

## **TOXICITY REDUCTION AND SHORTENING PROCESS OF GLUING PLYWOOD AND PARTICLEBOARD BY MODIFYING ADHESIVES**

Anatolii Chubinskii, Galina Varankina, Kirill Chauzov

### **ABSTRACT**

*Reducing the toxicity and shortening of the manufacturing process of plywood and particleboard - these are the main tasks for a manufacturer of wooden materials. Modification of urea - and phenol-formaldehyde resins shungite and aluminosilicates sorbents can solve these problems.*

*Introduction of these adsorbents in the adhesive compositions reduces formaldehyde emission by absorbing the latter and accelerates curing of the adhesive by the action of alkali metal oxides.*

### **REFERENCES**

- Chubinskii, A.N. Kazakevitch, T.N. (1992): Softwood plywood gluing at lower temperatures. Wood processing industry, № 4, p.3- 4.
- Chubinskii, A.N. Varankina, G.S., Brutyan K.G. (2007): Improving plywood technology. Saint – Petersburg Forest Technical Academy Proceedings, vol. 179, St. Petersburg, p.167-175.
- Patent for invention № 2437911.RU on March 27, (2011): " The adhesive composition ." Authors: Brutyan, K.G., Varankina, G.S., Chubinskii, A.N., Redkov, V.A., Kondratiev, V.P.
- Chubinskii, A.N., Varankina, G.S. (2013): Formation of low toxicity chipboard using modified adhesives. Forest Journal. № 6, p.67- 72.
- Chubinskii, A., Varankina, G.S. (2103): Modification of urea - formaldehyde resins shungite sorbents. Development and modernization. Bihac: University of Bihac, p. 207- 211.
- Lugovskaya, I.G. (2007): Mineralogical and technological evaluation criteria of the fine ore and non-metallic minerals . Author's abstract of thesis for the degree of Doctor Technical Sciences. Moscow, - 48 p.
- Mosin, A.V. (2012): New natural material shungite in water treatment . Plumbing . Heating . Air conditioning ,№3. M., www. C-O-K./articles/novyiy-prirodnyy-mineral-shungit v-vodopodgotovke.