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## VENTILATED FACADE BUILDING SYSTEM OF FOLDED SHEET WITHOUT FRAME

### Patent

ES2664768

### Code

CONSTR\_UAH\_05

### Application areas

- Industrial Manufacture, Material and Transport technologies



### Type of Collaboration

- Technical cooperation
- Commercial agreement with technical assistance
- License agreement

### Main Researchers

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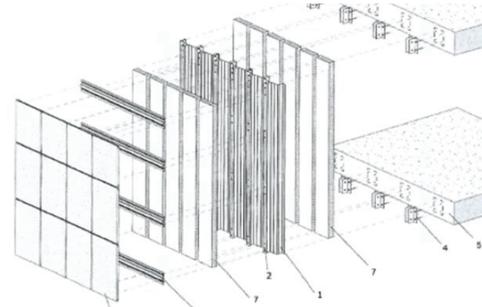
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### ABSTRACT

New ventilated facade system characterized by the incorporation of a folded sheet placed in the middle of the section, which acts as a structural element of the façade and holds the rest of the materials and constituents of the facade. The sheet is folded forming ribs on both sides of the sheet, strengthening the façade and producing suitable modulations for both fixing the outer finishing material and transmitting the loads (own weight and horizontal actions) to the structure of the building by means of fastening elements located in the edge of the floor slab.

With this ventilated facade system the overall mechanical stiffness of the façade is improved as a result of the inclusion of the folded sheet, increasing the mechanical resistance of the assembly against horizontal actions, especially those produced by extreme climate events, such as strong winds, earthquakes or other, increasing the postevent resilience of the facade.

The group looks for companies in the building sector and manufacturers of facade systems to sign technical cooperation agreements, commercial agreements with technical assistance and patent licensing agreements.

### ADVANTAGES AND INNOVATIONS

The invention does not require a structural frame, since the folded sheet forming ribs on both sides of the sheet endows the facade with mechanical stiffness giving the system the ability to transfer mechanical loads without the need of a specific structure.

Regarding the construction procedure of the facade, it facilitates the redesign of the facade regarding the structure of the building, since it allows the adjustment at the fixing points both in height and in the direction perpendicular to the facade by means of mechanical joints arranged in the side of the rib. The fixing system only requires adjusters in the horizontal direction contained in the facade plane, rather than the threedimensional adjusting systems required in conventional frame ventilated facades.

- Technical difficulty and reasonable implementation costs.
- The other facade elements can be fixed directly to the folded sheet.
- It allows to establish a modulation to the interior equal or different from the one of the exterior.
- Improves the overall performance of the facade and increases resilience during and after an extreme event linked to the effect of water or external horizontal forces, such as those produced by strong winds, hurricanes, earthquakes, etc.