

INNOVATIVE SUPERABSORBENT POLYMERS TO INCREASE SERVICE LIFE OF CONCRETE STRUCTURES

CONCRETE – STRENGTH AND VERSATILITY TOWARDS INNOVATION IN CONSTRUCTION



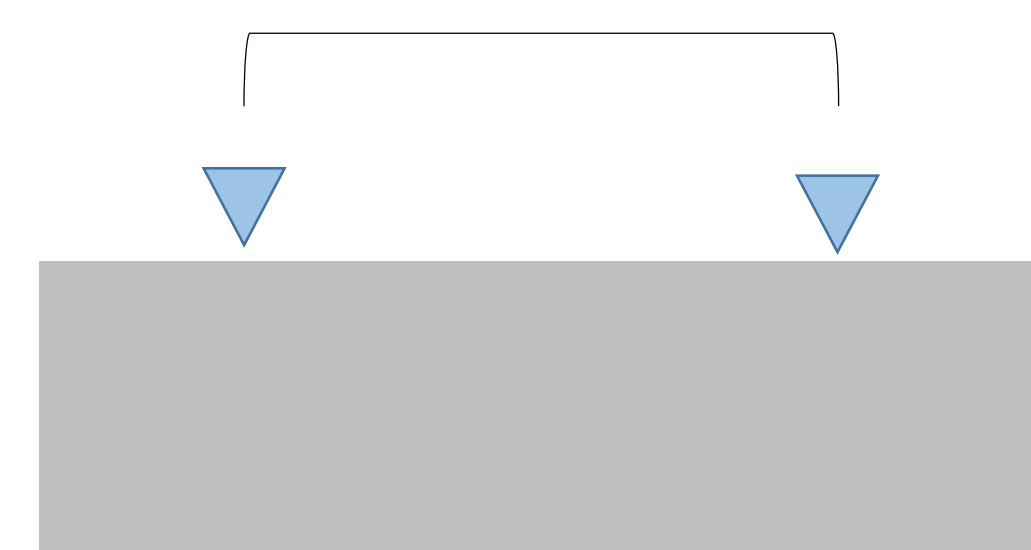
DURABILITY BECOMES AN ISSUE



- Formation of cracks
- A path for aggressive agents
- Increased costs for maintenance

SHRINKAGE MEASUREMENTS SETUP

Measuring points (apart 200 mm)

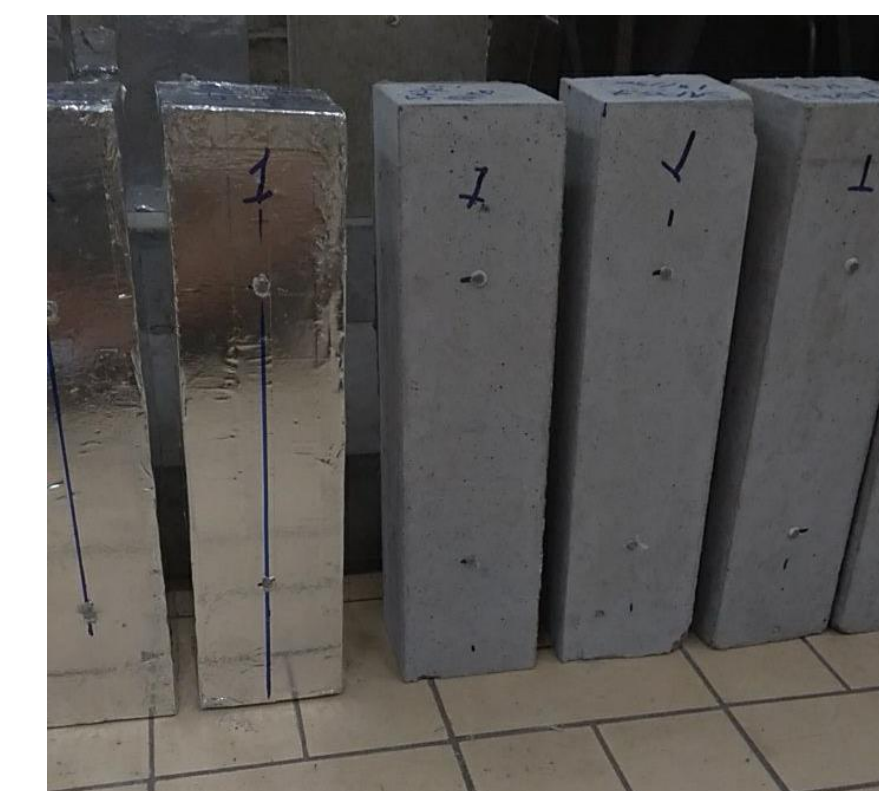


Concrete specimens (100x100x400 mm³)



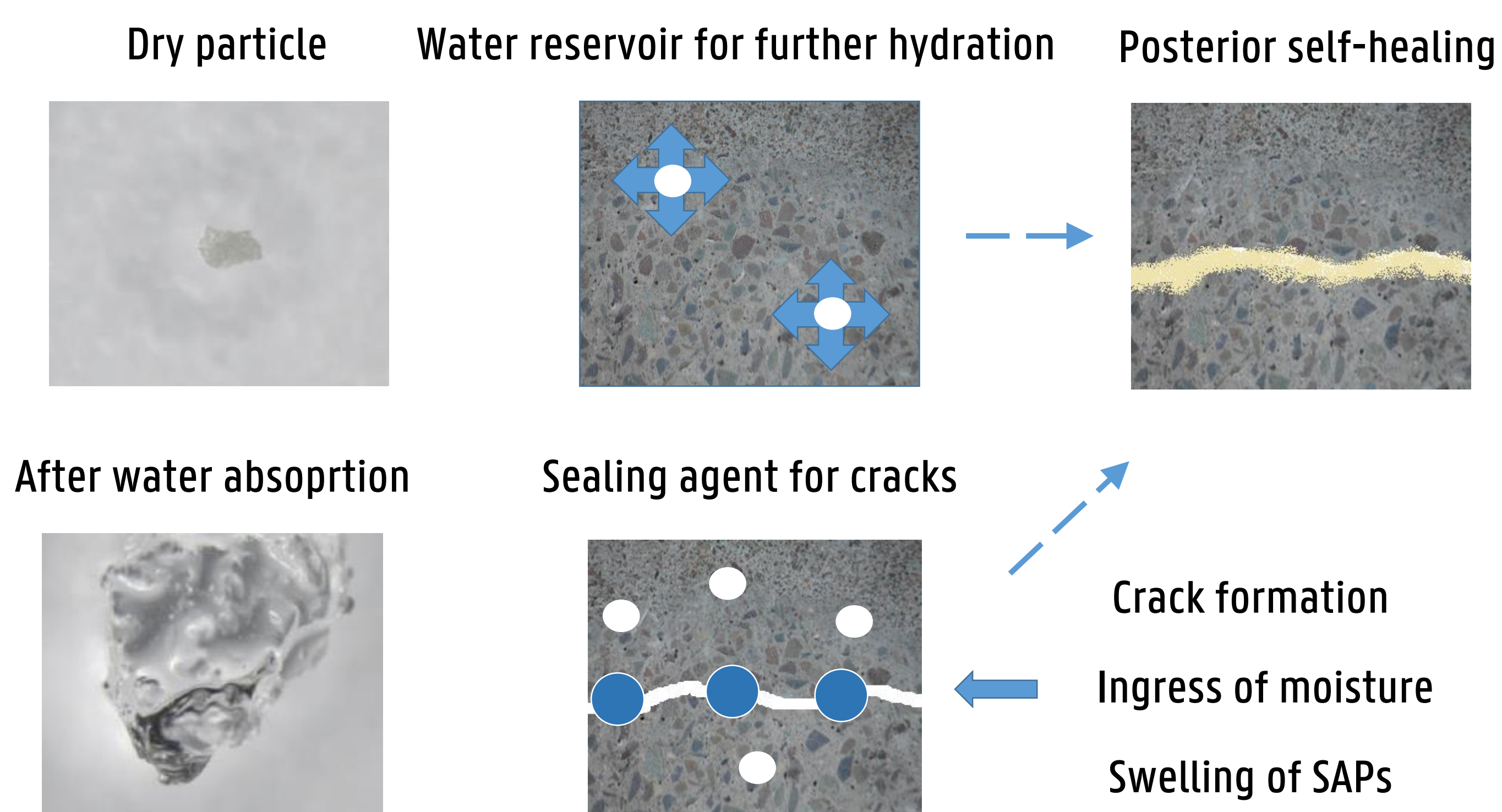
Measuring device

Autogenous shrinkage: specimens covered with aluminium tape

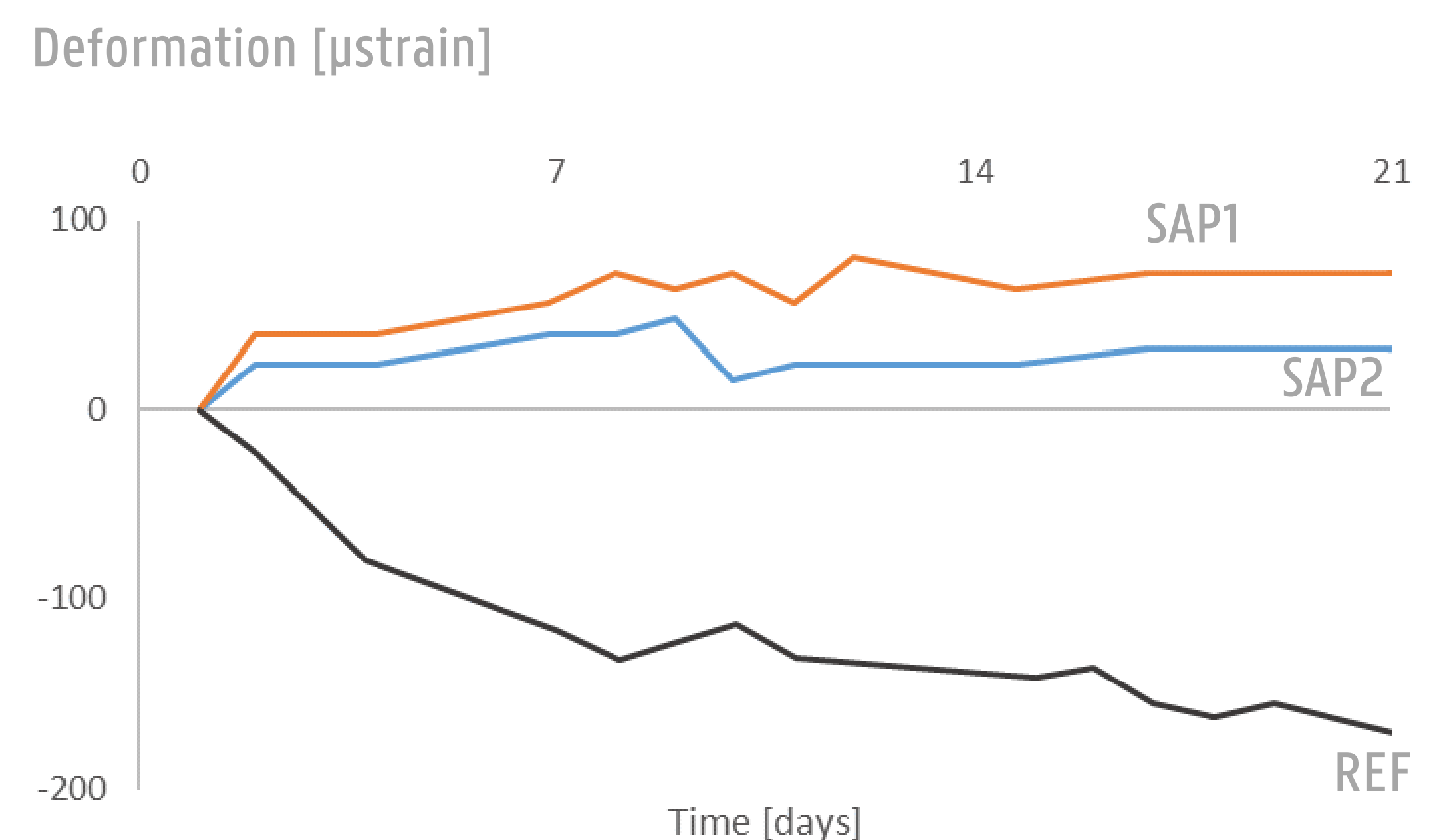


Total shrinkage: specimens exposed to the air

SUPERABSORBENT POLYMERS (SAPs) AND DEVELOPMENT OF SMART CEMENTITIOUS MATERIALS

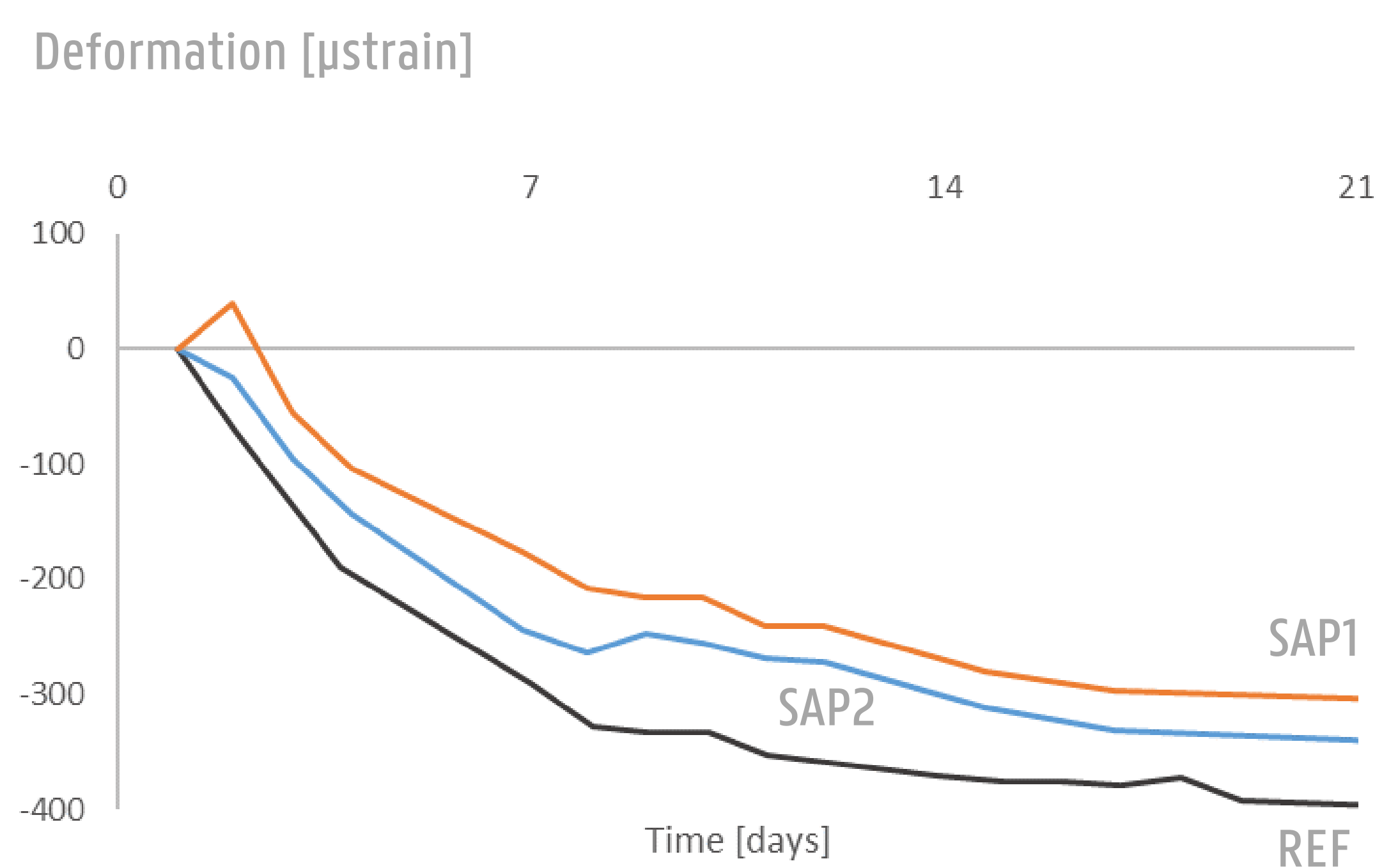
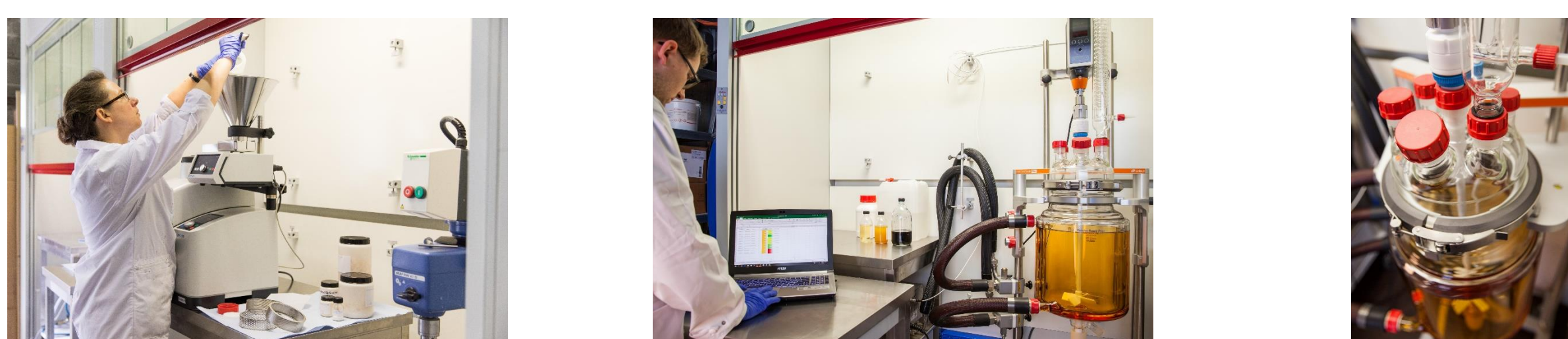
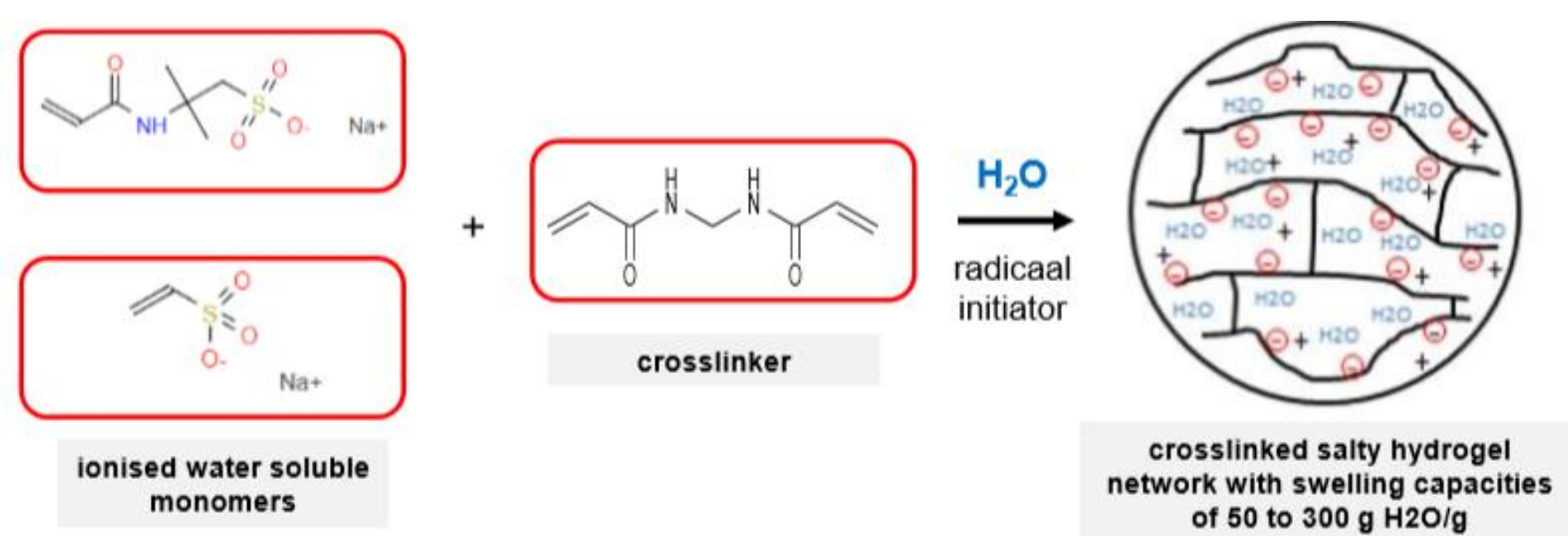


SAPS COMPLETELY MITIGATE AUTOGENOUS SHRINKAGE AND REDUCE THE DEFORMATION DUE TO TOTAL SHRINKAGE



Autogenous shrinkage strain (protected specimens)

PRODUCTION OF SAPS



Total shrinkage strain (exposed specimens)