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STRUCTURAL PARTICLEBOARD

Everyone seems to be asking: What is structural particleboard? Maybe I can answer that question. Over a large part of the United States structural board is that conforming to Type 2, Density B, and Class 1 of Commercial Standard CS236-66, because three of the leading building codes accept this type board as a structural material in the thicknesses each code specifies. Anywhere in the country where another code would not prohibit its use, a residence built with board conforming to Canadian Standard 0188 will be financed by the Federal Housing Administration. In New Jersey, the State Code and FHA both accept the Canadian Standard for specifications and the Canadian Code for Residential Construction for thicknesses. Several codes have accepted various boards for combination wall sheathing and exterior finish material. All boards used under these acceptances must be made with a binder that can withstand accelerated aging tests according to ASTM D 1037-64 and are therefore generally phenolic-bonded.

In 1973 about 94 million square feet (on a $\frac{3}{4}$ -inch basis) of accepted structural particleboard was installed in Canada and the United States. About 14 million of this was in roofing, 72 million in floors and walls, and about 9 million in miscellaneous products. With this volume of use, structural particleboard is not just a dream, suggestion, or idea—it is a reality. Why, then, all the discussion, planning, and questions about it?

First, the presently accepted boards require thicknesses for some installations that make their use impractical and noncompetitive with other sheathing materials. Second, the approved specifications now in force do not include some properties that responsible groups, such as the National Particleboard Association, FHA, and the Forest Service Task Force on Particleboard, feel are needed to describe this structural material and that need further research to define correctly. Some of these are creep, impact, edgewise and interlaminar shear, etc. And third, the boards need to be further engineered to permit thinner panel installations, and therefore lighter weight panels, while still maintaining a safe and satisfactory material.

“Safe and satisfactory”—these words are the stimuli behind much of the discussion, research, and calculations now in progress. How much strength can a board lose if exposed to weathering? In normal use this exposure might be a day or week, but what if one man leaves it out for 3 months in the rain? Would it still be safe and should we expect it to be? What impact strength do we really need in sub-floor underlayment combination material? Enough to withstand a 70-pound boy jumping out of his upper bunk or a 250-pound carpenter hopping off the last three steps of his ladder? One acceptance group lets a board be installed over studs 16 inches on center if $\frac{1}{4}$ inch thick while another says the board must be at least $\frac{3}{8}$ inch thick, and the two boards being considered are almost

exactly alike in physical and mechanical properties. At this time I doubt if we can prove either decision exactly right or wrong.

Structural particleboard is here but it hasn't quite arrived yet. The members of our Society, working with engineers, producers, marketers, and users of this new

product can contribute much towards its ultimate complete acceptance.

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NOTICE TO CONTRIBUTORS

Production costs of *Wood and Fiber* continue to rise, and have again reached a level where financial losses dictate a change in fiscal policy. It is strongly felt that publication costs must be kept as low as possible to reduce the possibility that authors with modest financial backing will be discouraged from publishing their work.

Therefore, beginning with manuscripts received after 15 September 1974, the 100 free reprints will no longer be given those who pay the page charges. In addition, the price of reprints themselves is being increased above cost so that, for the first time, a modest income to the journal will be possible. It should be pointed out that our printer has been forced to raise reprint prices to us as well, so the total increase is larger than originally intended.

It is hoped that the change in reprint policy will allow us to keep page charges at their present level of \$40.00 per page for at least the near future, so that page charges are not a barrier to publication. Our authors and their institutions are to be congratulated for the manner in which page charges have been honored, thus relieving the society of unnecessary financial difficulties and enabling our page charges to remain at a comparatively low level.