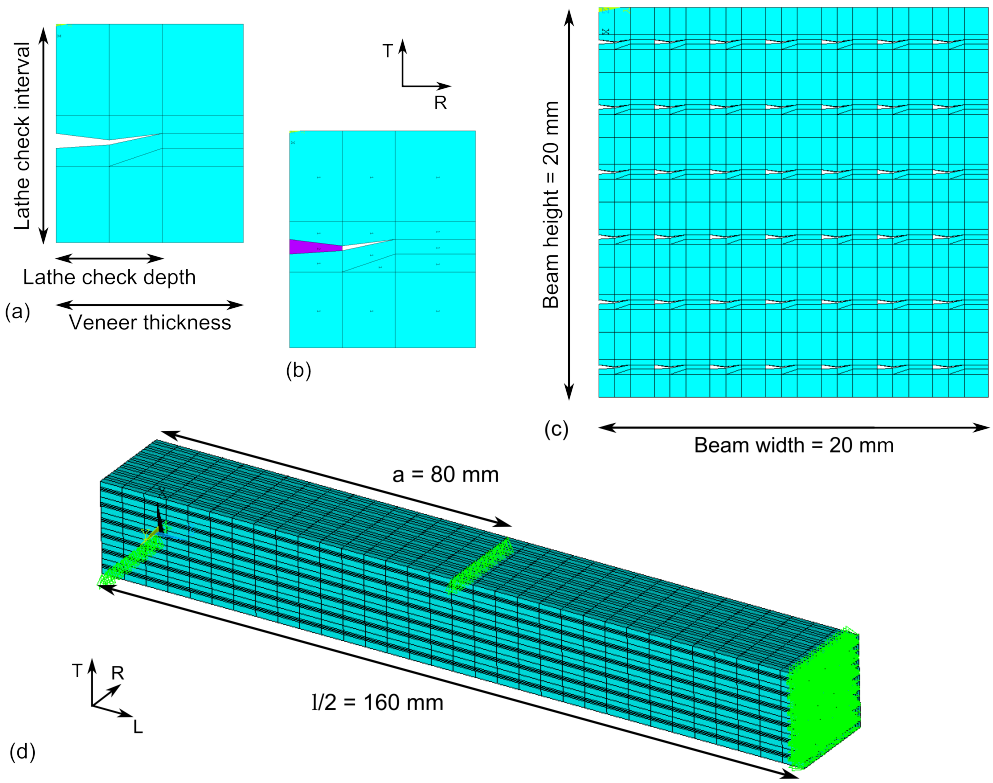
Laboratoire Bourguignon des Matériaux et Procédés

LaBoMaP Wood Materials and Machining *Topic 2 WMM*

Topic 2: Characterization and investigation on mechanical properties of wood and engineered-wood products

The WMM team also conducts researches on the study and characterization of mechanical properties of wood and engineered wood products derived from peeling (plywood, Laminated Veneer Lumber (LVL)) or from sawing (Glued and Cross Laminated Timber). The approach consists into performing experimental characterization and modeling the mechanical behavior of wood or engineered wood products from non-destructive measurements.

- The WMM team carry out research on the influence of the process on the mechanical characteristics of LVL. The aim is to optimize the process in order to take advantage of the abundant forestry resources in secondary quality hardwood with High Environmental Quality (HEQ) while ensuring optimal mechanical properties for LVL. This engineered wood product has a considerable potential for development to answer the needs of wooden building industry (possible large dimensions, adaptable geometry, higher mechanical resistance than solid wood).



- Developing solutions for machine timber grading is the latter topic of the LaBoMaP WMM team. Actually, the prediction of the modulus of rupture (MOR) of sawn timber with non-destructive methods is a major scientific problem especially for heterogeneous species (Douglas, Oak). The WMM team works on mechanical modeling of sawn timber, also with large experimental campaigns, in the framework of the ANR MATEPRO 2011- CLAMEB project (Wood non-destructive mechanical grading) coordinated by AMVALOR, and CDUBOBI regional project (mechanical grading of oak).