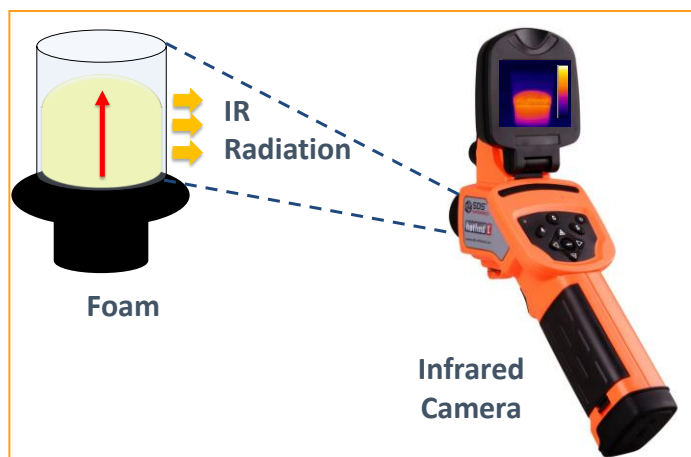


IR EXPANDOMETRY

Monitoring the expansion process and surface temperature of reactive systems

FUNDAMENTALS OF THE TECHNIQUE

- APPROACH TO FOLLOW THE EVOLUTION OF THE FOAM EXPANSION (HEIGHT, AREA, AND VOLUME) WITH TIME.
- TOOL TO DETERMINE THE FOAM EXPANSION RATE AND THE FOAM EXPANSION ACCELERATION.
- METHOD TO DETERMINE THE MINIMUM, MAXIMUM, AND AVERAGE SURFACE TEMPERATURES.
- VALID FOR DIFFERENT POLYMERIC SYSTEMS: PUR, PUF, PIR, SILICONE, EPOXY, etc.
- KEY METHODOLOGY TO UNDERSTAND THE FINAL CELLULAR STRUCTURE AND PROPERTIES OF THE FOAMS.
- FUNDAMENTAL APPROACH TO OPTIMIZE POLYMERIC FORMULATIONS.



CASE STUDY

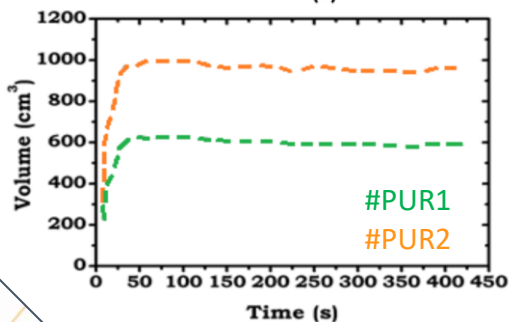
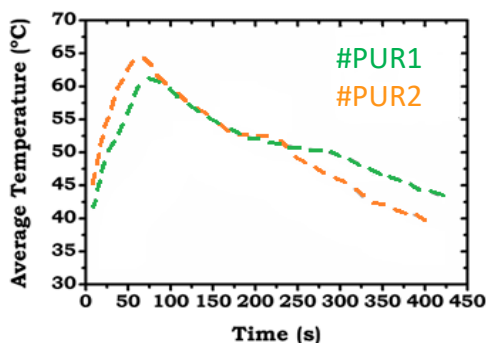
Analysis of the effect of the water content in PUR foams.

OBJECTIVE

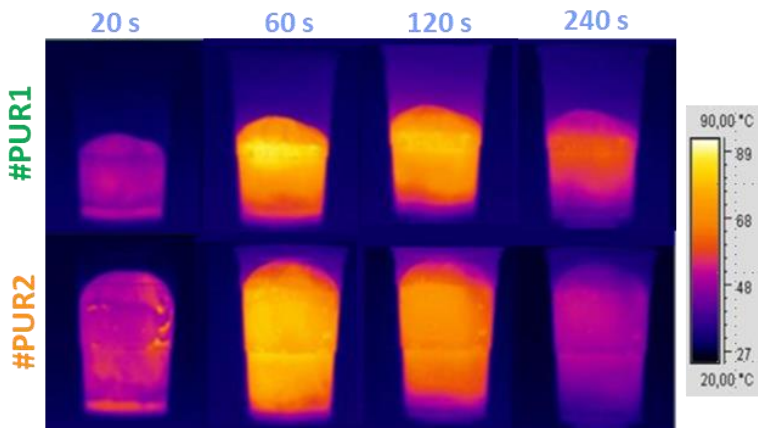
- To determine how the changes in the water content affect the volume expansion and surface temperature.

RESULTS – INCREASING WATER CONTENT....

- Leads to an increase in volume expansion.
- Promotes an increase in the temperature at the beginning of the foaming process.



Samples	Isocyanate Index	Blowing Agent (H ₂ O) (pbw)
#PUR1	110	2
#PUR2	110	5



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