

## Development of Fire-Resisting Wood Structural Elements for Buildings Including a Self-Charring-Stop Layer within Three-Layer Glued Laminated Timber

In the past, Japanese cities had experienced many large fires since the major portion of constructions were built using wood. Therefore, because of the strict law on fire protection that was enacted in 1950 in Japan, using wood for buildings with highly-required fire resistance was not possible until 2000. Then, the law was amended and restrictions were relaxed. On the other hand, in recent years, use of wood has attracted all over the world more attention as forestry contributes to the reduction of greenhouse gases by CO<sub>2</sub> fixation. In such context, we initiated a program to develop new products that make the construction of wooden buildings possible in cities. A novel product has been developed resulting, since last year, in fire-resisting wood structural elements (columns and beams) for buildings. It is made of glued laminated timber and non-combustible material composed of three layers including a self-charring-stop layer, and has already been applied to a new office building in Osaka and a wooden shopping center in Yokohama.