

# COMPACT, ECONOMICAL AND REUSABLE NEW ELEMENT TO FACILITATE THE HORIZONTAL REINFORCEMENT OF REINFORCED CONCRETE ELEMENTS

**P** PATENTED TECHNOLOGY



## CONTACT DETAILS:

Research Results Transfer Office-  
OTRI  
University of Alicante  
Tel.: +34 96 590 99 59  
Email: [areaempresas@ua.es](mailto:areaempresas@ua.es)  
<http://innoua.ua.es>

## ABSTRACT

The research group “Materials and Construction Systems for Buildings”, from the Building and Urbanism Department at the University of Alicante, has developed a new system that significantly facilitates the placement of the horizontal bars in constructive elements of reinforced concrete due to its reduced size and weight.

The invention is characterized by being reusable, easy to place in any type of work and it can be handled by a single operator. Moreover, it is a simple, inexpensive system to manufacture and its use implies a considerable reduction in time and execution costs on site. The research group is looking for companies interested in commercial exploitation.

## TECHNOLOGY ADVANTAGES AND INNOVATIVE ASPECTS

The advantages of the proposed element are:

- **Avoid hand chalked.** The slots allow modulated and precise placement of the horizontal bars without the possibility of deviations.
- **Reduces labour** allowing its installation and operation by a single worker. The armours rest horizontally on the proposed system and the size and weight of the system are reduced.
- **Avoid resistant tying of armours.** It enables stable support of the horizontal reinforcements, preventing the initial tying to bear the weight of the bars.
- **Reduce the use of scaffoldings and increase workers' safety.** The operators can always work at ground level.
- **Avoid problems of space and security** derived from horizontal gathering of armours in the scaffolding.
- **Avoid the use of auxiliary means**, with a considerable saving of time and economic resources.
- **Avoid provisional shoring of armours** to allow a stable support of each bar on two points.
- **Easy and low cost production.** The system consists of parts of simple geometry and easily manufactured by companies in different sectors.
- It is **reusable**, thus reducing the total cost of the product required on site.
- Can be made with different size and shape which gives **great versatility**. It can be used in any type of work and for construction elements with different heights.
- **Easy transportation.** It is an easily stackable system with a reduced weight and size.
- **Quick and easy placing.** It decreases installation time without using additional machinery such as cranes.
- **Easy to use in welded armours**, preventing movements of the bars and facilitating the execution of welding.
- Gets a **plumb armed** with exact distances between armours.
- **Can be removed without causing harm or damage** to the basic structural element.

## MARKET APPLICATIONS

Construction and Building Products.

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## COLLABORATION SOUGHT

Companies interested in acquiring this technology for **commercial exploitation** by:

- Patent license agreements.
  - Technical cooperation agreements.
  - R&D agreements.
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