

Małgorzata Ostromęcka: The Microstructure of Cast Iron and Its Evaluation during Microscopic Examination of Railway Products

Cast iron is one of the most widely used materials in mechanical engineering. This material is connected with the railways from the very beginning, as the first rails were made of iron. Currently, cast iron is mainly used in brake blocks, elements of locomotive engines, in weights that tighten the electric traction line, or in the anchors which are an element of fastening the rail to the concrete sleeper. This is due to the relatively low cost of cast iron production, low melting point, good mechanical properties and relatively good machinability. The article describes the specifics of the material in the context of the structure of the material microstructure, the methodology of preparation and microscopic examinations and the evaluation of their results.

Keywords: cast iron, microscopic examination, sample preparation, graphite classification, visual analysis