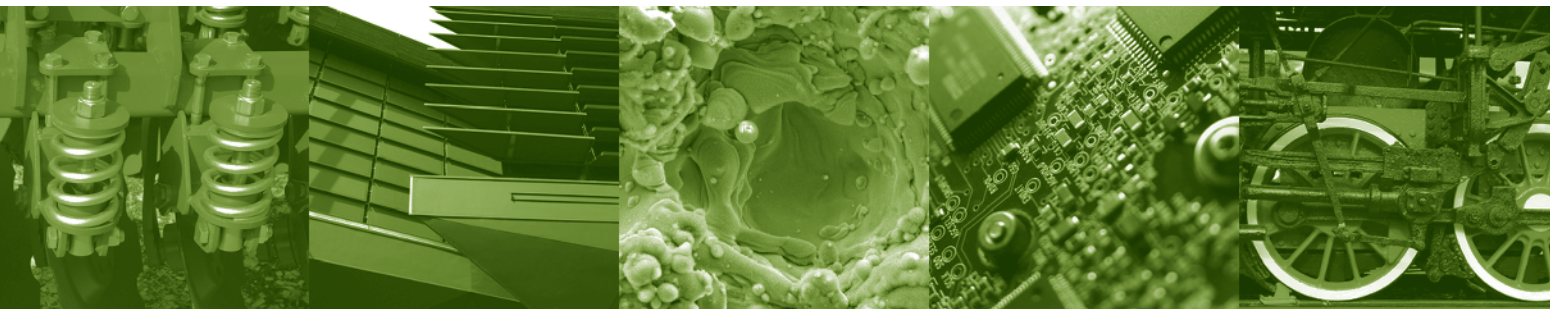




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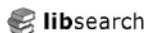
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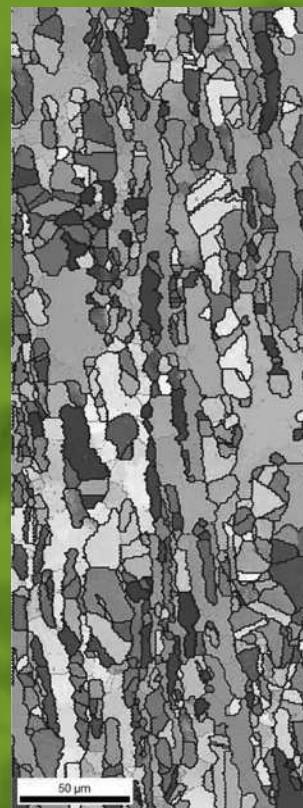
Leszek A. Dobrzanski M Dr hc
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Dear Readers,

The next issue of Archives of Materials Science and Engineering is handed over to PT Readers. As usual, we have tried to collect engaging scientific papers. We hope that they will be interesting for you. Preparing the issue of AMSE we would like to pay attention to the fact that the 21st International Scientific Conference on Achievements of Mechanical and Materials Engineering AMME 2013 will be organised on 23-26 June 2013 in Kraków, Poland by the World Academy of Materials and Manufacturing Engineering WAMME. We invite to the participation in that Conference. We expect that in the Conference which will be accompanied by various other scientific events over 200 delegates will take part. I wish PT Readers a nice reading and as always encourage PT Authors to publish their papers in next issues of our journal.

The paper entitled "The lean duplex stainless steel welded joint after isothermal aging heat treatment" by Z. Brytan and J. Niagaj on a page 24 presents the microstructural evaluation of the lean duplex stainless steel UNS S32101 (EN 1.4162) welded joints after isothermal aging heat treatment at 650°C. The scanning electron microscopy (SEM) and electron backscatter diffraction (EBSD) was applied in the microstructural analysis. The welded joint in the as-welded condition shows Cr₂N nitride precipitation in the HAZ, while isothermal aging at 650°C for 15 min causes further precipitation of nitrides, both in the parent metal, as well as in the HAZ and the weld area. Increasing the aging time at this temperature to 90 min causes the formation of numerous nitrides at the grain boundaries of austenite and ferrite and nitride precipitation inside ferritic grains in each zone of the welded joint.



Sometimes the production cycle involves the heat treatment of welded components made of lean duplex stainless steel. In such situations the additional heating of the welds and heat affected zone can produce carbides, nitrides or sigma phase precipitation – the extent of which depends on the temperature and time of heat treatment. These issues are widely reported in relation to the base material but not when considering welded joints, which may behave differently.