UDK 621.643.2:662.767

HEPOJOKI,ANTTI and HOSIA, LAILA, The installation of the natural gas pipeline across the River Vuoksi. Rakenteiden Mekaniikka 7 (1974) 4, p. 179...196.

   In the article the writers describe four possible methods of submersion of the natural gas pipeline across the River Vuoksi and present the relevant calculations.

   The safest submersion method turned out to be the lowering of the pipeline from pontoons with the aid of tackles, this enabled to control continuously the position and behaviour of the pipeline. The pipeline was submerged by using this Finnish method which proved to be practicable.

UDK 624.073:624.014.2

RIIKONEN, ILKKA, A trapezoidal box as the stiffener of the compressed steel plate. Rakenteiden Mekaniikka 7 (1974) 4, p.197...208

   The suitability of the trapezoidal box to the stiffener of the compressed steel plate is researched in this paper. The effectivity of the stiffener is described by a dimensionles number ε, which is derived and presented graphically as the function of the geometrical parameters of the panel cross section.

   The derivation of the stiffening effectivity parameter is carried out to the wide column using flight structure analysis methods, but it is found useful also in the preliminary design of the steel plates supported along all edges. The stiffening effectivity of the box stiffener is found about equal to that of the T-type stiffener and choice between these two should be done taking into account manufacturing technique in each application.

ÄYSTÖ, PENTTI, Flexural torsional stability of restrained inelastic beam-column including sway (PA) effect. Rakenteiden Mekaniikka 7 (1974) 4, p. 209...226.

   In this paper a numerical method is presented to study the flexural torsional stability of restrained inelastic beam-columns. The loading can consist of normal force, bending moments and horizontal loads at the ends of the beam-column. The ends may be restrained by rotational and directional springs. The residual stresses are included in the analysis.