

# Legacy Residences

## Cascais, PT



## Case Study



### Property Owner

Reformosa



### Main Contractor

Teixeira Duarte



### Architect

RMS Architecture



### Structural Engineer

Gapres

## OVERVIEW

Cascais, known for its elegant streets and luxurious villas, is a vibrant beach town and much-loved getaway destination for both tourists and locals. Cascais has some of the best restaurants, bars, shops and golf courses in the country.

Legacy Residences is a high-end gated compound with a private doorman and on-site luxury hotel services, located nearby the iconic Cidadela Hotel where numerous world-famous guests have spent many a night.

Legacy comprises both apartments and townhouses, the latter all having a private swimming pool and garage.

## Stravifloor Deck

- High-performance low-profile deck floor system with high bending stiffness for light concrete constructions
- System allowing for large support spans



## SOLUTION

To meet the strict acoustic requirements, the swimming pools located on the second and sixth floor in the apartment building, needed to be isolated from the rest of the structure. A special vibration isolation system based on the Stravifloor Deck system was designed to decouple both pools.

A **Stravifloor Deck** concrete floating slab made of punctual bearings, proprietary channels and a dovetail metal deck supports and decouples the pools from their surroundings. The system was designed to reach a natural frequency of 8 Hz.

Between the structural walls and the sides of the pool, a **Stravibase Lateral** elastomeric mat was installed.

## AT A GLANCE

### CHALLENGES

- Need to design an elastic suspension for the pool's structure, covering both bottom and walls of the pool shell and considering different load conditions (empty vs full pool), with controlled differential deflections and compatible with all services and adjacent areas

### BENEFITS

- Stravifloor Deck isolated floating floor with 8 Hz natural frequency bearings
- Modular concrete floating floor adapted to the pool specifications
- Excellent structure-borne and airborne noise isolation
- Quick to install

**142 m<sup>2</sup>**

Pool Isolation  
Stravifloor Deck  
covering bottom  
of the pool shell

