

The unusual dome of the Cappella Emiliana on the Island of San Michele in the Venice Lagoon

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Abstract The Emiliana chapel, built between 1528 and 1543, is hexagonal in shape and is surmounted by a hemispherical dome. The most distinctive feature of the construction is its complex roofing system. This consists of two hemispherical caps connected by a central pillar. The inner cap is made of brick masonry and the outer dome of blocks of Istrian stone, arranged in horizontal courses. The masonry central pillar is connected to the outer shell by iron tie-rods.

In the nineteenth century the behaviour of the original “tholos” structure was altered, with the consequence that the construction became more hyperstatic and more sensitive to any disturbance, such as small adjustments or differential movements, and this resulted in extensive displacement of the stone elements.

The recent restoration gave an opportunity to investigate the construction techniques of the dome and to introduce small adjustments to the structural behaviour of the roof system.

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