

ACTIVATED CARBON FROM HARDWOOD LIGNOCELLULOSE

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Lignocellulose is a by-product of furfural production and 2/3 of the left - over lignocellulose is used as a fuel in a boiler house and the rest 1/3 could be used as a raw material for activated carbon production.

The left - over lignocellulose possessing good self-binding properties was studied as a potential raw material for production of a high-density sorbent in the granular or palletised form characteristic of a sufficient crushing strength for industrial use. The experimental specimens were carbonised at temperatures up to 600°C (charcoal yield up to 50% on the o.d. lignocellulose basis) and activated by superheated steam at 850 to 950°C. The apparent density of the carbonised panels was 0.950 – 0.980 g/cm³. All activated carbon specimens were microporous ones, since 69.5 to 86.8% of the total pores is comprised by micropores.

Thus, the activated carbon prepared by short-term activation has properties of high-density microporous sorbents appropriate for purifying the gaseous medium. The technology of processing fine-grained hardwood lignocellulose is environmentally friendly and energetically self-sufficient.