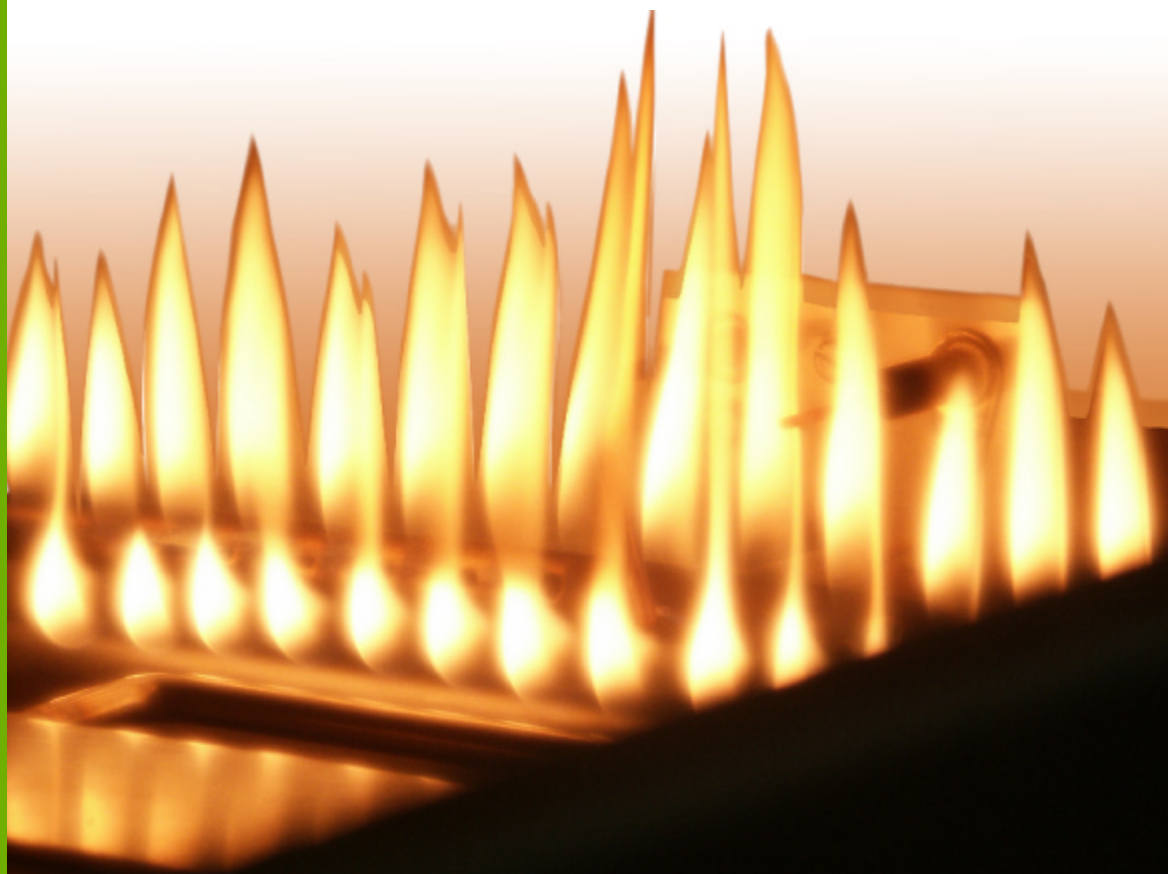


Flame Retardancy and Fire Behaviour

R&D Activities

- ▶ Flame retardancy of formulations based on **thermoset resins** for the manufacturing of **halogen free fire-retarded composites**.
- ▶ Development of fire-retarded **compounds** of thermoplastic materials for different applications such as cables, construction parts, covering panels, floors, flexible sheets...
- ▶ Development of **fire-retarded panels**, combining materials (divisor bulkheads, pre-manufactured materials for construction, isolating panels...).
- ▶ Flame retardancy of **paints, varnishes and coatings**.
- ▶ Improvement on fire behaviour of **products**: all sorts of panels, multilayer structures, etc.



Technological Services and Reaction to Fire Tests

Building Sector

- ▶ European standard EN 13501-1 tests, according to the European Regulation on Construction Products (SBI, flooring radiant panel, small burner, etc.).

Transportation Sector

- ▶ Products' diagnosis focused on the railway sector a/t EN 45545-2.
- ▶ European standard EN 45545-2 tests for the railway sector (cone calorimeter, smoke density chamber, FTIR, etc.).
- ▶ Tests according to Directive 95/28/CE for materials destined to the interior of motor vehicles.
- ▶ Tests according to the International Maritime Organization's IMO FTPC Code for the naval sector (vertical radiant panel, FTIR, etc.).

Electrical and electronic sector

- ▶ UL-94 and EN 60695-11-10 flammability tests, oxygen index EN ISO 4589, glow wire EN 60695-2, etc.
- ▶ Gas corrosivity and halogen content determination tests according to EN 50267 standard.

M and F Classifications

- ▶ Reaction to fire tests according to UNE 23727-90 standard (epiradiateur, dripping test, etc.).
- ▶ NF F 16101 standard for smoke opacity and toxicity tests (NBS chamber and tubular furnace).



Accreditations and Acknowledgments

- ▶ ENAC Accreditation no. 72/LE187 (1995) to carry out Reaction to Fire tests (UNE-EN ISO/IEC 17025 standard) for building and transportation sectors.
- ▶ Notified Body no. 1603 by the European Commission for CE marking.
- ▶ Acknowledged laboratory for reaction to fire tests by the CTC-020 Technical Certification Committee of Thermal Isolating Materials.
- ▶ Member of the Technical Commission CTE-DB-SI, coordinated by the Ministry of Public Works.
- ▶ EGOLF member.



Processing Equipment

- ▶ SMC Machine.
- ▶ 80 y 325 ton transformation presses.
- ▶ RTM injection and infusion equipment.
- ▶ Filament-Winding machine.
- ▶ Mixer for construction materials (polymeric mortar, etc.).
- ▶ Pultrusion machine.
- ▶ Continuous laminating machine.
- ▶ Thermoforming machine.
- ▶ Mono screw and twin screw extruders and laboratory extruders.
- ▶ Injection machines: conventional, bi-material and sandwich.
- ▶ Calendering equipment.
- ▶ Rotational moulding.
- ▶ Mixing laboratory rollers.
- ▶ Preparation and applying laboratories for paints and coatings.