



THE GENOA AQUARIUM

Built above and below the water line in the Old Port of Genoa, the city's aquarium has become one of Italy's most popular tourist attractions and the centerpiece of the rebirth of "Genoa The Proud"

by *Natasha Calandrino*



Designed by the architect Renzo Piano and his Building Workshop the Genoa Aquarium is Europe's largest marine park. The aquarium is located in the Old Port of Italy's largest harbor (almost 50 km!) and is home to 500 species of fauna, including more than 5000 specimens of fish, reptiles, amphibians, mammals, birds and insects. The complex was inaugurated during the 1992 Columbiad games in honor of the 500th anniversary of the discovery of America. Since then it has undergone continuous expansion as it rides the wave of its instant success. After the Vatican Museums and the archaeological excavations at Pompeii, the Aquarium is Italy's third most popular tourist attraction. It recently joined forces with the adjacent (propeller-less) "Nave Italia", or "The Good Ship Italy" to form a single integrated complex. Of the complex's 63,000 cubic meters (82,404 cu yd), 28,000 m³ (36,624 cu yd) are located on two floors beneath the water line that feature bio-tanks and service areas. The 35,000 m³ (45,780 cu yd) above contain the exhibits and retail spaces. (Photos 1 and 2).

A million and half visitors a year admire the acrobatic dolphins, the charming penguins and the splendidly colored sea turtles. Such a large influx, many of whom are children, required a durable floor surface that could stand up under the heavy traffic on the two floors of exhibition space. Installing 13,000 square meters (139,919 sq ft) of carpet tiles required a setting system that would give the flooring stability, preventing slippage that could create unsightly buckling, with the added danger of tripping. These concerns were addressed by using MAPEFIX, a permanent tack adhesive in water dispersion which is not inflammable and contains no harmful

substances (Photo 3). These last two considerations were especially important in a public space like the Aquarium. Practical considerations like maintenance led to the choice of carpet tiles installed with this special adhesive. The high flow of people eating ice cream and sipping soft drinks while filing in front of tanks containing monk seals or piranhas inevitably cause the carpet tiles to wear out. Because MAPEFIX has permanent



tack, the worn tiles can be replaced easily. When it dries, the MAPEFIX film retains its adhesiveness, so the carpet tiles can be removed and replaced as many times as needed (Photo 4).

The Aquarium shops

In the former "Mercantile Republic" commerce was not about to be neglected. Souvenirs of scary sharks and cute sea horses (according to several American studies, there is nothing better for calming the nerves than gazing into an aquarium), T-shirts, books, videocassettes and other items are sold in the shops on the mezzanine level which runs along the water line the entire length of the Aquarium complex. Being right on the waterfront, where salt air is especially hard on construction materials, was a factor to be taken into consideration. Marble agglomerate tiles, made of natural stone fragments mixed with a minimum amount of structural polyester resin (approx. 94% marble, 6% resin) required a rapid setting and curing adhesive system to prevent the somewhat moisture sensitive tiles from absorbing the mix water. 1,500 square meters (16,146



sq ft) of agglomerate marble flooring were set with GRANIRAPID, a two-part adhesive that met these requirements. It gave the tiles high dimensional stability and the surface was ready for traffic after only 3 hours. After carefully cleaning the concrete substrate, a thin layer of GRANIRAPID was applied (Photo 5) over it. The 124x30 cm (48"x12") tiles were back-buttered to obtain 100% transfer of the adhesive and placed on the still fresh layer of GRANIRAPID (Photo 6).

Approx. 3 to 4 hours later the tiles were grouted with KERACOLOR, a cement based grout with water-repellent additives and synthetic resins that is highly resistant to moisture. The expansion joints in the marble tile flooring were sealed with MAPEFLEX, a two-part polyurethane sealant whose special formula does not stain and makes it water resistant (Photo 7).

The Genoa Aquarium installation was a success because a team of installation professionals used innovative products that were developed through high quality research.

Photo 1
The Genoa Aquarium,
Europe's largest
marine park.

Photo 2
A few of the
Aquarium's 50 tanks.
Photos 3 and 4
Installing carpet tiles
required a setting
system that would
give the flooring
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PHOTO 4



Photo: Paolo Gazzoni





The Technical Data Sheets for the products mentioned in this article are contained in Mapei Binder No. 1, "Ceramic Tile Installation Products" and No. 2, "Resilient Flooring Installation Products".



PHOTO 5

Photo 5
The agglomerate marble tiles used for the floors in the shops on the Aquarium's mezzanine were installed with GRANIRAPID which gave the tiles high dimensional stability. The floor was ready for traffic in only 3 hours.

Photo 6
Installing the agglomerate marble tiles



PHOTO 6

TECHNICAL DATA

Project: The Genoa Aquarium

Year of construction: 1992

Year of remodeling: 1997

Architect: The Renzo Piano Building Workshop

Carpet tiles installed by: Luigi Tozzi, Villasanta, Milan, Italy

Project Manager: Alessandro Riboli

Coordinator: Enrico Grassi - Mapei

Materials: Interface Heuga carpet tiles
Stone Italia agglomerate marble tiles

Product for carpet tile installation*:
MAPEFIX

Products for agglomerate marble installation*:
GRANIRAPID
KERACOLOR
MAPEFLEX PU21

*These materials are part of Mapei's European product lines