We perform analyses and tests on raw materials, intermediate products, final products and plastic waste at our laboratories accredited by ENAC in accordance with UNE-EN ISO/IEC 17025.
Mechanical Properties
- Tensile properties: Young's modulus, elongation, tensile strength, Poisson's ratio, etc.
- Flexural properties: flexural modulus, flexural strength, maximum deflection, etc.
- Compression properties, compression set
- Dynamic mechanical analysis (DMA)
- Impact resistance (Charpy, Izod, falling dart, ball tests)
- Tear strength (static and dynamic)
- Internal pressure resistance of pipes
- Dimensional stability and water tightness of tanks
- Capacity, water tightness and hydraulic efficiency of septic tanks and wastewater treatment systems
- Static puncture test
- Static and dynamic load

Performance Against External Agents
- Thermal ageing
- Climatic testing (temperature and humidity)
- Weathering and accelerated artificial ageing ( xenon and UV lamps)
- Thermal shock resistance
- Fire performance (UL94 rating) and horizontal burn
- Chemical compatibility
- Resistance to chemical agents and petroleum products
- Resistance to staining

Rheological Properties
- Melt flow index (in mass and volume)
- Rotational and oscillatory rheometry
- Capillary rheometry
- Torque rheometry
- Extensional rheometry
- Brookfield viscosity
- Thixotropy index
- Viscosity in solution (retrorheic, inherent, K value, etc.)

Physical And Thermal Properties
- Solid density
- Bulk density
- Liquid density determination using the pycnometer method
- Grammage
- Particle size distribution
- Water tightness, leak detection
- Closure torque testing
- Dimensional analysis of critical parts of packaging, opening, bridge breaking
- Dimensional stability
- Volumetric contraction
- Vicat softening temperature
- Heat deflection temperature (HDT)
- Melting temperature (DSC)
- Glass transition temperature (DMA/DSC)
- Thermal stability (TGA)
- Studies on the melting and resistance of welding

Surface Properties
- Abrasion and scratch resistance
- Brush resistance of top coats in car washes
- Painted adhesion against stone chip
- Surface roughness

Barrier Properties
- Oxygen permeability (QTR)
- Water vapour permeability ( WVTR)

Optical Properties
- Haze and transparency
- Gloss
- Colour measurement
- Thermicity (IR efficiency)
- UV-visible light transmission

End of Life Performance
- Biodegradability in different media (controlled composting conditions, soil, water)
- Disintegration under laboratory conditions
- Compostability in accordance with EN 13432
- Plastic product recyclability
- Ecosiness

Polymer Characterization
- Identification of polymers (FTIR, DSC, Raman)
- Molecular weight and molecular weight distributions
- Number and thickness of layers in multilayer sheets (optical microscopy)
- Oxidation induction time and temperature
- Gel content (degree of crosslinking)
- Characterization of thermoresetting resins: curing rate, gel time, acidity index, solid content

Characterization of Additives and Fillers
- Identification and quantification of fillers and reinforcements (FTIR, TG, Raman)
- Identification and quantification of additives (FTIR, chromatography)
- Fibreglass content
- Ash content
- Carbon black content and dispersion
- Dispersion and degree of agglomeration of particles by microscopy

Characterization of Residual Substances
- Identification and quantification of residual monomers (chromatography)
- Identification and quantification of residual solvents (chromatography)
- Volatile content
- Water content ( Karl-Fischer method)
- Release of primary aromatic amines
- Volatile organic compound (VOC) analysis
- Emission testing for the automotive industry (TVOC, formaldehyde, fogging, colour, thermal description, substances of concern)
- Analysis of contaminants and impurities in plastic materials and other materials
- Characterization of thermoresetting resins: residual styrene content by GC
- Gas composition in packaging (O2, CO2, N2)
- Non-invasive analysis of oxygen content
- Recycled materials: contaminants, fine particles, extractable content, etc.
- Analysis of microplastics

Legislation
- Food contact legislation for plastics: overall migration, specific migration, residual content
- Recycled plastic for food contact materials (challenge tests)
- FDA identification, melting point, extractables
- Sensory analysis of plastics
- Compliance with requirements for child-resistant reusable packaging
- Tests compliant with the Spanish Pharmacopeia (RPS), European Pharmacopoeia (Ph. Eur) and US Pharmacopoeia (USP)
- Tests compliant with REACH regulations

AIMPLAS has the highest number of accredited tests for the plastics industry in Spain

ANALYSIS & TESTING

Testing laboratories accredited by ENAC according to the standard UNE-EN ISO/IEC 17025