

파라포름알데히드 處理에 의한 상수리나무 乾式纖維板의 材質改良

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Upgrading the Quality of Silk Worm Oak (*Quercus acutissima* Carr.) Fiberboard through Paraformaldehyde Treatment by the Dry Forming Process

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Summary

This study was carried out to determine the possibility of making fiberboard through the dry forming process, utilizing the tannin-like material of the Asplund pulp from the silk worm oak as a binder.

The fiberboard was made through paraformaldehyde treatment, spray of NaOH solution and adjustment of mat moisture content, by hot-pressing at 220°C, and 50-6-50 kg/cm² pressure with 6-min. (0.6-1.8-3.6) three-stage pressing cycle.

The results are summarized as follows:

1. The modulus of rupture value of fiberboard treated with NaOH solution was greater than that of untreated. The value was increased in proportion to the paraformaldehyde content from 1 to 5%, but there was no increasing between 5 and 7% paraformaldehyde content. The value became higher along with the increase of mat moisture content from 15% to 25%.
2. The water adsorption of fiberboard treated with NaOH solution was lower than that of untreated. The value was decreased in proportion to the paraformaldehyde content from 1 to 5%, but there was no decreasing between 5 and 7% paraformaldehyde content.
3. A good quality fiberboard (modulus of rupture value of about 250kg/cm²) was made through 5% paraformaldehyde treatment and 3% treatment of 10% NaOH solution, when the mat moisture content was 25%. ■