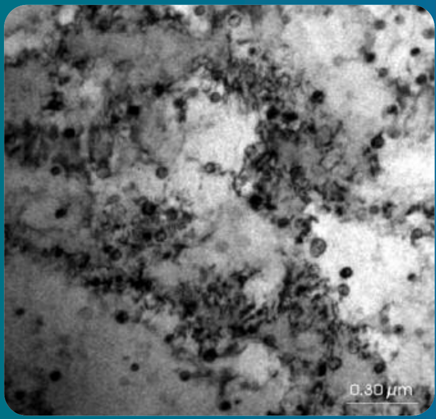
Selected materialographical photo



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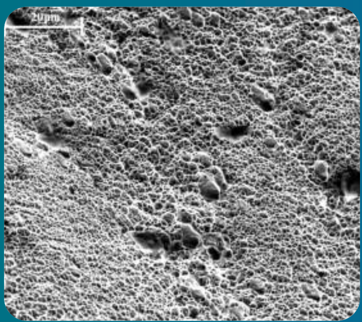
The Research paper entitled "Structure and properties of CuFe2 alloy" by Z.M. Rdzawski, J. Stobrawa and W. Głuchowski on a **page 7** demonstrates the changes taking place in the structure and properties of CuFe2 alloy caused by combined heat treatment and metal working. The objective of this paper was to describe phenomena related to the formation of functional properties CuFe2 strips, especially for obtaining hardness in 120-140 HV range and electrical conductivity above 35 MS/m. Structure and properties of industrial CuFe2 alloy differs significantly from the literature descriptions, especially after quenching process. It could be assumed that the dissolved in a melting process alloy additives (in this case a part of dissolved iron) might be supersaturated, but some of them might be precipitated. This theory was confirmed by the results of investigation into mechanical properties, microstructure and electrical conductivity. The presented investigation results, besides their cognitive values, provide many useful information which might be implemented in a industrial practice.



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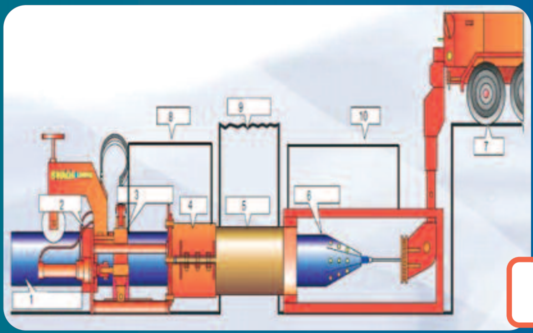
The Materials section represented by W. Ozgowicz and A. Kurc on "Structure and properties of forming austenitic X5CrNi18-9 stainless steel in a cold working" on a **page 19** presents the influence of the degree of rolling reduction on the structure forming and changes of mechanical properties in cold-rolled sheet-metals of austenitic X5CrNi18-9 stainless steel. It has been found that plastic deformation in a cold working of austenitic stainless steel type X5CrNi18-9 induced in its structure martensitic transformation $\gamma \rightarrow \alpha'$. The occurrence of martensite phases α' in the investigated steel structure has an essential meaning in manufacturing process of forming sheet-metals from austenitic steel. The X-ray phase analysis in particular permitted to disclose and identify the main phases on the structure of the investigated steel after its deformation within the range from 10% to 70%. Moreover, the results of the X-ray quantitative analysis allowed to determine the proportional part of martensite phases α` in the structure of investigated steel in the examined range of cold plastic deformation. The analysis of the obtained results permits to state that the amount of martensite phases α` in the investigated steel structure increases with the degree of deformation in the cold rolling. Besides, a good correlation was found between changes of the structure and the effects of investigations of the mechanical properties.



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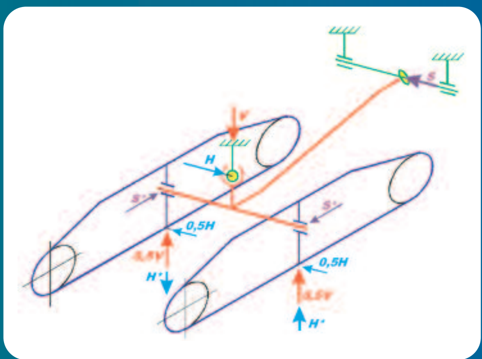
In the paper entitled "Swagelining as a method of trenchless piplines rehabilitation" by G. Wróbel, A. Pusz, M. Szymiczek and K. Michalik on a **page 27** the advantages of using trenchless methods for the rehabilitation of pipelines made of steel, concrete, cast iron etc. is presented. The 1980s and 1990s saw an explosion of new pipe installation and repair techniques which minimize the need to dig continuous trenches to bury the pipeline, so called 'trenchless technologies'. The trenchless technologies have been widely applied for the rehabilitation of various pipelines such as sewage systems, gas pipelines or water supply systems. There has been characterized the swagelining technology which is based on one of the metal working technologies and namely the sinking of pipes. The trenchless renovation of pipelines certainly will be more readily used in the future because of wearing out of pipelines. The other reason is the lack of space for new utilities, increasing costs and road-surface restoration requirements. The work is an example of analysis of chosen trenchless renovation on the example of swageling technology.



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Authors: E. Rusiński, J. Czmochowski and P. Moczko in the paper entitled "Half-shaft undercarriage systems – designing and operating problems" on a **page 62** discuss designing and operating problems of half-shafts undercarriage systems of open pit machines. An example of failure of such system and investigation of its reasons are presented. The paper provides information backed by test results and evaluation, stating the nexus of causes of the dumping conveyor break-down. The numerical and experimental approaches present relationship between designing and manufacturing. The paper can be helpful for researchers and designers investigating reasons, approach methods or failures preventing methods of similar machines. Experimental and numerical methods were used to investigate reasons of dumping conveyor breakdown. In order to perform material evaluation fractographic and microscopic methods as well as chemical analysis, were used. Based on results of numerical simulations analysis and data coming from material evaluations the objectives are achieved. In order to prevent future similar problems, the new design of the half-shafts steering frame was discussed as well. Practical implications into designing of half-shafts undercarriage systems and safetyings are given.

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