

IMPULSOmetro. A challenge to security

Portable machine for carrying out soft impact tests on fragile materials with a variable mass and stiffness impact element.



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Technological Offers type

Technological solutions

Research and innovation areas

- Industry, Materials and Circular Economy

ODS



Available from: 2020

Where?

Projects and Quality

Keywords: | [glass](#) | [impact](#) | [Materials](#)

Brief description of the technology solution and the added value it provides

Patented device that simulates the application of the soft impact load in already installed safety glasses, being extendable to other fragile elements. The target sector is highly focused, with significant growth in the last five years. The human impact safety verification methods are supported by indirect measures while this solution is able to reduce glazing failures and reduce the replacement costs of broken elements.

Description of the technological base

It is possible to simulate the application of the soft impact load in already installed safety glasses, being extendable to other fragile elements, with this equipment. Besides incorporating a variable preload system and a tripping and retention system, it has an impact element, with heads of stiffness and variable mass that reproduce the frequency ranges associated with soft impacts, the impact areas, also variable, associated with soft impacts. It is also suitable for elements of large surfaces. Some of its advantages are: it is portable, being able to move to perform tests in situ and therefore with real configurations; it comprises computerized means to record the amount of impact movement and deformations of the specimens that are tested.

“It allows to simulate the application of the soft impact load in already installed security glasses, being extendable to other fragile elements”

Market demands

Construction

- It is a niche market with a significant growth in the last five years. The methods of verification of human impact security is supported by indirect measures.
- It is designed to verify in situ singular glazing, siding with various players:
 - Designer: obtaining data of real constructive configurations, without having to estimate through indirect measurements in the laboratory, or simulation programs that use estimated data.
 - Companies specialized in the design and construction of facades: register in real time the impulse applied to each impact.
 - Glass transforming companies: since market demands unique solutions, it is necessary to work with prototypes in which it is necessary to validate safety features.
 - Certification of laboratories: robust measures with high repeatability. It can be operated reducing the risk of workers.

“It allows the verification of the glazing designed in situ as well as getting results in real time, in safe conditions for the operators”

Competitive advantages

- Determination of direct measurements of equivalent load values.
- Reduction of glazing failures due to the indetermination of parameters.
- Decrease in replacement costs for broken items.

Development stage

- Concept
- Research
- **Lab prototype**
- Industrial prototype
- Production

Contact

Contacto Impulsómetro

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