

ANALYSIS & TESTING



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What do you need?

- Failure analysis
- Expert reports
- Technical product data sheets
- Validation / Compliance with specifications
- Compliance of national and international standards (UNE, ISO, ASTM, DIN, BS, etc.)
- Necessary tests for AENOR N marking.
- CE Marking: tanks and septic tanks
- Food Contact Legislation according to European/Spanish Legislation and to US FDA
- Testing according to Spanish Pharmacopoeia (RFE), European Pharmacopoeia (EP) and US Pharmacopoeia (USP)
- Characterization of unknown samples

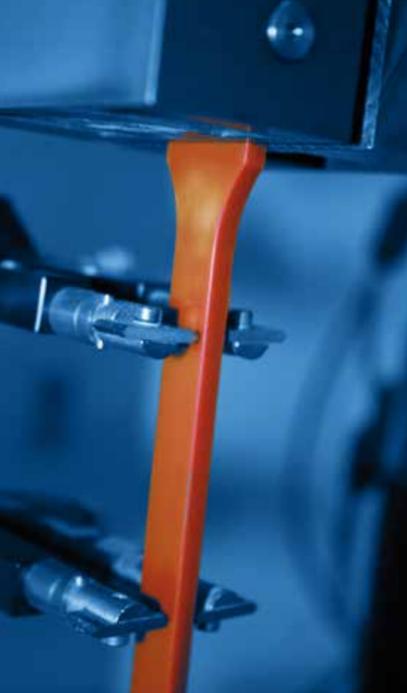


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Testing laboratories accredited by ENAC according to the standard UNE-EN ISO/IEC 17025





Mechanical Properties

Tensile properties: modulus, elongation, strength, Poisson's ratio, etc.
 Flexural properties: modulus, maximum deflection, etc.
 Compression properties, compression set
 Dynamic mechanical analysis (DMA)
 Abrasion and scratch
 Impact resistance (Charpy, Izod, falling dart, ball)
 Tear resistance (Elmendorf, tearing)
 Hardness (Shore A and D, Barcol, ball)
 Friction coefficient (static and dynamic)
 Resistance to internal pressure in pipes
 Dimensional stability and water-tightness in pipes
 Capacity, watertightness and hydraulic efficiency of small wastewater treatment systems for up to 50 PT
 Puncture test
 Static and dynamic load
 Adherence

Performance against External Agents

Climatic testing (temperature and humidity)
 Artificial accelerated weathering (xenon and UV lamps)
 Fire behaviour (UL94 ratings)
 Oxygen and water vapour permeability
 Chemical compatibility
 Resistance to chemical agents and petroleum products
 Resistance to staining
 Biodegradation test under controlled composting conditions
 Disintegration under laboratory conditions
 Compostability according to EN 13432
 Solid surface: resistance to dry and wet heat
 Thermal shock resistance

Rheological Properties

Melt flow index (in mass and volume)
 Rotational and oscillatory rheometry
 Capillary Rheometry
 Torsion torque rheometry
 Extensional rheometry
 Brookfield viscosity
 Viscosity in solution (intrinsic, inherent, K value, etc.)



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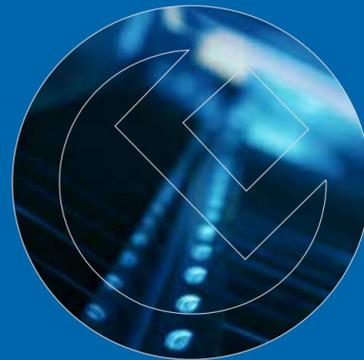
Physical And Thermal Properties

Density of solids
 Thermosealing study and resistance of the welding
 Leak test
 Bulk density
 Grammage
 Density of liquids by the pycnometer method
 Vicat softening temperature
 Heat deflection temperature (HDT)
 Melting temperature (DSC)



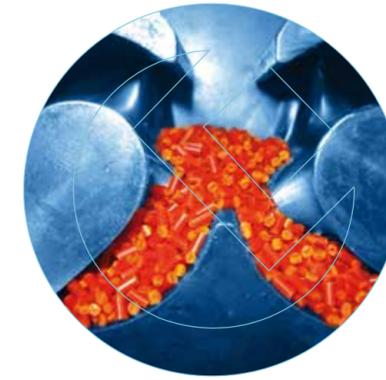
Optical Properties

Haze and transparency
 Gloss
 Colour measurement
 Thermicity (IR effectiveness)
 UV-visible light transmission
 Solid surface: color consistency
 Solid surface: surface defects



Legislation

Testing and analyses according to Food Contact Legislation on Plastics: overall migration, specific migration, residual substance content
 FDA: identification, melt point, extractables
 Sensory analysis of plastics
 Testing according to European Pharmacopoeia (EP) and US Pharmacopoeia (USP)



Polymer Characterization

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

Characterization of Additives And Fillers

Identification and quantitation of fillers and reinforcements (FTIR, TG, Raman)
 Identification and quantitation of additives (FTIR, chromatography)
 Fibreglass content
 Ash content
 Content and dispersion of carbon black
 Dispersion and degree of agglomeration of particles by microscopy

Characterization of Residual Substances

Identification and quantitation of residual monomers (chromatography)
 Identification and quantitation of residual solvents (chromatography)
 Volatile content
 Water content (Karl-Fischer method)
 Release of primary aromatic amines
 VOCs (Volatile Organic Compounds) analysis
 Emissions testing for the automotive industry (carbon, formaldehyde, fogging, odour)
 Characterization of thermosetting resins: residual styrene content by GC
 Composition of gases in packaging (O₂, CO₂, N₂)
 Non-invasive analysis of oxygen content
 Recycled materials: contaminants, fine particles, extractable content...

AIMPLAS is the Spanish centre with the largest number of accredited tests for the plastics industry

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