

ALIEN PROPERTY CUSTODIAN

PROCESSES FOR THE MANUFACTURE OF FIBRE BOARD

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This invention relates to a process for the manufacture of wood fibre boards and the object of the invention is to provide a simple and cheap process for the manufacture of hard boards, which, although readily available and inexpensive materials only are used, are of good quality and, in particular, have a good appearance.

In recent times increasing attention has been paid to the manufacture of hard wood-fibre boards but a board which can be considered to be an equally good substitute for wooden boards has not yet been successfully produced. Further, it has not yet been possible to use wood waste for the manufacture of such boards since if such waste wood is used the surfaces of the boards do not satisfy the requirements which have to be met. It is true, however, that this disadvantage could be obviated by using artificial resin as the binding agent for the wood waste. But the use of artificial resin in the manufacture of the entire boards leads to an unnecessary and undesirable consumption of this valuable material quite apart from the fact that the boards which are made with the use of such a large quantity of artificial resin are extremely expensive and uneconomical.

It has now been found that it is possible to produce hard fibre boards of which the surfaces satisfy all the requirements which they have to meet without the necessity for using artificial resin alone as the binding material. According to the invention, wood fibre chips, wood wool or wood waste of any kind are mixed with a binding agent of any suitable kind, then pressed into the form of boards between paper webs or sheets which are coated on the outside with a binding agent, for example an artificial resin, which has been beaten into the form of foam, after which the paper webs or sheets are stripped from the boards, which may be of any desired shape and thickness.

Since in the above-described process the surfaces of the boards are formed by the artificial resin which penetrates from the outside, artificial resin need no longer be used as the binding agent for the boards themselves but ordinary vegetable albumen or the like, for example, can be used for this purpose. When the boards are made by the process of the present invention the surfaces of the boards are extremely hard since the paper webs or sheets allow the artificial resin with which they are coated to permeate through them but retain it at the surface of the boards where it forms a very hard surface.

The attempt has indeed previously been made

to impregnate boards of fibre paste in such a way that the hardening agent penetrated only into the outermost layers but these attempts did not lead to the production of a useful product because it was not possible to obtain a uniform impregnation of the surface of the boards. This was largely due to the fact that asphalt was mainly used as impregnating material. It has now been found, however, that it is possible uniformly to impregnate the surface in an extremely practical and simple manner if an intermediate carrier is used for the impregnating agent, the carrier being removed after it has fulfilled its purpose. In the process of the present invention this intermediate carrier is the paper web or sheet upon which the impregnated material is spread. When the boards are pressed the impregnating agent penetrates through the paper into the surface of the fibre board to be formed. After the board has been pressed therefore the binding agent is no longer present in the paper web or sheet but permeates the surface of the wood fibre board. Consequently the intermediate sheet or web can be removed, for example it may be simply stripped or ground off.

With the process of the present invention, therefore, an inexpensive binding agent is used and a kind of film is formed on the surface of the board produced, which film, owing to the use of a suitable impregnating agent, produces a hard surface on the board. The paper is so thin that it carries only a thin skin of the external binding agent which, after the pressing process, is transferred to the board owing to the effect of the heating.

The use of a paper web or sheet as the carrier of an impregnating agent is known per se but with the fundamental difference that the paper web or sheet remained, after the board was formed as an inseparable constituent of the final product and did not give up the impregnating agent to the board itself. The paper therefore formed part of the final product while when the process of the present invention is employed the paper is applied only temporarily.

The application of the binding agent to the paper web or sheet can be effected by spraying, for example by means of a paint sprayer or the like. Instead of spraying the binding medium, it is also possible, however, to apply the binding medium by pressure during the pressing process for which purpose calenders of known kind can be used.

Ordinary paper can normally be used as the

paper web or sheet because it is only temporarily applied and is removed later.

The finished boards have all the properties of ordinary wooden boards, such as ply boards; they can be sawn, milled, tongued and grooved in exactly the same way as wooden boards,

screws can be screwed into them and nails can be driven in. The surfaces are so smooth on both sides that the boards can be used for the same purposes as planed boards or veneered sheets.

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