

ALIEN PROPERTY CUSTODIAN

PROCESS FOR THE IMPREGNATION OF ALL KINDS OF WOODS

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It is known that the intermediate fractions of tar distillates are used for the purpose of preserving wood. The impregnation oil must be of such a nature that, even after the impregnated wood has been in use for years, there is still a sufficiently large portion of the oil originally introduced into the wood, to exclude the agents which destroy the wood. The heavy pit coal tar generally used to-day for the preservation of wood is one of such tar distillates. In addition to pit coal tar, other tars with different composition and properties which are produced by the dry distillation of certain organic substances, such as lignite, wood, peat and bituminous shale are used for the purpose of wood impregnation. By the repeated distillation of these raw tars or by chemical treatment, tar distillates are obtained therefrom of which, however, only the intermediate fractions are used as impregnating oils.

The regulations which the large consumers of impregnating oils, namely the railway and postal administrations of the different countries, have drawn up regarding the properties of these oils, are of particular importance.

It is also known that, owing to the lack of tar oil and other suitable oleaginous impregnating substances which are not available in sufficient quantities in many countries, it has been endeavoured to use mineral oil in the art of the preservation of wood. For this purpose mineral oil or heavy volatile mineral oil distillates are mixed with antiseptic-acting substances, chiefly with pit coal tar or pit coal tar oil or with both pit coal tar and pit coal tar oil. It has also been proposed to incorporate antiseptic-acting organic or inorganic compounds in the mineral oil or its distillates.

It has now been found that, for the impregnation of woods of all kinds, tar distillation residues of any origin can also be used, especially in combination with water-soluble impregnating substances which are difficult to lixiviate. Those residues come into question as tar distillation residues which are obtained when raw tars are distilled from pit coal, lignite, wood, peat or bituminous shales at 250° C. Mineral oil products also come into question.

It has been found that the tar distillation residues which are viscous in cold state represent, at a suitably increased temperature, a relatively

thin liquid impregnating oil which penetrates well into the wood under pressure.

These tar distillate residues have only a slight fungicidal effect. Consequently an agent having a strong fungicidal effect is used in addition to this inferior oil for protecting the wood against the attack of fungus.

According to the invention the wood is provided with an oil-containing water-repellent coating a few centimetres in thickness, whereas the highly poisonous substance, for example thanalith U, deposits both in the interior of the wood and also in the oil-containing coating zone.

The process can be carried out in various ways:

(1) Impregnation of the wood with salt solution; removal of the wood from the steeping vessel and allowing to dry. Again running the wood into the steeping vessel which is then charged with oil, after which the oil impregnation takes place.

(2) Running the wood into the steeping vessel; impregnating with the suitable pre-heated oil according to the known process. Subsequent evacuation to remove as far as possible all excess oil from the wood and then pressing the aqueous salt solution therein.

(3) Pressing in the aqueous salt solution immediately followed by oil impregnation.

In carrying out experiments it has been found that, to introduce only a small quantity of oil per cubic metre for the purpose of forming the oil coating zone, a relatively high air pressure must be exerted on the wood at the beginning before it is possible to commence the subsequent pressing of the oil.

Experiments carried out for example with beech sleepers, showed an absorption per cubic metre of 50 kilogrammes of oil and 200 kilogrammes of thanalith U solution in the case of a total saturating period of about 4 hours.

By the above described process which consists subsequently in a double saturation with oil and Wolman salt, it is possible to use either alone or in mixtures the distillation residues of oily character and of any origin which were hitherto unsuitable for the impregnation of wood, and to render available for other purposes the valuable heavy oils hitherto used for this purpose.

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