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## TITLE A New Construction Element Protects Against Earthquakes

### DESCRIPTION OF THE TECHNOLOGY

The invention consists of a connection element between structural elements whose objective is to protect against earthquakes. The device minimizes structural damages and guarantees the functionality of the construction after an earthquake. Among its properties, it has a high capacity to rotate, which allows it to be easily repaired, and the structure to be recentered.

The connection element is composed of longitudinal alloy bars, a conventional steel transversal frame, VHPC or UHPC concrete, in which the SMA bars (Shape Memory Alloys) of the common element, connectors between steel bars

and joints between the connection element and the structures are embedded.

The device of the invention connects one structural element to another from any section, for example, a beam with a support at a joint with a foundation. In addition, it can also be inserted in any concrete structure.

The length of the connection element varies depending on the quality of the materials and the mechanical characteristics of the rest of the structure in which it is inserted.



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### MARKET APPLICATION SECTORS

Sector: Construction

Prefabricated concrete companies and construction companies

This element is capable of establishing the connection from one structural element to another from any section and in any concrete structure. It can be applied to all types of construction—prefabricated or in situ—and in civil or building works.

### TECHNICAL ADVANTAGES AND BUSINESS BENEFITS

- It provides greater resistance to the buildings against earthquakes.
- It has a lower price during the life cycle of the structure.
- The damages caused are easily reparable.
- The installation is simple.
- It presents lower future costs for maintenance and repairs.
- There are no operating cuts.
- It does not occupy more space than the support itself.
- It allows accessibility for inspection

### CURRENT STATE OF DEVELOPMENT

Laboratory Prototype

### INTELLECTUAL PROPERTY RIGHTS

Patent Granted  
Priority Number: ES201631022  
Priority Date: 27/07/2016  
PCT: ES2017/070546  
PCT Date: 27/07/2017  
Publication number: WO2018020075

### COLABORATION SOUGHT

The inventors are looking for companies interested in establishing patent license agreements for its use, manufacture or sale.

### RELATED IMAGES



**TITLE A New Construction Element Protects Against Earthquakes**

Image 1:

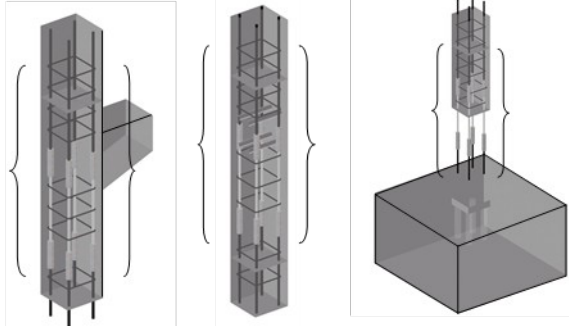
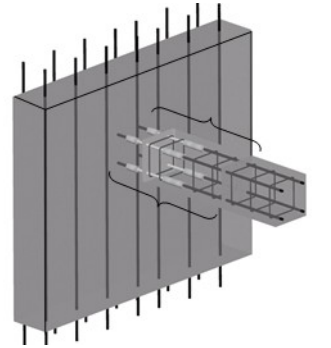


Image 2:



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