

Abstract Submitted
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Growth of defining relations of beryllium IGNATOVA OLGA, RAEVSKY VICKTOR, NADYOZHIN SERGEY — The paper presents the results for construction of defining relations of beryllium. The phenomenological elastic-plastic relaxation model is utilized to calculate the deviatoric component of a shear stress. A spherical component of stress tensor is expressed through the equation of state of state in the form of Mie-Gruneisen. Melting temperature dependence on density is determined on the basis of the equation of Lindeman. The model takes account of strain hardening and compression hardening, thermal softening, stress history, as well as relaxation of elastic stress. The parametric identification of equations was implemented based on the great number of experiments: static compression-tension diagrams, created at various temperatures; split-Hopkinson bar method; Taylor method; recording of free surface velocity via laser interferometer VISAR; method for recording of perturbations growth; method of principal stresses; measurements of shock wave thickness; measurements of shock-wave compressibility.

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