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Sound Absorption and Mechanical Properties of Porous Stampable Sheet

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Synopsis :

It was found that the sound absorption and mechanical characteristics of porous mold could be controlled by the selection of moderate glass fiber (GF) content, sheet density and sheet thickness. With an increase in polypropylene (PP) content, the compressive strength was enhanced, however, at a high PP content, voids were filled with PP and the sound absorption characteristics deteriorated. The sound absorption characteristics of the porous mold were correlated well with the specific flow resistance and were maximized when the specific flow resistance was set at the range of 350 to 500 Pa s/m. If the GF content, the density and the thickness are suitably selected, the porous mold shows good sound absorption characteristics, comparable to those of glass wool boards, as well as good mechanical properties, exceeding those of glass wool boards.

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The body can be viewed from the next page.

Sound Absorption and Mechanical Properties

of Porous Stampable Sheet*



Synopsis:

It was found that the sound absorption and mechanical characteristics of porous metal could be controlled

7 Relationship between Flow Resistance and

ficient based on the tube method described in JIS A1405⁹⁾. The equipment used to measure this coeffi-

Sound Absorption

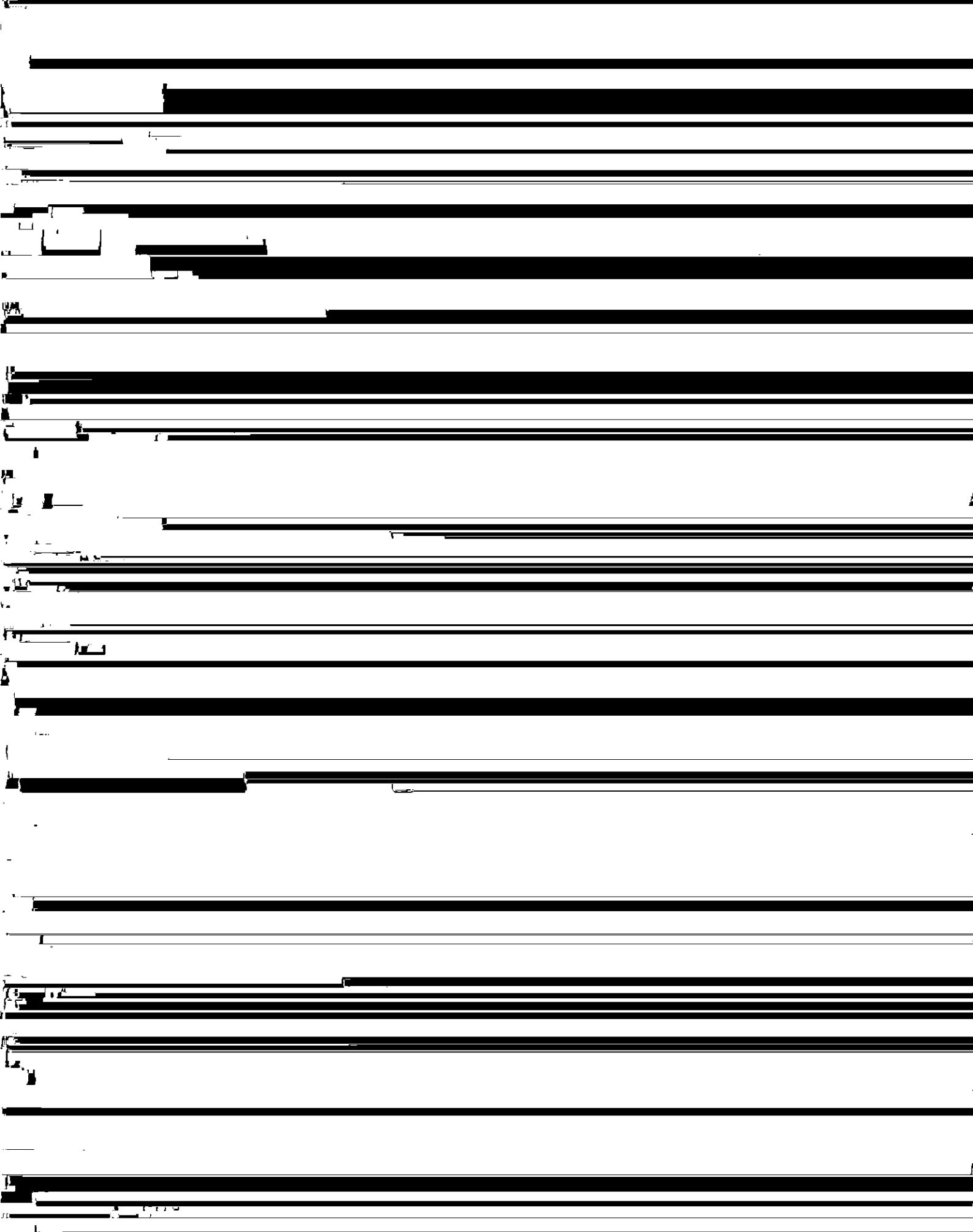
It has been reported that the sound absorption of

air gap was installed from the bottom of a sound tube whose one end was sealed, and a sample formed into

used. These porous molds and glass-wool boards were formed into disks with a diameter of 50 mm and a thickness of 50 mm to prepare test pieces. The test pieces

Porosity





[REDACTED]

[REDACTED]

[REDACTED]

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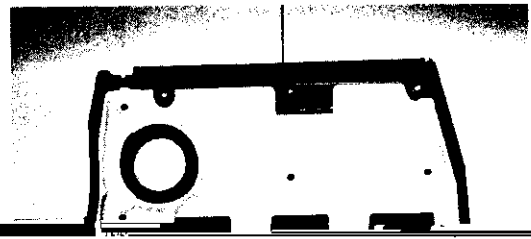
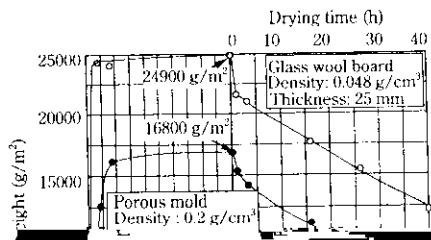
[REDACTED]

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[REDACTED]

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7 Conclusion

- (4) It is expected that porous molds will be used in an increasing number of applications in fields such as the automobile and construction industries.

molding of stampable sheets manufactured by the paper making process have excellent properties of

to Prof. Masaru Koyasu at Chiba Institute of Technology for his kind guidance in conducting this study