

Effect of Heat Treatment Conditions on Micro Structure of Cast Iron

Štefan Eperješi¹, Miloš Matvija¹, Marianna Bartošová¹, Daniel Fecko², Alena Pribulová¹

¹Faculty of Metallurgy, Technical University of Košice, Letná 9, 042 00 Košice, Slovakia.

E-mail: stefan.eperjesi.2@tuke.sk, milos.matvija@tuke.sk, marianna.bartosova@tuke.sk, alena.pribulova@tuke.sk

²Zlievareň SEZ Krompachy, a.s. Hornádska 1, 053 42 Krompachy, Slovakia. E-mail: daniel.fecko@zlievaren-sez.sk

Article deals with problematice of influencing mechanical properties – tensile strength and hardness – of grey cast iron by heat treatment – refinement. Refinement could be in special cases applied also for grey cast iron castings in order to achieve special parameters of hardness and tensile strength of parts for specific purposes. Hardening and tempering of casting is commonly used for ductile cast iron, but in special cases could be applied also for grey cast iron castings. Refinement – hardening and tempering – was provided on samples from materiál EN GJL 150, EN GJL 200 and EN GJL 250. Afterwards, measured values of tensile strength, hardness and fractography of materiál in poured state and after tempering on temperatures 250, 350 and 450°C after quenching from austenitization temperature 920°C were compared. Achieved results are formulated in the evaluation part of article.

Keywords: Refinement, Hardening, Tempering, Grey Cast Iron, Ductile Cast Iron

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