



# Polytech Test and Validation

## ACCREDITED TEST CENTERS

Our state-of-the-art test centers perform both standardized and validated, non-standardized tests that are customized to meet the needs and requirements of each individual customer.



Polytech has two test centers in Denmark – one specialized for lightning tests and the other for material tests. Both test centers are accredited by DANAK (Danish Accreditation Fund, which is a member of ILAC) according to the ISO/IEC 17025 standard. This accreditation guarantees you test results at the highest quality.

Our test centers play an essential part in all our development (concept, product, full solution) and manufacturing processes.

Having material, surface, and prototype testing so deeply integrated into all our processes, we can make rapid and well-documented decisions to keep momentum in our and in your projects. We carry out all our tests in close collaboration with you and your team to ensure you get all the answers you need – and trust.

Using our top-quality engineering teams and testing facilities, you will get products with better performance, superior durability, and unmatched competitiveness.

### External customers

As an accredited test center, we also offer our services to R&D projects. Your tests and test results remain in full confidentiality.

**Contact us and learn more about testing your internal development projects or documentation of various product qualities.**



### POLYTECH TEST CENTER ADVANTAGES

- Accredited according to ISO 17025
- Highly qualified staff
- Able to combine different test methods in-house
- Able to adapt new standards
- For combined test, an individual test plan is produced



## Weathering Testing

Test Type	Test Method	Description
Rain Erosion	DNVGL-RP-0171	Recommended practice to test liquid impingement erosion using rotating apparatus
	ASTM G73-10	Standard test method for liquid impingement erosion using rotating apparatus
Xenon-arc Lamps	ISO 16474	Paint and varnishes – Methods of exposure to laboratory light sources
	ISO 4892-2	Plastics – Methods of exposure to laboratory light sources. Part 2: Xenon-arc lamps
	ASTM G155-13	Standard practice for operating Xenon Arc light apparatus for exposure of non-metallic materials
Flourescent UV	ISO 4892-3	Plastics – Methods of exposure to laboratory light sources. Part 3: Fluorescent UV lamps
	ISO 16474-3	Paints and varnishes - Methods of exposure to laboratory light sources. Part 3: Fluorescent UV lamps
Gloss	ISO 2813	Paint and varnishes – Determination of gloss value at 20°, 60° and 85°
Offshore	ISO 12944-9	Paint and varnishes – Performance requirements for protective paint systems for offshore and related structures.
Salt Spray	ISO 9227	Corrosion tests in artificial atmospheres – Salt spray tests

## Tensile Testing

Test Type	Test Method	Description
Tensile - General	ISO 527 part 1, 2 and 3	Plastics – Determination of tensile properties Part 1: General principles Part 2: Test conditions for moulding and extrusion plastics Part 3: Test conditions for films and sheets
	ISO 37	Rubber, vulcanized or thermoplastic – Determination of tensile stress-strain properties
Peel	ASTM D 3330	Standard test method for peel adhesion of pressure-sensitive tape
	ISO 4578	Adhesives – Determination of peel resistance of high-strength adhesive bonds – Floating-roller method
Shear	ISO 4587	Adhesives – Determination of tensile lap-shear strength of rigid-to-rigid bonded assemblies
Tear	ASTM D-624	Standard test method for tear strength of conventional vulcanized rubber and thermoplastic elastomers
	ISO 34	Rubber, vulcanized or thermoplastic – determination of tear strength

## Compression Testing

Test Type	Test Method	Description
Compression - General	ISO 844	Rigid cellular plastics – Determination of compression properties
	ISO 604	Determination of compressive properties
	ISO 7743	Rubber, vulcanized or thermoplastic – Determination of compression stress-strain properties
	ISO 815	Rubber, vulcanized or thermoplastic – Determination of compression set

## Other Tests

Test Type	Test Method	Description
DSC (-90°C to 300°C)	ISO 11357 part 1, 2 and 3	Plastics - Differential scanning calorimetry (DSC) Part 1: General principles Part 2: Determination of glass transition temperature and glass transition step height Part 3: Determination of temperature and enthalpy of melting and crystallization
Density	ISO 1183	Plastics - Methods for determining the density of non-cellular plastics Part 1: Immersion method, liquid pycnometer method and titration method
Water Absorption	ISO 62	Plastics - Determination of water absorption
Shore Hardness	ISO 868	Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness)
Climate Cycling	Customer specific	
Customized Tests	Customer specific	

## Lightning Tests

Test Type	Description
Initial Leader Attachment Test	Determines likely lightning attachment points on the test sample. Test follows IEC 61400-24.
Subsequent Stroke Attachment Test	Predicts possible puncture locations in or close to the swept area. Test follows IEC 61400-24.
High Current Arc Entry Test	Assesses the level of damage at the possible lightning strike attachment points. Test follows IEC 61400-24.
High Current Conducted Current	Assesses the impact of electro dynamical forces and heating. Test follows IEC 61400-24.
Electrical Resistivity and Conductivity	Determines the resistivity or conductivity of solid materials.
Electric Strength of Insulating Materials	Determines the electric strength of solid insulating materials under voltage stress. Test follows IEC 60243.
Electric and Magnetic Field Immunity Test	Verifies the performance of electronic equipment and installations close to the lightning strike.
Power Frequency High Current Test	Verifies the performance of equipotential bondings and the current carrying capability of different conductor geometries.
HVDC Tests	Used for non-destructive verification tests and for simulating static discharge.