浸漬處理法에 있어서 木材含水量이 塩化亞鉛 吸收率에 미치는 影響

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A Study on the Effect of Moisture Content of Wood upon the Absorption on Zinc Chloride Solution

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Summary

This experiment has been made to investigate the absorption of watersoluble zinc chloride by *Pinus densiflora* S. et Z. at different moisture content, under soaking process, to decide the optimum content condition for the maximum absorption of zinc chloride by the wood tested and to investigate the concentration of zinc chloride affecting each moisture content of wood. Material was cut in the Dept. of Forest, College of Agr. S.N.U. Suwon, Korea.

Sample was divided into sap and heartwood group and cut 2x2x2 cm in size, having exact three dimensions, using the part of D.B.H. The numbers of sample were 20 pieces for each moisture content condition for both sap and heartwood. Especially, the samples were protected from exposure to keep moisture content in green condition. The ranges of moisture content tested were as the table 3 and 4.

The conclusions were as follows:

1. With 3% zinc chloride solution, the rate of absorption decreased with the time increased, if the air seasoned Korean red pine (*Pinus densiflora* S. et Z.) was treated in steeping process. Initial absorption for 30 minutes was more than 50% of total absorpon for 24 hours.
2. Rate of absorption was same under the green condition, while rate of absorption under the moisture content 7 to 30% varied.
3. Although it was not quite proportional change in the absorption with the difference of moisture content, the great change in the absorption occured by seasoning. With exception sap green condition, sapwood twice more permeable than the heartwood in the ovendried condition and it has been observed the nearly same amount of absorption at the moisture content of 7%, 10% and 15% respectively in heartwood.
4. It was better from water in wood from view-point of absorption of zinc chloride solution, but it was difficult practically to obtain the smallest moisture content, and then it was decided that values of allowable moisture content, on the basis of mean absorption, were 15% to 20% in the sapwood, and in the heartwood, 10% to 15%. The mean absorption for each moisture content in the sap and the heartwood were as following.

Ratio of absorption

Oven dry	7 %		10 %		15 %		20 %		30 % 25 %		Green con.	
Sap. Heart	S.	H.	S.	H.	S.	H.	S.	H.	S.	H	S.	H.
M. C 89.77	75.24	42.55	66.05	37.69	56.08	35.85	52.89	32.47	34.76	21.26	4.4	4.1

5. In general, the concentration of zinc chloride after steeping was nearly same between moisture content and sap and heartwood respectively. ■