

## Regulation of colloidal structure and adhesion-strength properties of bitumen insulating materials

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### Abstract

**Background:**The main objective of study is to develop a BIM to prevent for a long time the processes of electrochemical corrosion. So, in this paper physico-chemical material provided to control at different stages of the technological process. **Methods:** The regulation of composite bituminous material properties are carried out in accordance with the main provisions of physicochemical mechanics. In this paper it is regulated by directional adjustment of their spatial dispersion structure and the change of the disperse phase particle sizes. **Results:** In accordance with the modern concepts, oil and oil products are considered as complex polymolecular dispersion systems differing by the ratio of components that are included into supramolecular structures, solvation shells, forming "a complex structural unit" (CSU). The association of molecules, the appearance of supramolecular SSS structures takes place due to the intermolecular forces of reacting molecules. Among the most common ways of colloid - chemical dispersion of bituminous materials is the compounding technology of highly molecular compounds, such as elastomer - an atactic polypropylene (APP), stereo irregular: [-CH<sub>2</sub>-CH (CH<sub>3</sub>)-]n. In this paper a novel approach developed for regulating the colloidal structure and adhesion-strength properties of bitumen insulating materials to achieve its optimal performance. **Conclusion:** Polymer bitumen have a wide range of operating temperatures up to 100 °C. With the addition of elastomers in bitumen, its viscosity increases and its elasticity improves.

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### Keywords

Bitumen insulation material, Dispersion state of polymer systems, Elastomer, Particle size, Strength