



**AIMPLAS**

PLASTICS TECHNOLOGY  
CENTRE

**INNOVATION**  
in PLASTICS

# CONSTRUCTION AND RENEWABLE ENERGIES

FEB 2024



## AIMPLAS provides solutions to the main problems facing construction companies.



### USE OF SUSTAINABLE AND RECYCLABLE MATERIALS AND WITH LOW ENVIRONMENTAL IMPACT

Ecodesign to develop products with minimal environmental impact.

Product recyclability studies.

Compatibility of recycled plastic materials and processing parameter optimization for the incorporation of plastic waste (agglomerate, sheets and profiles).

Environmental impact assessment (Carbon footprint, LCA).

Development of biocomposites and plastic materials from renewable sources.

Wood-plastic composites (WPC) and natural fibre composites (NFC).

Materials to improve energy efficiency in constructions.

Additive manufacturing in construction: new reinforced materials for structures with recycled materials.

Sustainable structures: study, design and substitution of traditional materials by plastics for a reduction in CO<sub>2</sub> emissions.

Sustainable concretes and asphalts: Introduction of recycled materials, geopolymers, etc.

Tracers for plastic materials for a circular economy.

#### RENEWABLE ENERGIES:

Pipelines and tanks for H<sub>2</sub>, CO<sub>2</sub>, Oil&Gas.

New materials for solar, thermal and energy storage systems.

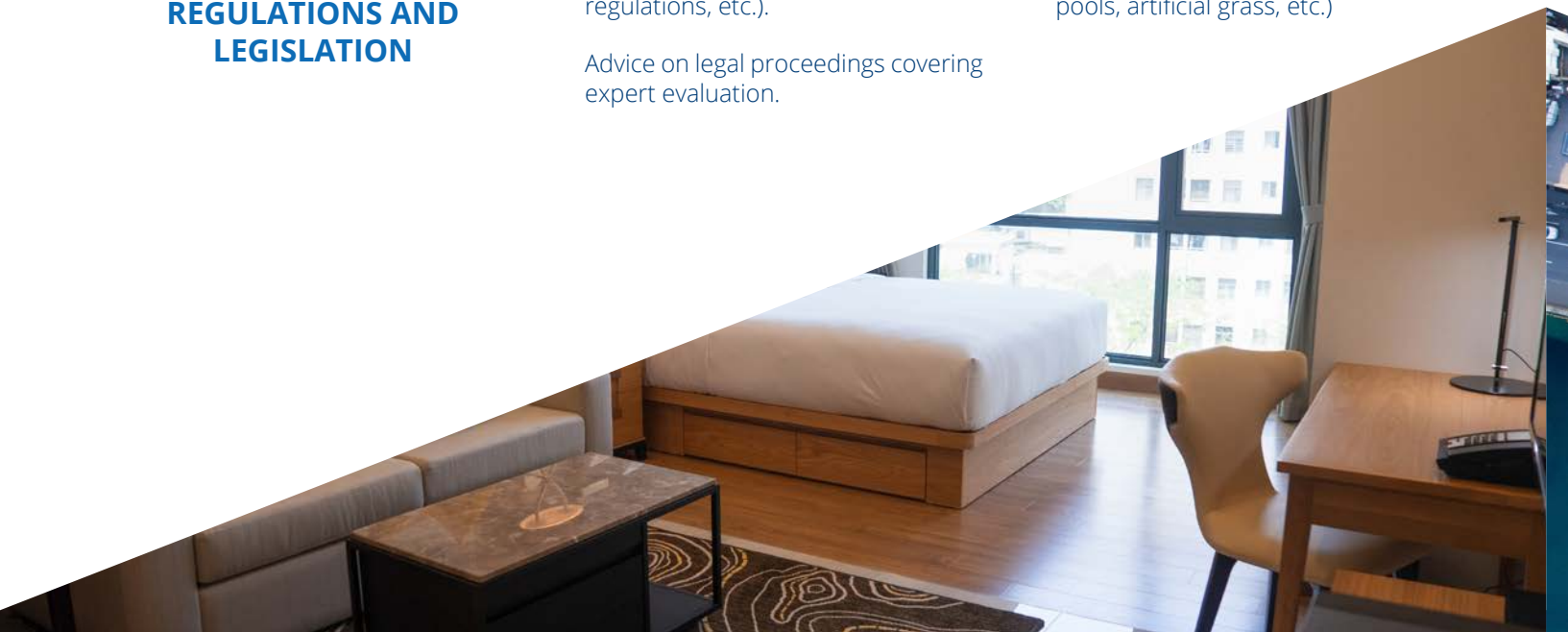


### PRODUCT ANALYSIS, REGULATIONS AND LEGISLATION

Advice on compliance with legislative and regulatory requirements (contact with water for human consumption, CTE, RITE, REACH, oil installation regulations, etc.).

Advice on legal proceedings covering expert evaluation.

Quality control analyses and tests for plastic products (waterproofing sheets, pipes, profiles, WPC, sanitaryware, solid surface, swimming pools, artificial grass, etc.).







## SEARCH FOR MATERIALS WITH ADVANCED FEATURES

Development of materials and foams with thermal and acoustic insulation properties.

Formulation of flame-retardant plastics.

Development of smart plastics: changes in the phases of the materials, electrical and thermal conductivity and sensor integration (pressure and temperature).

Development of functional surface: anti-scratching, ultra-hydrophobic surfaces, anti-fouling, etc.).

Integration of sensors for structure monitoring.

Coatings for cold facades, reduction of energy consumption (paints, mortars and plasters).



## IMPROVEMENT OF STRUCTURAL AND FUNCTIONAL PROPERTIES OF MATERIALS AND PRODUCTS

Control and characterization of plastics in the construction industry: mechanical and thermal properties, ageing...

Strategies for solving causes of failure; breakage, colour changes, degradation, installation issues, etc.

Enhanced properties by combining polymers, additivition and/or polymer modification.

Training on materials, processes and plastic material characterization.





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