ONLINE ISSN : 1880-7577
PRINT ISSN : 0021-4795

Mokuzai Gakkaishi
Vol. 54 (2008) , No. 2 p.93-96

[PDF (315K)] [References]

Simulation of the Drying Process Using Temperature in Wood as Calculated from Moisture Content

Joo Hoon Song[1)2)] and Tetsuya Nakao[1)]

1) Graduate School of Science and Engineering, Shimane University
2) Present Address:Graduate School of Agricultural and Life Sciences, The University of Tokyo

(Received April 2, 2007)
(Accepted November 14, 2007)

Abstract: The three-dimensional diffusion equation was solved by the finite difference method, and then the moisture content of structure lumber during drying was calculated. The moisture content was converted into relative humidity. It was assumed that the temperature in wood was equal to the wet-bulb temperature. The change of moisture content was calculated by using the average temperature in the wood. As a result, the diffusion coefficient at various temperatures in the process of intermediate temperature drying became the most constant value. Moreover, a corresponding experimental result for temperature was obtained in the process of high temperature drying.

Keywords: diffusion coefficient, finite difference method, wet-bulb temperature

[PDF (315K)] [References]

Download Meta of Article[Help]
RIS
BibTeX

To cite this article:
Joo Hoon Song and Tetsuya Nakao: Mokuzai Gakkaishi Vol. 54, No. 2, 93-96 (2008) .

doi:10.2488/jwrs.54.93
JOI JST.JSTAGE/jwrs/54.93