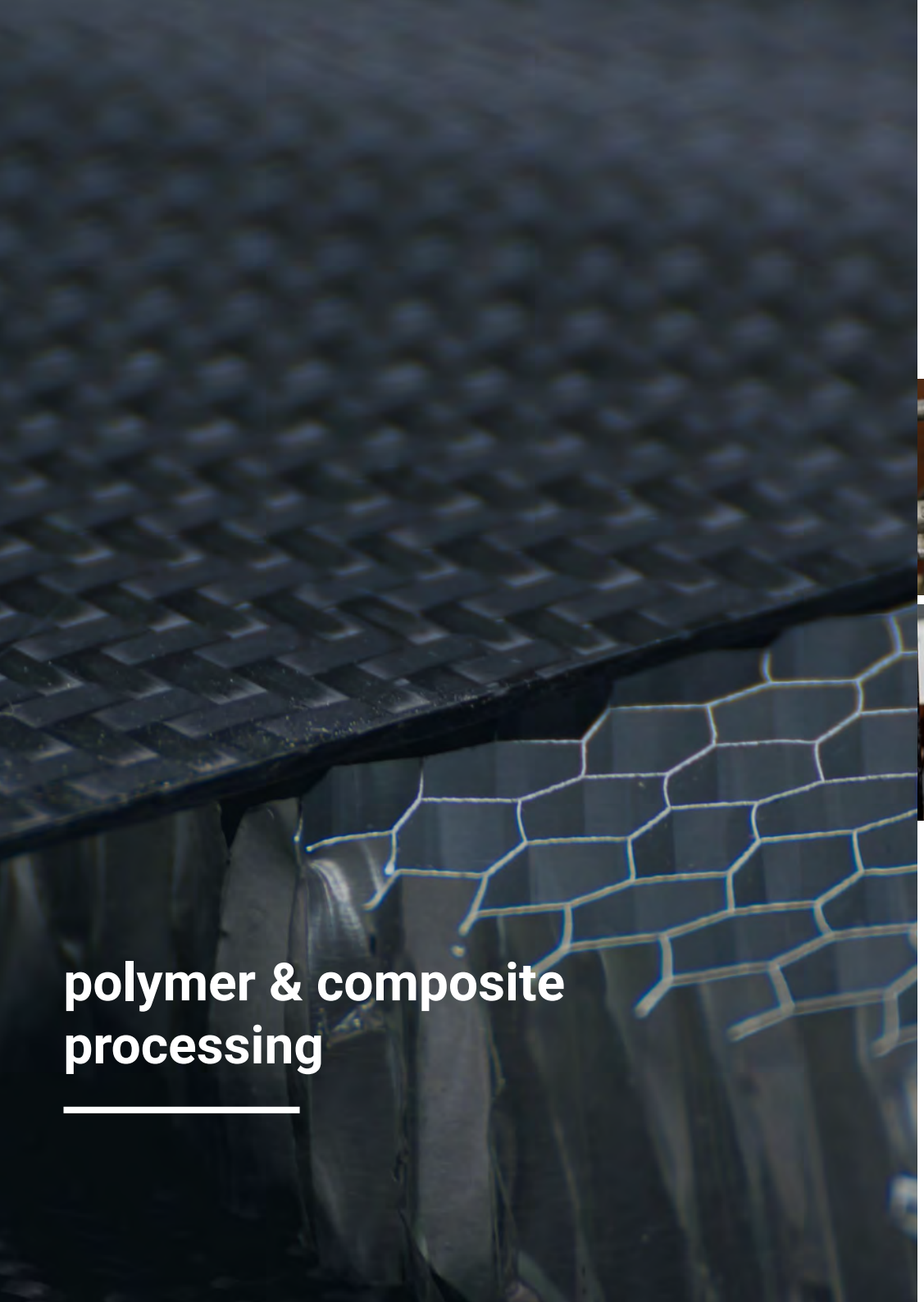
Impact Solutions have over 50 years' experience in the development of pipes and pipe grade materials. Our experience spans both the material specification of plastic pipes, the manufacturing process and their installation across the construction and oil & gas industries.

Our test laboratory has a full range of equipment for physical characterisation and mechanical testing including carbon black, microscopy, creep, tensile and environmental stress crack resistance. We have in house plastic pipe welding equipment and the facilities to undertake a wide range of pipeline and weld integrity tests to ISO, ASTM and industry specific standards. We work with pipes from as small as 15mm right up to 1600mm in diameter.

Services include testing, failure analysis, expert witness and full QA/QC specifications for new pipeline installations.

Pipe tests include:

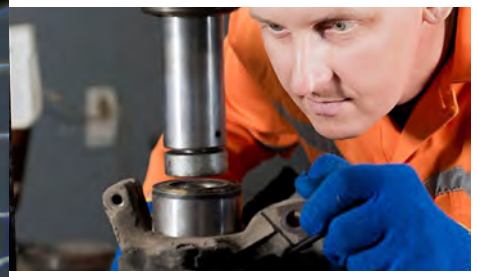
- **Tensile Properties BS EN 6259**
- **Pipe Weld Testing**
- **Full Notch Creep ISO 16770**
- **Pipe Material Analysis BS EN 12201**



polymer & composite processing

Material Processing

Impact Solutions have extensive capabilities for compounding, sample preparation and small scale production of materials. This includes the ability to compound and prepare thermoplastics through the use of a small scale compounder, injection moulder, film extrusion, blowing and compression moulding.



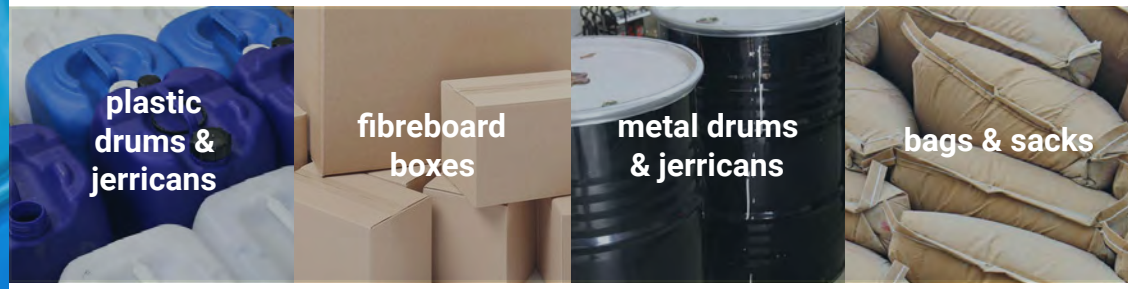
We regularly work on projects to develop composites across multiple industries including automotive, aerospace, textile, oil & gas and construction industries. The materials developed and tested are mainly long/short chain reinforced thermoplastic, reinforced thermosets, laminates and adhesives.

Sample Preparation

Our facility houses the capability to produce samples for the range of testing we conduct as well as prototyping for R&D, this includes CNC machining, cutting and notching of samples and CAD facilities.

packaging

Our team have been performing packaging testing and developing container grade plastics since the 1970's, with much of the high density polyethylene containers used today coming as a result of development from our team. Our extensive packaging testing facilities allow Impact Solutions to test to a variety of standards, or apply our knowledge to help you develop new containers and packaging solutions.



Examples of packaging types

Impact Solutions is a UN dangerous goods packaging testing facility, accredited by the VCA to test most types of UN dangerous goods packaging and our facility is unique in the UK. We have the ability to handle customer's own product or development liquids and just about anything that needs safe containment including testing of solids. Our experience and customer service makes us a first stop for clients throughout the world. For clients outwith the EU, we can provide a certificate holding service.

Packaging tests include:

- Drop
- Air Leakage
- Hydraulic
- Stack
- Chemical Compatibility
- Puncture & Impact
- Vibration
- Climatic (+300C to -80C)
- Atmospheric
- Bespoke Options Available

tanks

Impact Solutions are a UK Market Assessment Body appointed by Department for Levelling Up, Housing and Communities with Body number 1719. Our UKAS accredited testing laboratory (No. 0402) tank testing facility allows testing of blow moulded and rotationally moulded polyethylene tanks for the storage of fuels and chemicals in accordance with EN13341 and EN13575.

Impact Solutions is also OFTEC approved for the testing of tanks and bunds to their standard OFS T100. The facility, with over 85m2 of controlled environment provides a flexible area for the testing of tanks and bunds from less than 500 litres to over 10,000 litres. It provides accurate temperature control (at both17oC and 23oC), water flow and hydrostatic pressure to comply with OFTEC and CEN test specifications.

Please note that as a UK Assessment Body, Impact Solutions cannot advise or be involved in tank design, manufacture, supply or installation of tanks. We are completely independent and maintain impartiality and confidentiality with our clients.

Further tank testing facilities:

- Accelerated Weathering
- Density / Melt-Flow Rate
- Oil Resistance
- Tensile
- Chemical Resistance

recycling characterisation

Understanding the performance of recycled plastics is becoming increasingly important for manufacturers, with the introduction of new legislation pushing for increased uses of recyclate. Impact Solutions has over a decade of experience developing recycling processes and material testing and qualification, including producing industry standards for the testing of recycled materials.

Impact Solutions can undertake a full range of recycled material characterisation, testing to standards such as BS EN 15344 (PE), BS EN 15345 (PP), BS EN 15348 (PET) and standards developed in-house by our experts. We are closely involved in the fast-changing standards landscape for recycling, with members on the ISO and CEN plastic recycling committees.

Testing can be performed for a wide range of purposes:

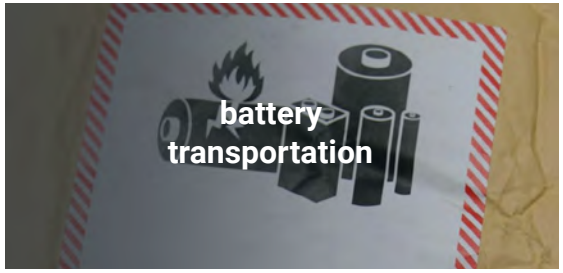
- **Generating datasheets**
- **Regulation compliance**
- **Exporting recycled plastic as a product**
- **End of waste determination**

We are experienced in testing in compliance with regulations set by the Environment Agency for the recycling of plastic packaging (non-packaging plastics: quality protocols). By meeting this standard we can ensure that your product will be regarded as fully recovered and no longer subject to waste controls.

battery testing

Lithium ion battery testing is still a relatively new and developing sector. We partnered with the European Union Aviation Safety Agency (EASA) to develop a standard that tests and assesses the performance of battery cells.

Our in-house test rigs can measure cell gas production, the potential thermal runaway of different battery failure scenarios and solutions for the safe transportation and disposal of cells and battery packs.



Our Testing Capabilities

Mechanical Properties - Static - Short Term	Standards	
	ISO	ASTM
Tensile Test	527-1/527-2	D638
Flexural Test (3 or 4 point bend test)	178	D790/ D6272
Compression Tests	604	D695
Peel Test	GIS/WIS/ISO/ASTM	
Shear Testing		D732
IZOD Impact Test	180	D256
Charpy Impact Test	179	D6110
Instrumented Drop Impact	6603-2	D5420
Dart Impact	7765	D1709
Linear Elastic Fracture Mechanics (LEFM)	13586	-
High Speed Fracture Mechanics	11673	-
Determination of Hardness- Shore D/A	868	D2240
Rockwell Hardness	2039	D785

mechanical properties - static - long term	Standards	
	ISO	ASTM
Creep Behaviour, Tensile	899-1	D2990
Compressive Creep	In-house Method	-
Creep Behaviour, Flexural (3 point method)	899-2	-
Determination of the Fracture Toughness Properties of Pipes, C-Ring	11673	-
Fibre-Reinforced Plastics — Determination of Fatigue Properties Under Cyclic Loading Conditions	13003	-

Environmental Stress Cracking	Standards	
	ISO	ASTM
Full Notch Creep Test (in a chemical agent from 20-95°C)	16770	-
Strain Hardening on Pipe Materials	18488	-
Cone Test	13480	-
Bell Telephone Test (Stress crack resistance)		D1693
Pin Impression Test	13575	-

Material Analysis	Standards	
	ISO	ASTM
Ignition Material Loss-Ash Content	-	D2584/D5630
Carbon Black Content	6964	-
Carbon Black Dispersion	18553	-
Pigment Dispersion	18553	-
Flammability of Plastic Materials-UL94	ISO 19773	-
Tear Resistance of Films (Elmendorf)	-	D1922
Determine the Haze and Luminous Transmittance of Transparent Plastics	14782	D1003
Abrasion Wear Analysis of Plastics (Taber Abrasion)	23794	D4060
Colour Analysis of Plastics	-	D6290, CIE Lab, Hunter Lab
Stereo-Microscopy	In-house Method	
Scanning Electron Microscopy	In-house Method	
Characterisation of Materials via Energy Dispersive X-ray Spectroscopy	In-house Method	
Characterisation of Plastics via FTIR	-	E168/E1252
Assessing Polymer Ageing by FTIR	10640	-
Surface Analysis of Plastics via Atomic Force Microscopy		

Density	Standards	
	ISO	ASTM
Density of Plastics-Gradient Column Method	1183-2	ASTM D1505
Density of Plastics-Immersion Method-Specific Gravity	1183-1	D792
Relative Density	1183	D792
Density - Pycnometer method	1183-1	D792
Density - Hydrometer method	649	-
Bulk Density	60	D1895

Rheology	Standards	
	ISO	ASTM
Melt flow Rate	1133	D1238
Cone and Plate Rheometry	In-house Method	
Dynamic Viscosity	In-house Method	

Rheology	Standards	
	ISO	ASTM
Intrinsic Viscosity	ISO 1628-1/2/3	ASTM D4603
Capillary Rheometry	11443	D3835

Thermal Analysis	Standards	
	ISO	ASTM
Determination of Temperature and Enthalpy of Melting-Crystallisation	11357-3	E2253/D3418
Determination of Glass Transition Temperature	11357-2	E1356
Determination of Specific Heat Capacity	11357-4	
Determination of Crystallisation Kinetics	11357-7	E2253/D3418
Oxidation Induction Time, OIT (static and dynamic)	11357-6	D3895
Thermogravimetric Analysis of Plastics, TGA (inorganic, volatile, water)	11358	E1131
Determination of Dynamic Mechanical Properties, DMA	6721	D5279/D7028
Heat Deflection/Distortion Temperature, HDT	75	D648
Vicat Softening Temperature	306	D1525
Heat/Ageing of Plastics in Air Convection Ovens (24-250˚C)	In-house Method	

Analytical Testing	Standards	
	ISO	ASTM
Elemental Analysis - CHNS/O	In-house Method	
Particle Size Analysis in Liquid (light scattering)	13320	
RoHS	In-house Method	
Persistent Organic Pollutants - GCMS	In-house Method	
Material Identification - GCMS	In-house Method	
Additives Identification - GCMS	In-house Method	
Toxicity - ICP-OES	In-house Method	
Heavy Metals - ICP -OES	In-house Method	
FTIR analysis	-	E168/E1252
Evolved Gas Analysis- TGA-IR	-	E2105
Evolved Gas Analysis - Pyrolysis GCMS	-	D3452
Molecular Weight Determination Gel Permeation Chromatography - GPC/SEC High Temperature	16014-1/16014-4	D6474

Accelerated Weathering Testing Industries	Xenon Methods
Textiles	ISO 105 B02
Textiles	ISO 105 B06
Automotive	Volvo VCS 1027
Automotive	Volvo VCS 1026
Automotive	Nissan NES M0135
Automotive	Toyota TSL 0601G
Automotive	Toyota TSL 3600G
Automotive	SAE J2412
Automotive	SAE J2527
Automotive	Mercedes DBL 5555
Automotive	Volkswagen PV1303
Automotive	Volkswagen PV3929
Automotive	Volkswagen PV3930
Automotive	Ford FLTM B0116
Automotive	Peugeot/Renault PSA D47 1431
Automotive	Peugeot/Renault PSA D47 1122
Automotive	Fiat 50451
Automotive	SAE J1885
Automotive	Porsche DIN 75202
Automotive	Honda HES 6601
Automotive	Kia MS300-35E
Plastics	ASTM D5071
General	ASTM G155
Plastics/Automotive	ISO 4892-2
Coatings	ISO 16474-2

Accelerated Weathering Testing Industries	QUV Methods
General/Plastics	ISO 4892-3
Coatings	ISO 16474-3
Photodegradable Plastics	ASTM D5208
Forensic Marking Product	PAS 820
General	ASTM G151
Non-metallic Materials	ASTM G154
Automotive Exterior Materials	SAE J2020
Plastics	ASTM D4329
Coatings	ASTM D4587

Environmental Testing	Standards
Evaluate the Weather Performance of Materials (Q-SUN Xenon Arc Chamber)	ISO 4892
Environmental Testing of Materials, Constant and Cyclic (high and low temperature) - Temperature Humidity	BS EN 60068
Environmental Testing of Materials, Constant and Cyclic (high and low temperature) - Temperature Altitude	BS EN 60068
Environmental Testings of Materials, Constant and Cyclic (high and low temperature) - Sealing Immersion Test	BS EN 60068
Thermal Shock	BS EN 60068
Vibration	BS EN 60068
Shock	BS EN 60068
Absorption Tests in Various Solutions and Temperatures	In-house Method
Chemical Degradation Tests	ISO 4433/13575
Particle Size Analysis in Liquid (light scattering)	ISO 13320
PH Meter of Soil and Solutions	In-house Method

Processing
Melt Mixing Using Brabender
Melt Mixing Using Prism Extruder
Injection Moulding
Hot Pressing
Semi Positive Moulding 25mm thick max
CNC Milling
CNC Routing
Die Stamping (Hydraulic Stamp)
Cutting Operations - Twin Blade Saw, Band Saw , Power Saw
Notching - Milling or Hydraulic Press
Sample Conditioning - Controlled Temperature and Humidity

Biodegradability Testing	Standards	
	ISO	ASTM
BS EN 13432 Packaging — Requirements for packaging recoverable through composting and biodegradation: full list of tests	13432	D 6868/ D2020
Aerobic Biodegradation in Water	14851	-
Aerobic Biodegradation in Soil	17556	-
Aerobic Biodegradation in Marine	-	D 6691
Aerobic Biodegradation in Industrial Compost	14855	D 5338
Aerobic Biodegradation in Landfill Conditions	-	D 5526
Anaerobic Biodegradation Testing	15985	D 5511
Disintegration Testing	16929/20200	D 6868
PH Testing	10523	-
Total Organic Carbon Test	20236	-
Volatile Content	In-house Method	
Soil and Water analysis - TOC	In-house Method	
Soil and Water analysis - Organics	In-house Method	
Soil and Water analysis - Heavy Metals	In-house Method	
Ecotoxicity - OECD 208	13432	D 6868

Pipes	Standards
	ISO
Ring Stiffness and Resistance to Structural Damage	BS 5480
Pipes: Tensile Properties	ISO 6259
Pipes: Tensile Properties -PE/PP	ISO 6259-3
Pipes: Tensile Properties -PVC uPVC	ISO 6259-2
Peel Decohesion Tests on Electrofusion Pipe Welds	ISO 13954
Crushing Decohesion Test	ISO 13955
Pull tests on Electrofusion Pipe Welds	ISO 13954
Pull tests on Butt Fusion Pipe Joints	ISO 13953
PVC Pipes, Fusion of Crystallites	ISO 18373-2
PVC Pipes, Processing Temperature	ISO 18373-1
Oxidation Induction Time, OIT (static and dynamic)	11357-6

Even if you don't see the type of testing you are looking for, get in touch.

info@impact-solutions.co.uk

+44 (0) 1324 489182

Impact Technology Centre
1 Fraser Road, Kirkton Campus
Livingston, Scotland
EH54 7BU

www.impact-solutions.co.uk