

The dome of Santa Maria della Salute in Venice: its construction and restoration

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Abstract The main dome of the basilica of Santa Maria della Salute was raised in the middle of the XVIIth century by Baldassarre Longhena. It constituted a technical challenge for the local building culture but is also an essential link in the constructional evolution of wooden outer-domes in Venice. The masonry of the dome is remarkably thin. To complete and protect the *cuba*, a complex wooden construction (now lost) was built over it. This was formed by ninety-six slender groin ribs, made of layers of boards with split-level joints, rising from a timber ring set on the external cornice of the masonry drum, encircled by a metal ring at a height corresponding approximately to the haunches of the ribs and converging on an upper ring that constituted the impost of the great lantern. This timber construction had deteriorated seriously by the mid-XIX Century and it was completely redesigned and rebuilt between 1868 and 1883. The recent restoration has been limited to the replacement of two fragments of the groin ribs and to the renewal of some square metres of wooden panelling. The entire lead covering was removed, a small area at a time. Any damaged sheets were restored and replaced employing the same nails and copper hooks previously extracted, numbered and stored. Every sheet was carefully soldered to repair all gaps, holes or cracks with tin alloys, operating on the lower surface in order to avoid any alteration of their hydrocerussite patina.

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