Development of visual and mechanical sorting tools for the enhancement of structural sawn timber

Structural sawn timber intended for construction must offer similar guarantees to those offered by other materials and products intended for the structural construction sector. For this purpose, it is necessary to develop classification tools that allow manufacturers and marketers to certify the strength and stiffness values of all the wood that is placed on the market (adjusted to the species and origin that corresponds).
It is, in addition to being a legal obligation, a tool for the valuation of wood that is enabling a competitive improvement of its industrial network.

Technological development of structural sawn timber not only enables it to be directly promoted in the construction sector as a construction element, but also to be incorporated into the manufacture of technological products with high added value, such as glued laminated timber, duos, trios, CLT, prefabricated panels... These are high value-added products that require high levels of competitiveness that cannot be achieved without their main raw material, structural sawn timber, increasing its competitiveness, optimising its manufacturing times and its declared mechanical properties

Visual classification tools have been developed for the main commercial wood species found in Spanish forest stands, such as Pinus sylvestris, Pinus insigne, Pinus nigra, Pinus pinaster, Abies alba, Pseudotsuga menziesii, Quercus rubra, Castanea sativa and Eucalyptus globulus. Tools that in many cases enable the possibility of classifying structural sawn timber into three structural qualities, which allows the different qualities of wood that the timber industry places on the construction market to be classified and valued.
Mechanical classification systems are currently being developed for the main species of the Pinus genus. This is one more step in the competitive improvement of this type of wood, as it improves the classification times and the classifying performance in the different mechanical qualities.

Both developments have enhanced the value of the wood of the different wood species characterized, and have promoted its use in construction.

DETAILS

ORIGIN OF WOOD

Industry

TYPE OF WOOD

Stemwood

KIND OF WOOD CONCERNED

Pinus sylvestris, Pinus nigra, Pinus radiata, Pinus pinaster, Pseudotsuga menziessii, Larix sp, Quercus rubra, Abies alba

IMPACT ON ENVIRONMENT & BIODIVERSITY

Positive, it mobilizes wood with a proper forest management

INCOME EFFECT

Positive, more quality timber is mobilized

EXPLOITATION POTENTIAL

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HUB

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ECONOMIC IMPACT

Structural timber value increases in 10€/m3 approximately

SPECIFIC KNOWLEDGE NEEDED

Knowledge about Phisical-mechanical properties of wood. Harmonized rules

MOBILIZATION POTENTIAL

300,000 m3

SUSTAINABILITY POTENTIAL - VALUE

--

EASE OF IMPLEMENTATION

Very easy

EASE OF IMPLEMENTATION - EVALUATION

--

KEY PREREQUISITES

Experience on manufacturing and classification of structural timber

TYPE OF EVENT WHERE THIS BPI HAS BEEN FEATURED

--

JOB EFFECT

Positive through better competitiveness

COSTS OF IMPLEMENTATION (EURO - €)

--

needed

MORE DETAILS

CHALLENGE ADDRESSED

--

DOMAIN

Forest-based bio/circular economy

Wood construction industry

TYPE OF SOLUTION

--

KEYWORDS

--

DIGITAL SOLUTION

No

INNOVATION

No

COUNTRY OF ORIGIN

Spain

SCALE OF APPLICATION

National

START AND END YEAR

2011 -

CONTACT DATA

OWNER OR AUTHOR

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REPORTER

REFERENCES AND RESOURCES

MAIN WEBSITE

http://www.cesefor.com

PROJECT WEBSITE

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PROJECT REFERENCE

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RESOURCES

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