

# REACTIVE FOAMING

Design of formulations, production of prototypes & characterization of properties

## CHARACTERISTICS

- PILOT PLANT FOR THE PRODUCTION OF REACTIVE FOAMS. HIGH SHEAR RATE STIRRER (0 – 11000 rpm, up to 20 l of product volume)
- DESIGN OF TAILORED FORMULATIONS FOR THE PRODUCTION OF DIFFERENT FOAMS: PUR, PUF, PIR, SILICONE, EPOXY, etc.
- DIFFERENT TYPES OF ADDITIVES: FIBERS, NANOPARTICLES, LIQUID ADDITIVES, etc.
- TESTING OF DIFFERENT BLOWING AGENTS: WATER, PENTANE, HEXANE, ACETONE, HFOs, etc.
- PRODUCTION OF PROTOTYPES WITH DIFFERENT SIZE



## APPLICATIONS



### FORMULATION DESIGN

- Design of specific formulations to fulfill requirements in foamed parts.
- Testing additives and optimization of the formulations.
- Analysis of the diffusivity of different blowing agents.



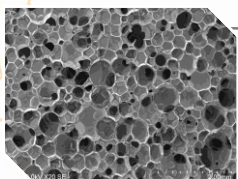
### EVALUATION OF THE REACTION KINETICS AND FOAMING MECHANISMS

- X-Ray Radioscopy: Evolution of the structure vs. time.
- FTIR: Following the blowing and crosslinking reactions.
- IR Expandometry: Monitoring the volume expansion and surface temperature.



### PRODUCTION OF PROTOTYPES

- Production of foamed parts with different sizes.
- Optimization of processing parameters and formulation.
- Possibility of using molds with a defined geometry,



### ANALYSIS OF STRUCTURE PROPERTIES RELATIONSHIP

- Quantitative analysis of the cellular structure parameters: solid and gas phase.
- Evaluation of physical properties: mechanical, acoustic, thermal, and fire resistance.
- Establishing the structure-properties relationship.

CONTACT US FOR MORE INFORMATION

[info@cellmattechnologies.com](mailto:info@cellmattechnologies.com)

[www.cellmattechnologies.com](http://www.cellmattechnologies.com)

Tel: +34 983 189 197

CELLMAT TECHNOLOGIES S.L.

Edificio Parque Científico UVa

Paseo de Belén 9A

47011, Valladolid, Spain