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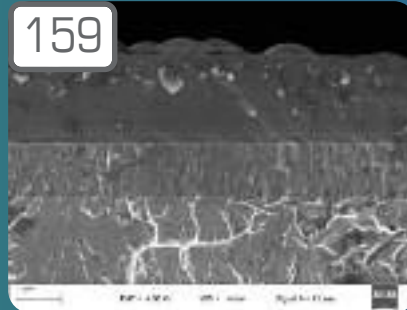


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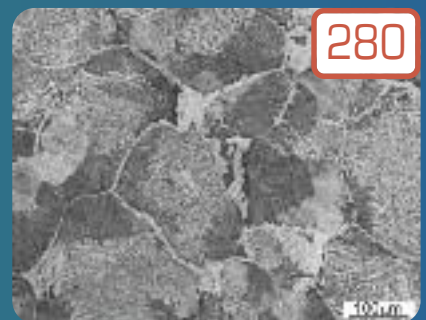


The Research monograph entitled "Forming the structure and properties of hybrid coatings on reversible rotating extrusion dies" by K. Lukaszewicz on a **page 159** demonstrates the methodology of formation, classification of properties and analysis of the structure of surface layers, particularly the zone connecting the core and the coating and

between the single layers created on the working surfaces of dies for the plastic formation on non-ferrous metals, with particular consideration to the specific nature of the extrusion process with reversibly rotating die (the KOBO method).

The numerous interdisciplinary tests and analyses carried out in the scope of materials science, production technology and computer techniques as well as the obtained results provided foundation for the formation of structure and tribological properties of the dies by controlled process conditions. The required final quality and durability of the tools for plastic metal formation in the extrusion process, which has been proven under operating conditions, was obtained. The Author's original approach was the development of a dual-layer coating within one process. Such coatings consist of the internal hard PVD layer providing the appropriate hardness, strength, low thermal conductivity and restricting the impact of external factors on the wear process of the dies used for non-ferrous metals extrusion and the external low-friction layer providing good tribological properties, which, in combination with the appropriate formation of the transition zone between the base material and coating, and between the single layers in the coating, providing adhesion sufficiently high, enabled increased operating durability of the dies, and it has been proved in this paper.

The paper entitled "The kinetics of phase transformations of under-cooled austenite of the 38MnCrNi6-4-4 hypoeutectoid steel" by E. Roźniata, R. Dziurka and R. Dąbrowski on a **page 280** demonstrates the research on the kinetics of phase transformation of under-cooled austenite of 38MnCrNi6-4-4 hypoeutectoid steel. The kinet-



ics of phase transformation of under cooled austenite of investigated alloy was presented on CCT diagram (continuous cooling transformation). Also the methodology of a dilatometric samples preparation and the method of the critical points determination were described. The austenitising temperature was defined in a standard way i.e. 30°C-50°C higher than A_{c3} temperature for hypoeutectoid steels. The technology of full annealing was proposed for the iron based alloy. The CCT diagram was made on the grounds of dilatograms recorded for samples cooled with various rates. The microstructure of each dilatometric sample was photographed after its cooling to the room temperature and the sample hardness was measured. The test material has been hypoeutectoid steel. These steels represent a group of alloy steels for quenching and tempering. The microstructure of test 38MnCrNi6-4-4 hypoeutectoid steel on CCT diagram changes depending on the cooling rate. The paper contains a description of one from a group of iron based model alloys with 0.35%-0.40% carbon content. According to PN-EN 10027 standard this steel should have a symbol 38MnCrNi6-4-4.



Dear Readers,

2012 year comes to an end. On the cover of the journal there are a few photos from the greeting of the New Year almost 12 months ago. As usual the New Year 2013 will arrive at first on the South Pacific island of Samoa and neighbouring Tokelau around which the international date line that zigzags vertically through the Pacific Ocean comes, and then in Australia. As usual 1 or 2 million people, including many tourists will greet the New Year 2013 as a year ago in Sydney. As usual (it was written by the papers), some of the fireworks will form the shape of clouds – because every cloud has a silver lining; colourful lights will beam on to the centre of the bridge and form an "endless rainbow", symbolising hope. Hope is, of course, the word, which means a lot to all of us. Hope for good health, success, joy and peace. Recalling last-year-photos from Sydney, we send wishes from the bottom of the heart for the next New Year 2013, of further academic and professional successes, good health, successes and family happiness to all PT authors and PT readers of our journal, hoping to continue the excellent cooperation in the next 9th year of our activity in a tough market of research journals. As usual in December, we present an extended number of the Journal of Achievements in Materials and Manufacturing Engineering and hand it to PT Readers, with the hope that they will find many interesting papers in it. I dare to pay attention to the fact that an integral part of this journal is 12 consecutive issues of Open Access Library issued in 2012 as scientific monographs, as a new journal separated from the Journal of Achievements in Materials and Manufacturing Engineering.

Gliwice, in November 2012

Prof. Leszek A. Dobrzanski M Dr hc
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