

## **HTRANS, Multipurpose translucent concrete**

### **DESCRIPTION OF INVENTION**

Current translucent concrete is complex to formulate, rigid and with very limited geometries. High production costs caused by expensive materials needed, such as optic fiber, translate into high selling prices. The way of elaboration does not allow large formats or small thickness, meaning high weight. Because of a low structural resistance, the current translucent concrete needs auxiliary elements for its use on a panel format.

This invention meets the needs of different industries (such as construction or furniture sector), thanks to the design of a flexible material, multipurpose or polyvalent. We can easily introduce design elements and patterns without affecting the resistance or the production cost. This structure is formed by a platform with reinforcement elements, filling material and a frame.

The strengthening elements vary in width, conferring a better fixing and giving more stability against bending and torsion. The images obtained offer higher levels of definition, enhancing three-dimensional appearance. On the other hand, the frame can be translucent, transparent, photoluminescent, or opaque.

The structure of this invention can have permanent or intermittent lighting in any place, using either batteries charged with an external charger or with wireless charging technologies.

The three-dimensional structural frame can have any shape (cube-shaped, pyramidal, cylindrical, etc.), including different design specifications of any size or purpose.

### **BUSINESS APPLICATIONS**

- Construction industry
- Furniture and design industry as lamps or decorative elements
- Kitchen countertops
- Mosaic tile for bathroom and kitchen cladding
- Production of panels as cladding inside of buildings, including building's exterior
- Interior and exterior pavement
- Ceiling panels

### **TECHNICAL ADVANTAGES AND BUSINESS BENEFITS**

- Material that can be produced using different 3D printing technologies
- Resistant structural system, lightweight and multilayer with composite materials
- Weight reduction compared to other solutions (about 18% reduction)
- Reduction of costs on big formats (over 50% reduction)
- Finished with any type of geometry
- Patterns or images inclusion (numbers, objects, landscapes, portraits, etc.)
- Incorporation of lighting devices such as LEDs
- High flexibility on constructive operations
- Easy elaboration and automatization of production
- Makes transport and installation easier, reducing costs and carbon footprint

### **STATE OF TECHNOLOGY DEVELOPMENT**

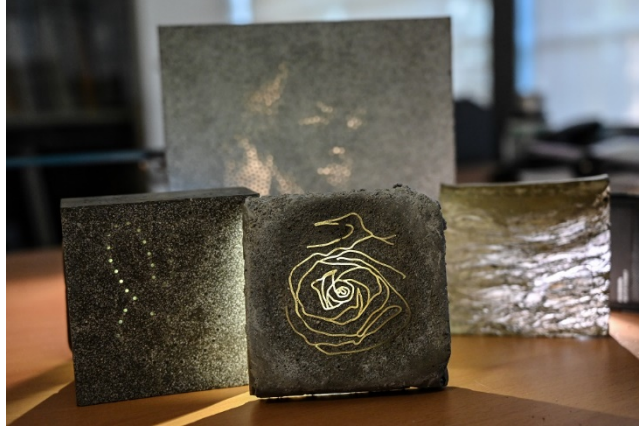
Laboratory Prototype

### **INDUSTRIAL PROPERTY RIGHTS**

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### **RELATED IMAGES**

### **HTRANS, Multipurpose translucid concrete**



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