The GIST of Thermal Stresses of Cast Iron Castings

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This paper deals with problems concerning to the lifetime of thermal-stressed castings used in general practice. It is necessary to know in details the purport of thermal-stress of cast iron as well as conditions of the thermal-stress (the level of operational temperature, or its fluctuations, i.e. thermal duty cycle) for the right choice of chemical composition and structure (macro and micro) of a material. The successful solution of this problem is now provided by means of computer (simulation programs), including optimization of construction of components (castings). It requires comprehensive theoretical analysis of the purport of the thermal stress i.e. impact of various physical parameters to its origin, course and size.

Keywords: cast iron, heat stress

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