# ANNEX 3-B

## Case study

# COFRADAL 2000 SLABS ELEMENTS FOR OFFICE BUILDINGS

in Aix-en-Provence

The industry supply steel based mixed products, factory quality produced with efficient and precise design. COFRADAL 200 slabs components are ready to fix on site for a fast erection process. Combined with the performance of a steel framed structure it allows for wide open space that can be flexible and reconfigurable for client requirements and future changes in use.

# COFRADAL 2000 SLABS ELEMENTS FOR OFFICE BUILDINGS

Cofradal 200 is an innovative pre-fabricated slabs element. It is suited for light industrial and office buildings but can be used also in residential buildings.
The system is a prefabricated composite steel/concrete element, factory produced and ready to fix on the construction site. The elements comes completed with steel and concrete top and do not require any structural on-site concreting on the floor. Only few concreting is needed for embedding the support joint area and a light concrete top for circulation surface. This includes also no needs for propping on site, thus allowing for simple circulation on the construction site and rapid available area for stocking during construction process. This participates to the economy of the process by reducing death periods of works due to no needs for concrete curing.

The slab is twice to three times lighter than an equivalent usual plain concrete slabs. This allows for less frame sections and less ground foundations. It can be used for ground slabs provided that air circulation is effective and moisture is avoided beneath the slab. Cofradal 200 can be supplied without concrete top for an on site concreting if needed. This element is well suited for low and medium rise buildings.

**Producer/commercial:** **ARCELOR CONSTRUCTION**

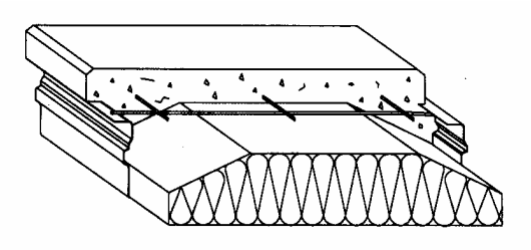
- **Application Benefits**
- Fast track construction
- Intensive use of steel components
- Simple construction process
- No stock on site, direct from the truck
- Less concrete on site
- No propping during construction stage
- Efficient for wide open space
- Highly energy efficient
- Environmental benefits
- Easily disassembled
- Low building cost

***Positioning of element on site. Fast construction process – intensive use of steel elements***

***Under site view of the finished slab. False ceiling will be provided for services.***

## *Construction Details*

Depth is fixed at a total thickness of 200 mm and weight 200 daN/m². One module width is 600 mm. Module of 1200 mm can be provided.



Cofradal 200 is composed of a galvanized profiled steel sheeting fy = 320 N/mm², Z275 zinc coating fitted with mineral wool and reinforced concrete top. Mineral wool provide for thermal insulation between levels if needed, acoustic resistance, and for the desired fire resistance.

**The elements** are supplied as composite steel concrete structural behaviour that has been optimised for long span and fire resistance.

For a 120' fire resistance the performance of the slab range from 2.5 m span for a live load of 800 daN/m² up to 7.5 m for a live load of 300 daN/m².

The profiled steel sheeting is the structural tensioned material. Special profiled formings are provided on both longitudinal edges to allow for a correct fitting and connection between two adjacent elements.

Normal concrete C30 (fck = 30 N/mm²) is used with RC bars welded on the steel sheeting.

This is a factory made product that allows for precise process and efficient product, ready to use on site.

Erection period is limited to a minimum.