

Structural restauration of historic sites

The current policy for the restauration of our historic urban centers is based on the concept of Integrated Rehabilitation. The virtue of this system is that it is designed to absorb the change in scale in the interventions: the scale of the building itself and the scale of the entire zone in which the intervention takes place. Each building is no longer considered as an individual element and it is instead interpreted as being a part of a whole. In this way, these areas should be understood as a space in which all of the interventions must be programmed and the available means optimized, as well as preventing the possibility of interventions that are partial in scope or that have not been subjected to preliminary analysis.

In this sense, each intervention in historic urban centers should be clearly defined and a deep study should be made of the building types and construction methods involved and, at the same time, special efforts should be made to recuperate the systems and techniques that are best suited to the area.

The purpose of this article is to analyze the building structure, considering it as an element of the urban structure in which it is implemented. This analysis is centered on the study of lot structures and building types that are involved.

Innovative techniques for termite treatment

Termites are social insects. They are divided in several castes with specific functions in the colony.

Recently, a new method has appeared in the market to get colony elimination: SENTRI TECH. Using the biology and social behaviour of termites, it feeds the colony with a bait containing a growth regulator. Besides, the system gives a continuous control of the site.

A restauration work. The asilum - residence of Lerin

The sample case for rehabilitation proposed in this paper displays the systems and mechanisms that are required for success in the intricate process of functionally updating a building. The difficultis involved in site management are discussed, as well as the advantages of professional experience in consolidating the structure and redistribution of the whole area.

Reinforced concrete. Durability strategies against pathological delay

The EHE Instruction 97 Project introduces the innovative concept of "strategy of durability", the analysis of which is necessary to understand that structural repairs stem from a process of deterioration that is borne from the project itself and can be avoided if it is based on an integrated process of structural and building design to attain a highly resistant concrete.

The present article is an outline of the contents of this project, in particular with respect to aspects involved with durability.

New techniques to repair wooden structures. Elements under bending. The contribution of glued wood-joints

In this article, solutions are put forward for the repair of wooden structural elements by means of systems of reinforcement and replacement. The advantages and disadvantages of these systems are discussed. A recently invented system for gluing wood is described, including the types of joints and repair conditions, considering temperature and moisture content of the wood as determinant factors in assuring a high quality joint.

Restauration of concrete structures. Tecnniques and systems

A general review of the possible methods and systems to be used to repair and strengthen existing reinforced concrete structures is presented. The basic principles to be observed in the selection process for the suitable system are defined. These principles help to identify the factors and establish the methodology necessary to repair the different kind of damages, such as: cracks, concrete section reconstructions, reinforcement corrosion, etc. The strethening of reinforced concrete overlays to increase the structural concrete section resistance and supplementary reinforcement to improve the bearing capacity of the structural element. The additional reinforcement may be internal or external to the concrete section. The bonded steel plates and the CFRP bands are some examples of the external additional reinforcement.

Techniques and systems for quality control in the European context

The economic significance of the building sector, as well as the presence of technical obstacles and the various codes of the member states of the European Union have made it necessary to devise a new legal formula: the Directive for building products. Its objective is the free circulation of this type of product within the European Union.

A description is given of the fundamental aspects of this Directive: essential requirements in the work site, interpretative documents, certification, as well as the stages of development of the document.

Problems arising in the placing of ceramics pavements and claddings

This article is an in depth analysis of the intricate task of installing ceramic materials, their limitations and their interaction with other materials. A detailed description is given of a number of aspects, including the characteristics of bases for the tiles and considerations related to the settling of the building and their influence on the dimensional variation of the ceramic material bases.

The origins of construction codes

This is a brief historical overview of building codes and their origins based on treatises on load-bearing walls, as well as the problems associated with the current Spanish codes when applied to old buildings.