Monitoring Methods the Properties and Structure of Grey Iron Castings

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Flake graphite cast irons are very used construction materials, which are characterized by good sliding and damping properties. Graphite and character matrix affects the properties of cast iron. It is also important to the size distribution of the graphite. Compressive strength graphite cast iron with lamellar graphite is very good , is 3 to 4 times greater than the tensile strength. The various types of cast iron with lamellar graphite is possible only in the tensile strength. Flake graphite cast iron are widely used in mass production where they use their good casting properties. With sophisticated sand moulds can produce a very complex shape castings with excellent mechanical properties and relatively low production costs. For this reason, cast iron with lamellar graphite are constantly used in the automotive industry for blocks, heads, engines, brake drums and discs, insertion loss cylinders, piston rings. At our department of Engineering Technology, Technical university of Liberec (Czech Republic – Europe) has long been focused on prediction methods of production quality castings for the automotive industry.

Keywords: Grey cast iron, Structure, Prediction quality, Mechanical properties, Simulation

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