

簡易 處理法에 의한 坑木의 耐腐効力에 關한 研究

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Studies on the Effect of Diffusion Process to Decay Resistance of Mine Props

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Summary

This study has been made to make an observation regarding present status of the coal mine props which is desperately needed for coal production, despite of great shortage of the timber resources in this country, and investigate the effects of diffusion process on the decay resistances of the mine props as applied preservatives of Malenit and chromated zinc chloride.

The results are as follows.

1. Present status of the coal mine props

Total demand of coal mine props in the year of 1975 was approximately 456 thousand cubic meters. The main species used for mine props are conifer (mainly *Pinus densiflora*) and hardwood (mainly *Quercus*). Portions between them are half and half. With non fixed specification, wide varieties of timber in size and form are used. And volume of wood used per ton of coal production shows also wide range from 0.017 cubic meter to 0.03 cubic meter.

2. Decay resistance test

- a) The oven dry weight decreased between untreated specimen and treated specimen has not shown any significantly, although it has shown some differences in average values between them. It may be caused by the shorter length of the test.
- b) The strength of compression test between untreated specimen and treated specimen has also shown the same results as shown in case of weight decrease. Reasons assumed are the same.
- c) The amounts of the extractives in one percent of sodium hydroxide (NaOH) between untreated and treated specimen have shown the large value in case of untreated specimen than that of treated.

3. The economical benefit between untreated and treated wood when applied in field has seen better in long term base in case of treated wood, although the primary cost of treated wood add a little bit more cost than that of the untreated wood. ■