"CAVA" CODORNIU

The wine cellars of Spain's most famous champagne producers, the Codorniu family, date back to 1895. The poor conditions of the cellar flooring called for highly specialised intervention.

PHOTO 1

PHOTO 2

The word *champagne* is used to refer to the wine developed by the Benedictine monk Pierre Pérignon three centuries ago, after he discovered a technique for controlling the bubbles in wines in the Champagne region. Some time passed between Dom Pérignon's discovery and the birth of the Catalan version of bubbly wine.

In Catalonia during the 12th century there existed a congregation of four church parishes. Sant Sadurní de Subirats was one of these church parishes that, in time, became the capital of Cava, Sant Sadurní d'Anoia, a township in the Alt Penedès natural park, 40 km from Barcelona, Spain. Sant Sadurní d'Anoia and, more precisely, the Codorniu wine cellars, are the cradle and homeland of Cava. The Codorniu family is located in the town where this bubbly Soave wine was produced in Spain for the first time more than 100 years ago.

The Codorniu family's fame has been consolidated over the last 500 years. The family dates back to the mid-16th century to farmer grape-grower, Jaume de Codorniu. The Codorniu family's activities grew through its ancestral links with other families, a good example being the marriage of Anna Codorniu to Miguel Raventós, owner of a fertile vine-yard and renown wine cellars.

More than 200,000 people arriving from all over the world to visit Spain spend either a morning or an afternoon at the Codorniu wine cellars during their stay; getting to know the massive plantation and discovering how this champagne is made.

The *cavas*

The museums are perfectly integrated with the wine cellars so that guests can admire the huge presses that were used in the old days, the arches, walls and tile flooring that still seem to emanate the bouquet of the many vintages. These living memories of the past can also be found in the Casa Codorniu which was enlarged in 1895. During this period, the


PHOTO 3


PHOTO 5

Codornius built the cavas (wine cellars in grottoes) and the work was carried out by Josep Puig i Cadafalch. A designer, mathematician, town planner, historian, politician and architect, Cadafalch has rightly been defined as the first representative of modern architecture.

60 years from the date of its construction (1895-1915), the cavas where declared a national historic monument by royal decree on the 9th of January 1976, the first decree signed by Juan Carlos I, King of Spain.

30 years ago, the building that originally housed the press became the "Museo del Cava"; the only museum in Spain to contain an interesting and curious collection of objects, instruments and equipment for the cultivation of vines and the processing of wine. Its modernist nave is 76 meters long by approximately 11.5 meters wide, with an 8 meter vault which is mostly built in brick.


PHOTO 7


PHOTO 4

Project under pressure

The initial reconstruction project involved substituting the 30-year –old flooring and transforming the nave (pressing room) into a museum. Due to


PHOTO 6

the high volumes of visitors and the lack of grouting between the tiles, the surface was in a very poor state of repair (photo 2). A series of unforeseen problems were encountered right away when demolishing the flooring and removing the first layer of substrate and the foundations. Problems, such as the discovery of walls that supported part of the flooring (photo 3), wells for antique presses, storerooms as deep as 5 meters (photo 4) and substantial differences in the level of the flooring caused by the low consistency of the materials used at the time for filling in the foundations. All told, the screed and the flooring were highly unstable.

The owners, among other things, used the hall for official receptions, commercial activities, international presentations and cultural events, etc. For a space with these


PHOTO 8

characteristics it was therefore necessary to entirely revise the initial project in order to create a space with a high-quality, professionally installed foundation so that the specially manufactured ceramic tiles could be installed to the standards required for such occasions.

From the boiling vats ...

The cavities resulting from the demolition of ceramic tiling, antique gravel flooring and substrates (photo 5 and 6) were filled using over 800 tons of concrete. 75 m^2 of 30 cm thick slabs were constructed to preserve the vats sunk deep into the ground and the storerooms (photo 7).

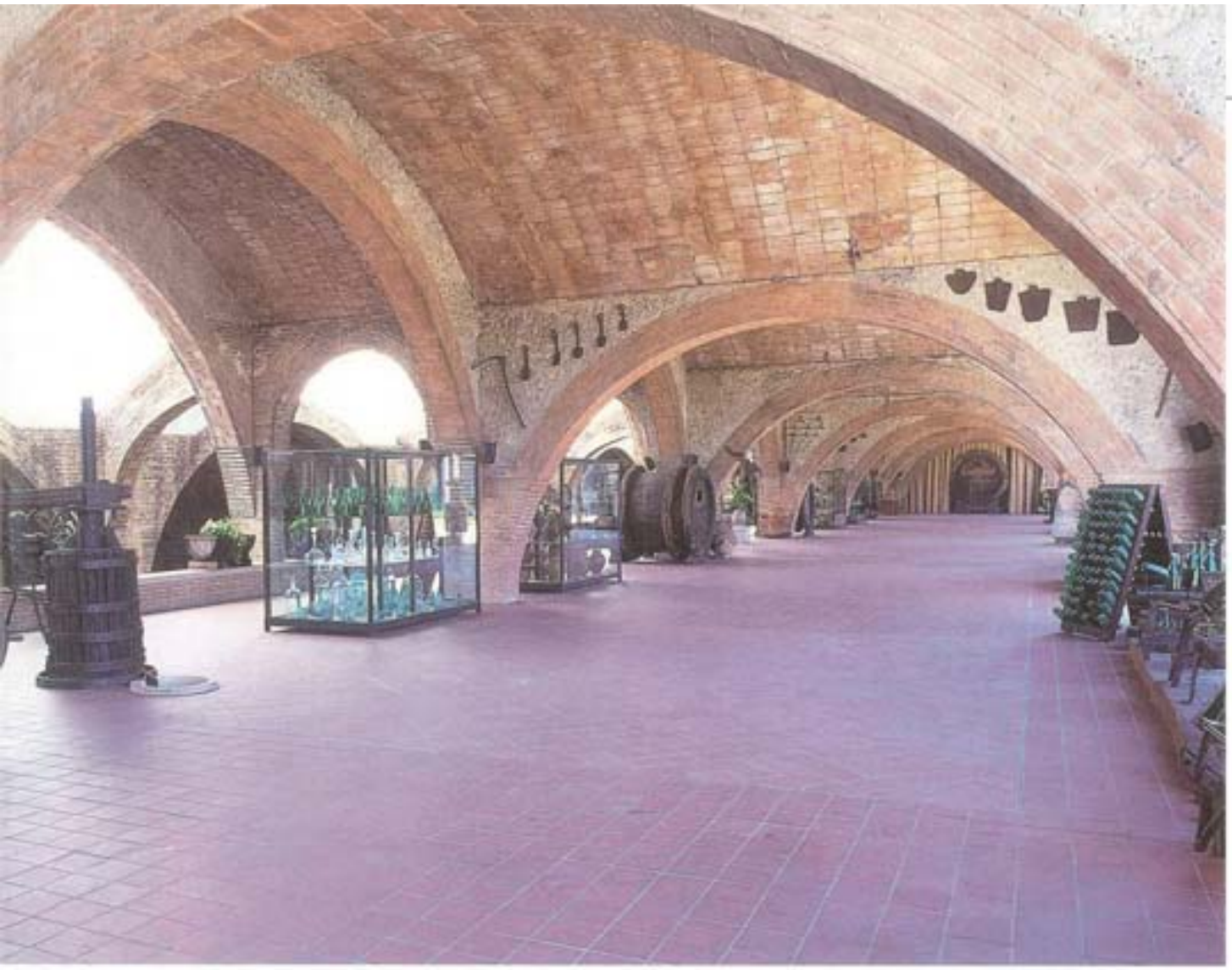

PHOTO 9

Before installing the chosen ceramic tiles an almost perfectly flat surface had to be achieved, and the level of the ground had to be built up to its original level (photo 8 and 9). TOPCEM, a normal-setting rapid-drying binder which is particularly recommended for this kind of construction, was used to get a flat surface. An example of the attention to detail and level of professionality in executing the work is the tests carried out on various parts of the screed to find out the percentage of residual moisture present once dry. The tests were carried out with a special instruments by a Mapei technician (photo 10). The ceramic tiles, especially manufactured by Cerámicas Comella, were 20x20 cm clinker type tiles with a rustic finish and


PHOTO 10


PHOTO 11


PHOTO 12



low absorption. The installation required absolute mastery of the size and dimensions of the hall, since the mosaic design was such that not a single tile could be cut. The seven mosaics that correspond with each of the crujía de arco (arched aisle) are turned 45 degrees with respect to the adjoining floor and are framed by a brass profile.

All the tiles were installed without cutting them on site (photo 11 and 12). The architect Lluis Rivas Estalella (the project manager) monitored progress every step of the way. Because of the enormity of the project and the time available, the installation of the ceramic tiles was subcontracted to various specialised companies, as was the case with "Colocaciones '92" (Cerdanyola del Vallés). In all there were 20 professional installers in five different groups dedicated just to installing the tiles. GRANIRAPID, a fast-setting cement-based adhesive with high mechanical strength was used for the installation of the ceramic tiles.

Right from the beginning the grouting and expansion joints were specially treated. The expansion joints were sealed with MAPESIL AC, an acetic-based silicon sealant for movement joint with a maximum 20% expansion of the initial joint size, while the grouts were filled with ULTRACOLOR, a rapid setting and hardening cement grout for joints 2 to 20 mm wide, the only product on the market that does not produce efflorescence.

These advanced solutions for the installation of the flooring will guarantee the resilience required to withstand the wear that this flooring will be subject to, i.e. large numbers of visitors, heavy loads and frequent cleaning etc. The flooring solution chosen also improves maintenance and guarantees a very attractive finish.

The Technical Data Sheets of the products mentioned in this article are contained in Mapei binder No. 1 "Ceramic Tile Installation Products".

TECHNICAL DATA

Museo Cavas Codorniu - Sant Sadurní d'Anoia – Alt Penedés (Spain)

Year of construction: 1895

Year of restoration: 1998

Project Manager: Architect Lluis Ribas Estalella

Contractor: Totcon S.A. – Villafranca del Penedés (Spain)

Material: 20x20 Clinker type ceramic tiles – Cerámicas Cornella, Granollers

Mapei products:
TOPCEM
GRANIRAPID
MAPESIL AC
ULTRACOLOR

Mapei coordinator:
Vicenç López, Ibermapei - Spain