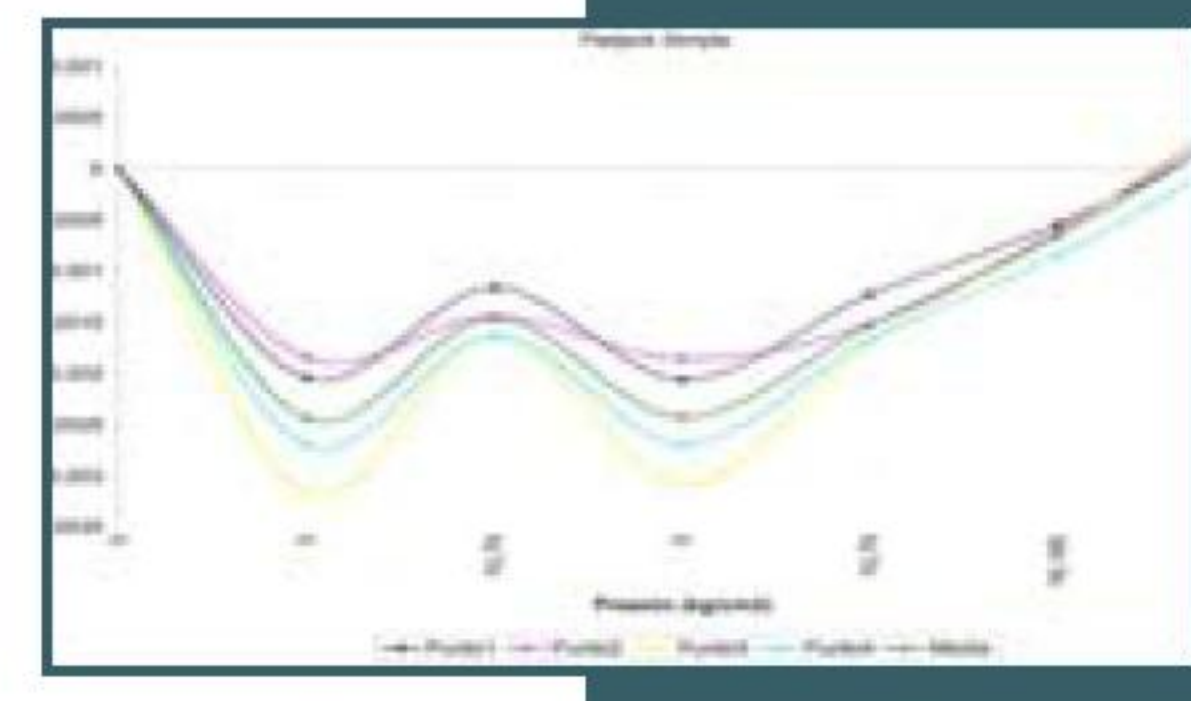
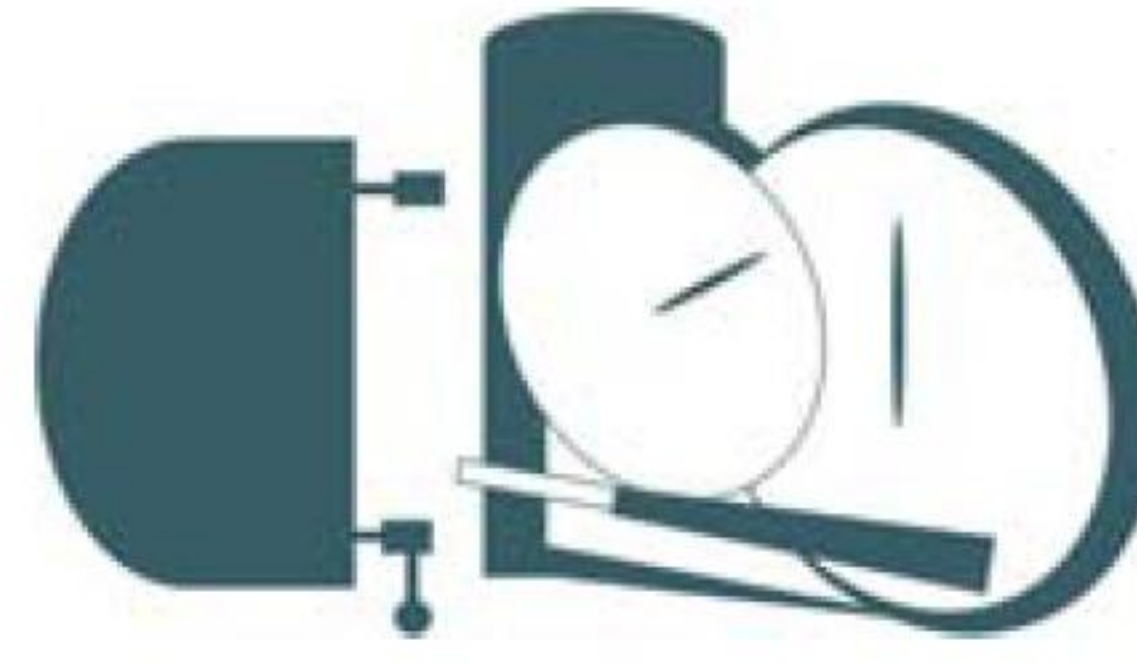


## Double flat jack



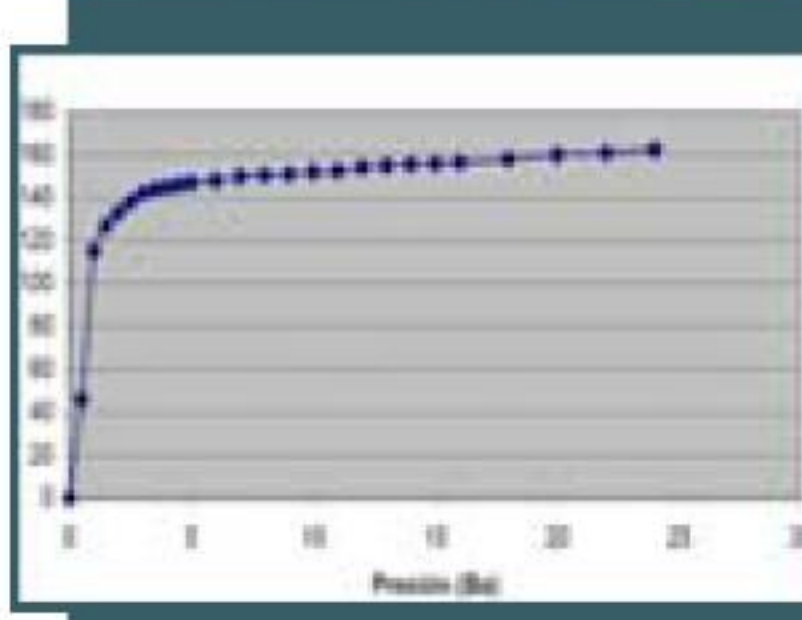
**Background:** Release of tension.  
**Target:** Local pressure levels associated with a certain level.



## Simple flat jack

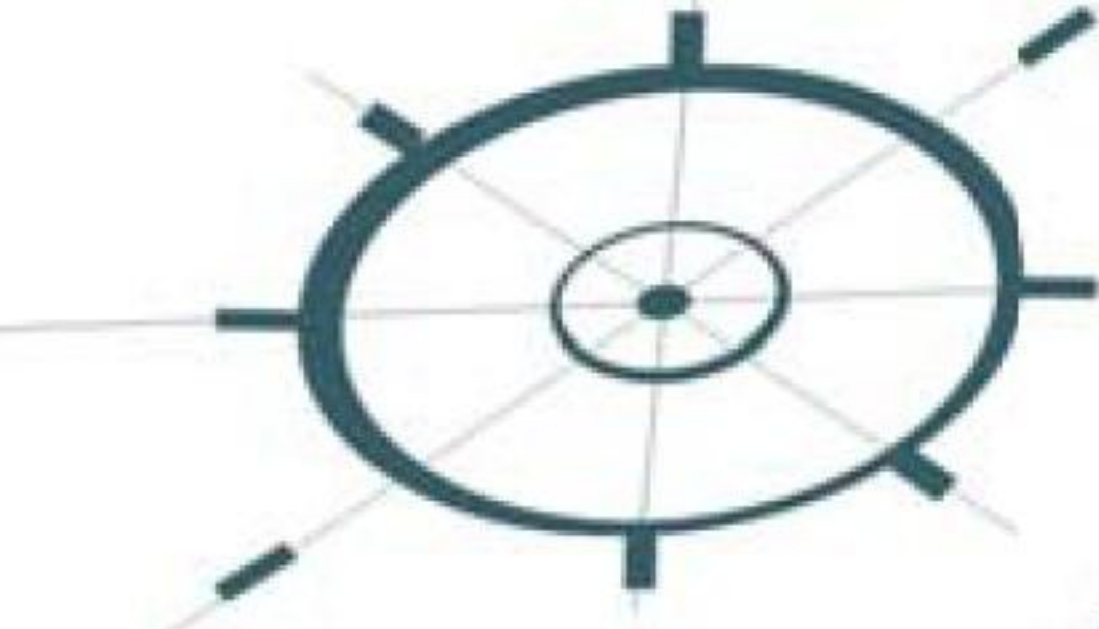


**Background:** Release of tension.  
**Target:** Local pressure levels associated with a certain level.

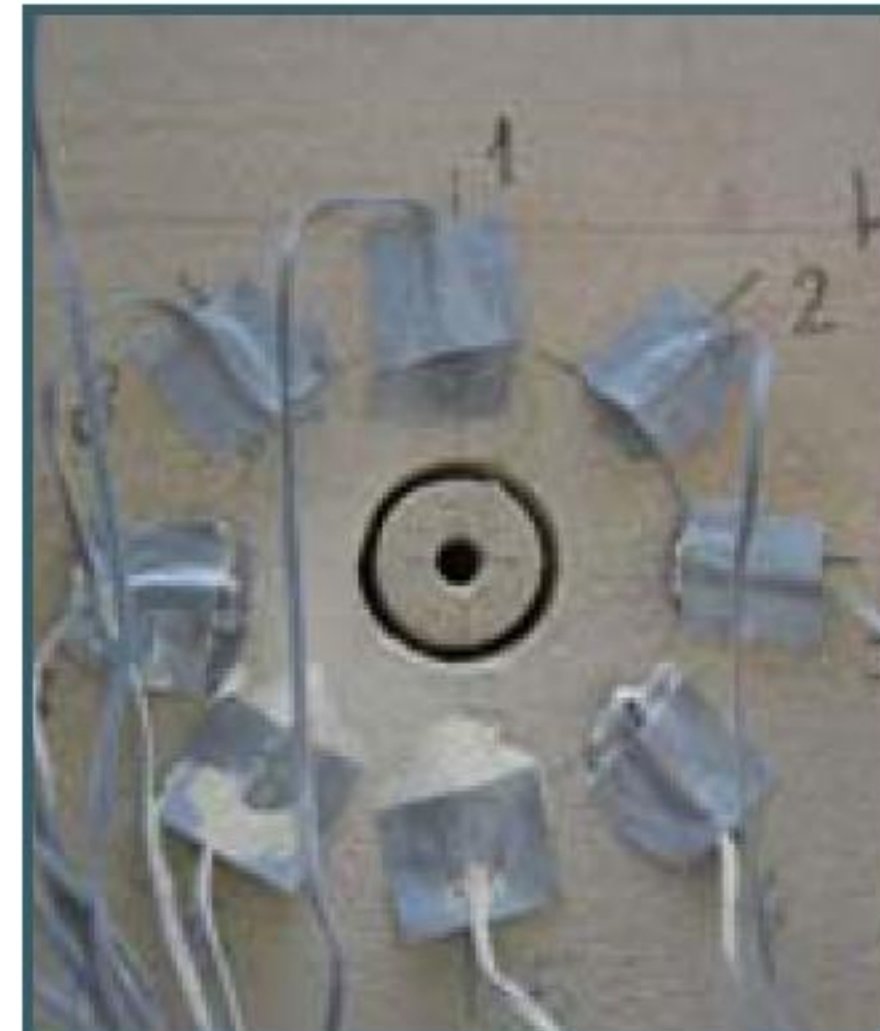
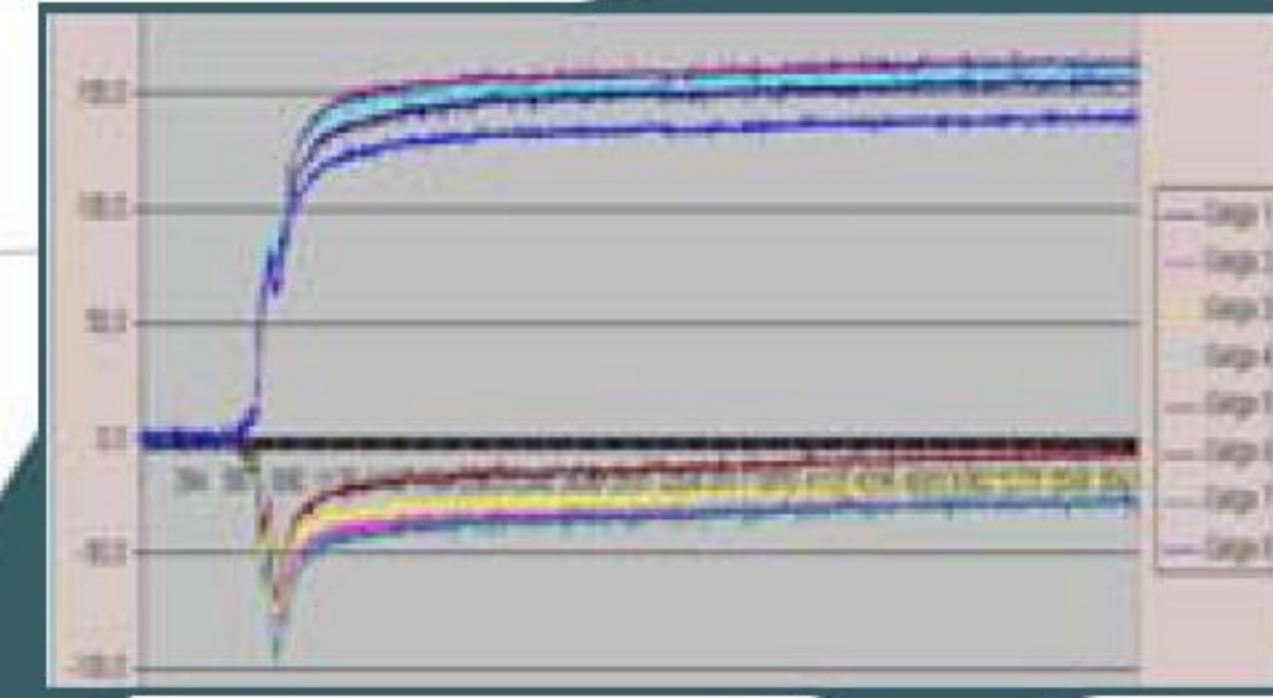


## Mini-pressurometer

**Target:** Getting the pressiometric Menard module (ie elastic modulus).

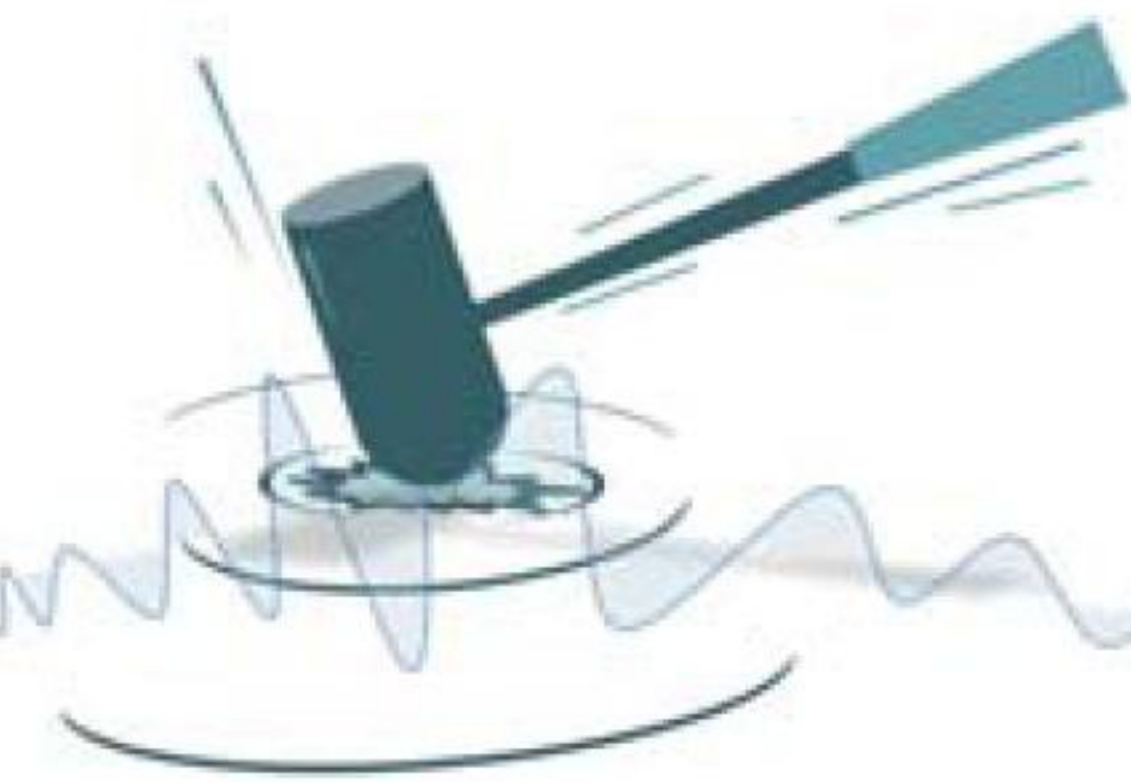


## Hole drilling

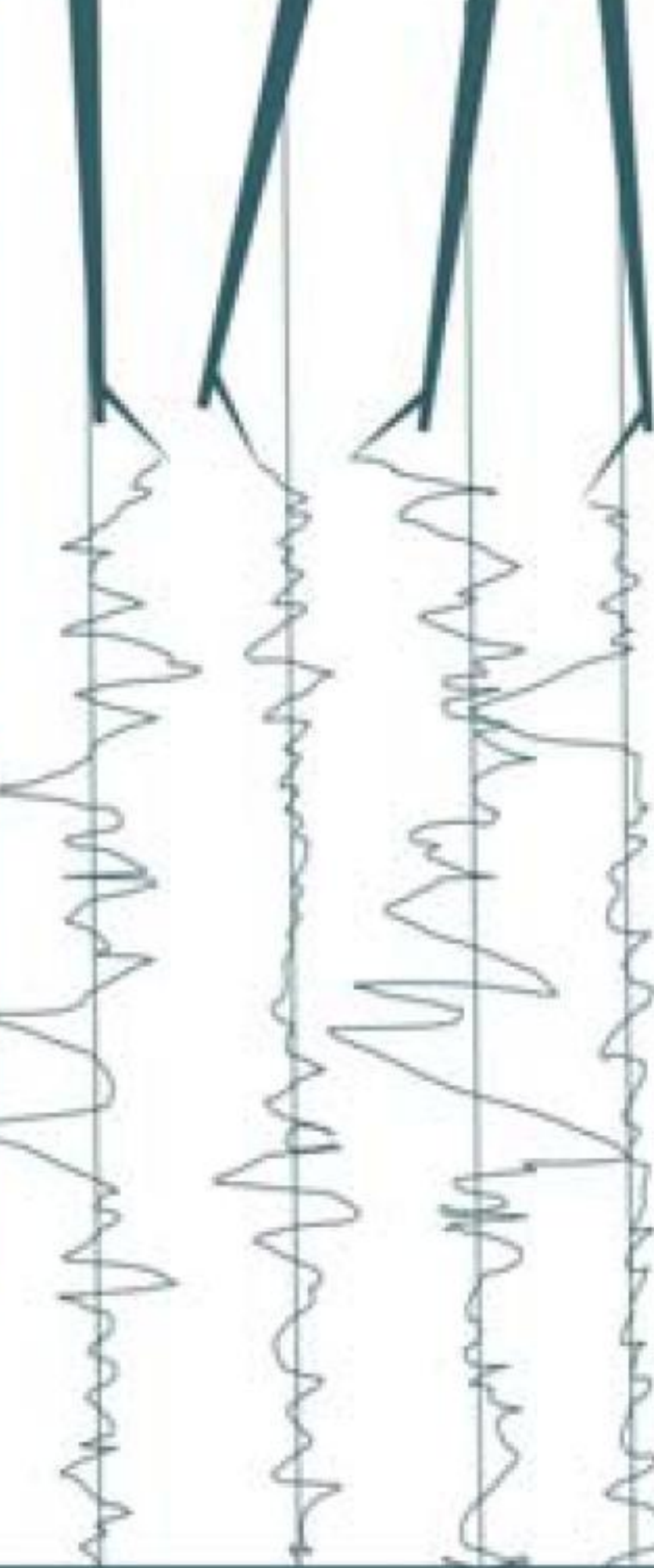


**Background:** Measures of deformation by the redistribution of stress caused by practicing a cylindrical hole in a wall .  
**Target:** To stress level in service.

## Sonic and ultrasonic tests



**Background:** Time propagation measurement of sonic or ultrasonic waves. Principle of acoustic impedance  
**Target:** Estimation of mechanical properties (E, v, etc.) Detecting the presence of voids and defects, integrity of materials, control effectiveness of the processes of injection, etc.



## Monitoring

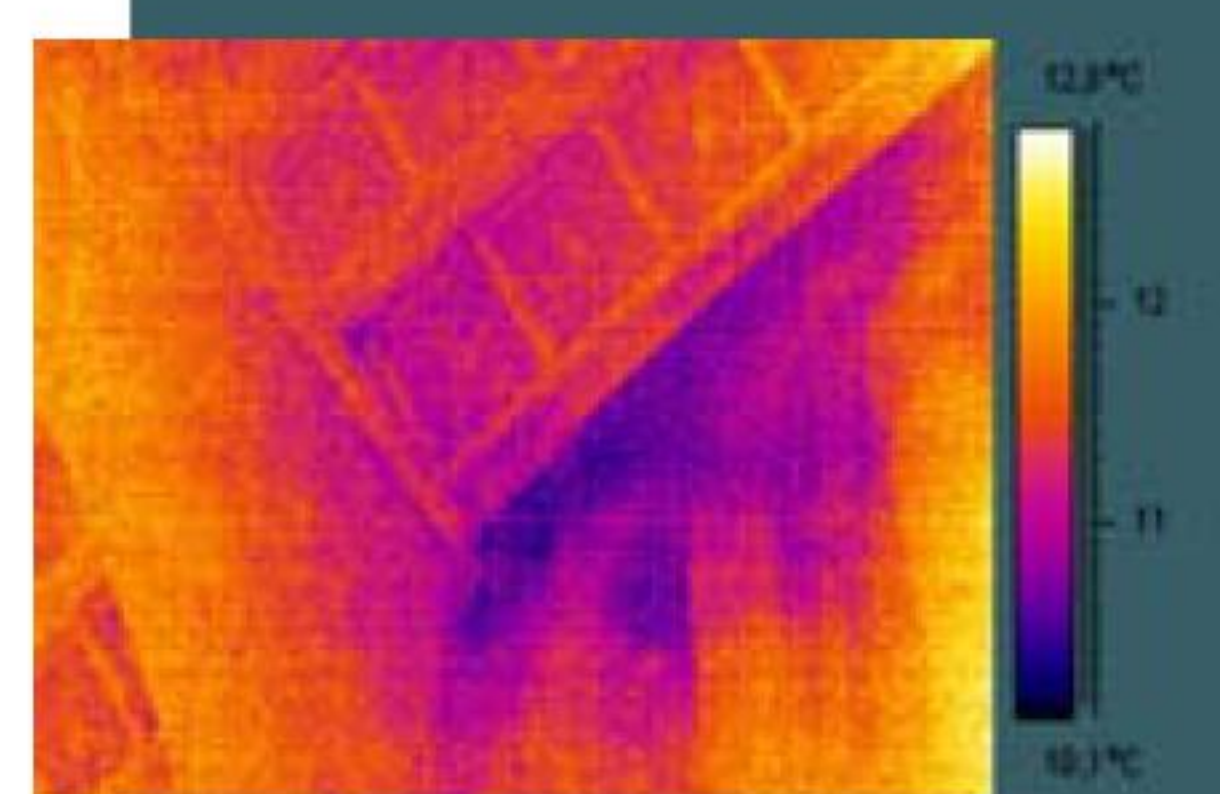
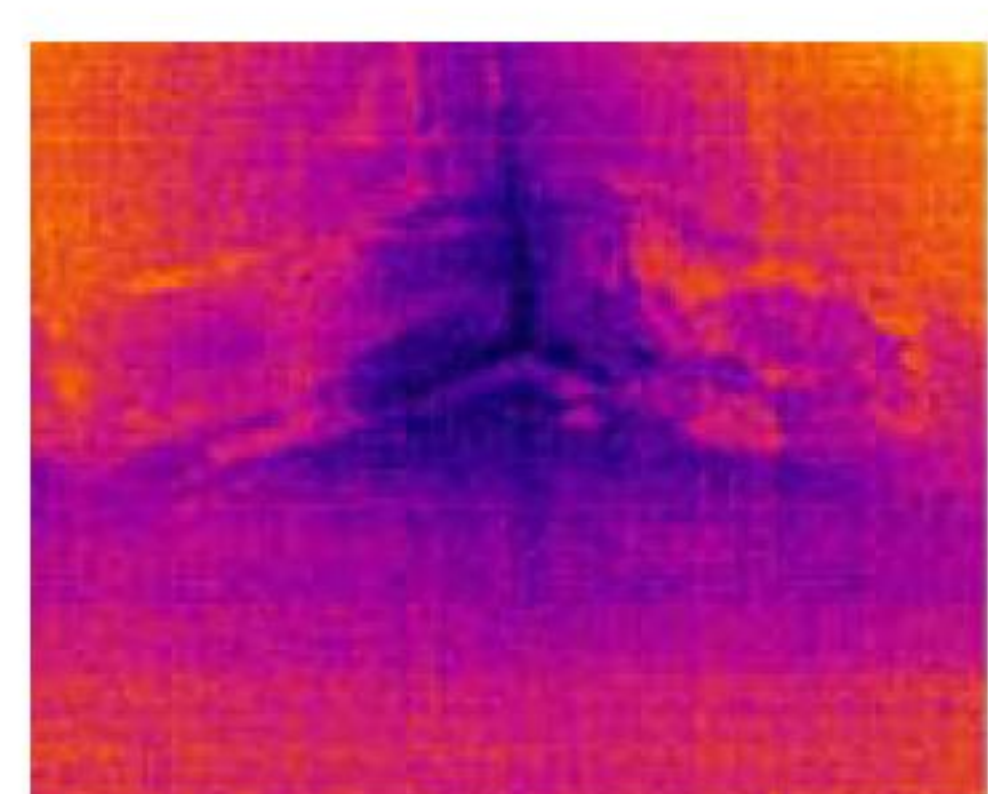
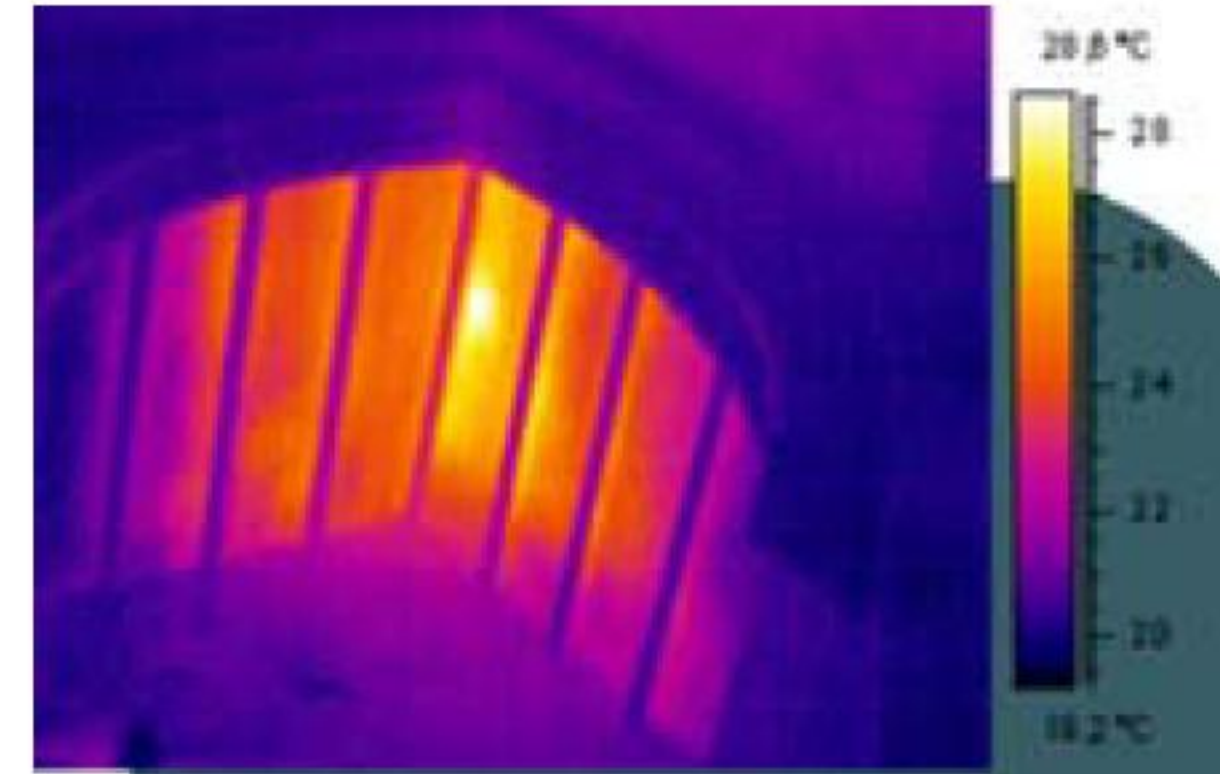
Non destructive method that allows the placing of references and equipment to meet certain parameters of the studied elements and their evolution over time. Conventional sensor technology, fiber optics and radio



## Mortar penetrometer & esclerometer



**Target:** Relationship between energy consumed in the drilling and resistance of the mortar (penetrometer). Relation of material parameters with esclerometric correlation index (esclerometer).



## Infrared thermography

**Background:** Emissivity of the entire body temperatura higher than absolute zero (-273.15 °C). This is infrared radiation of the electromagnetic spectrum.  
**Target:** Location of moisture, identification of hidden structures, location of blind windows, crack identification, location of different materials, etc.