

Analysis of the Conditions of Mechanical Destruction of Clathrate Hydrates Using the Graphoanalytical Mohr Method

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Received: January 26, 2025

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Abstract. The article considers the mechanisms of mechanical destruction of clathrate hydrates. To determine the conditions of destruction, the hydrate is considered as a quasi-brittle body with insignificant plastic deformation during destruction. The possibility of using Mohr's graphoanalytical method to determine the critical values of tangential stresses arising under complex-stressed volumetric action during destruction by the method of pressure reduction (depression dissociation) is shown. The application of Freudenthal's theory with the presence of a critical defect in the material as a basis for forming an understanding of the relationship between the strength of the material and defects and the mechanics of hydrate destruction as a quasi-brittle material is also considered.

Citation: Rev. Adv. Mater. Technol., 2025, vol. 7, no. 1, pp. 10–17

View online: <https://doi.org/10.17586/2687-0568-2025-7-1-10-17>

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