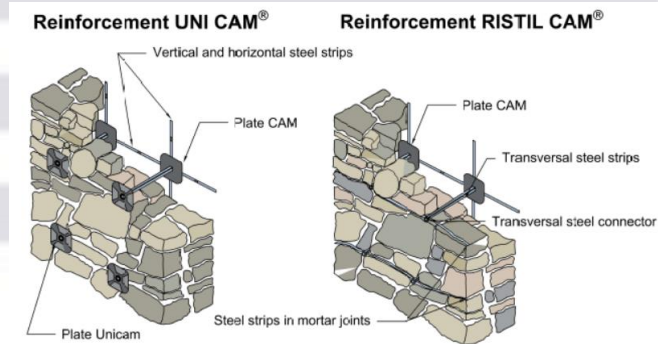


## Sheppard tests on fair-face stone masonry panels with seismic reinforcements derived from Active Confinement of Masonry (CAM)

### Motivations and aims

The UNI CAM® and RISTIL CAM® reinforcement systems are an evolution of the Active Masonry Stitching (CAM) technology. They are particularly suitable for seismic reinforcement of fair-face rubble stone structures. Made of stainless-steel elements, they are highly durable; moreover, during installation, they are pre-stressed and immediately active, increasing strength, ductility and stiffness by preventing disintegration in irregular rubble stone structures.

### Methods and results



Three rubble stone masonry panels, one unreinforced and two reinforced with UNI CAM® and RISTIL CAM® technologies, underwent a "Sheppard" shear compression test at the ENEA Casaccia Laboratory. Test protocol involved the application of a constant vertical load and a cyclic horizontal load following cycles of positive and negative displacements at constant velocity. The tests were monitored and compared using various technologies including 3D Vision, Digital Image Correlation, and Fiber Bragg Grating (FBG) sensors applied to the stainless-steel strips.

### Conclusions and future developments

Sheppard tests showed that the proposed reinforcement systems significantly increased ductility compared to the unreinforced panel. Additionally, an increase in strength was detected, albeit to a lesser extent, due to the absence of reinforcements in the lateral bands of the panels, which indeed are the first to show greater damage. To obtain a comprehensive understanding of the behavior of masonry with such reinforcements, other investigations were scheduled on a large-scale structure to be tested on the shake table.

