Mechanical structural classification for Pinus pinaster ssp. atlantica in the northern Iberian Peninsula approved by the European Normalization Committee.

Introduction

For the first time for maritime pine wood of Spanish origin, mechanical structural grading tools have been developed, which will allow maritime pine wood to be classified into C24 and C18 classes. Mechanical grading is based on the use of equipment for measuring physical and/or mechanical parameters in the wood, which allows different strength and stiffness values to be assigned directly, without the need to destroy or alter the wood or to carry out a detailed visual classification of the piece.

These machines are widely developed throughout Europe, as they optimise the mechanical properties to be declared, as they have excellent prediction levels, and greatly improve classification times. Despite this, they are practically non-existent in Spain.

Lessons learned

During the process, it was found that the maritime pine wood obtained resistance classes: C30, C27, C24, C18 and C16, which allow the industry's resource to be optimised to the maximum.

It was also found that mechanical grading with respect to structural visual grading improves yields. Specifically, with respect to the visual classification stipulated in the Spanish standard UNE 56546, the mechanical classification improves performance by 30 % with respect to the visual classification.

It was also found that although the UNE-EN 56544 standard only allows classification for maritime pine C-27 and C-18, with the mechanical classification it has been possible to classify up to C30, which also means an improvement in mechanical properties.

For further information contact

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Further information

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