

ABSTRACTS “INNOVATIVE TECHNOLOGY” 2-3 / 2015

PREVENIREA DEGRADĂRII SOLULUI ȘI AMELIORAREA SOLURILOR DEGRADATE PRIN TEHNOLOGII INOVATIVE CONVENȚIONALE / REDUCTION OF SOIL DEGRADATION AND IMPROVEMENT OF THOSE DEGRADED THROUGH CONVENTIONAL INNOVATIVE TECHNOLOGIES

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Reduction of soil degradation and improvement of those degraded through conventional innovative technologies along with the reduction of energy consumption is a necessity for maintaining / restoration of the agro-physical state of the soil. The paper presents some issues and considerations related to the works and the factors to be taken into consideration, to maintain a good agro-physical condition of the soil.

RĂCIREA MORILOR TUBULARE CU BILE PENTRU MĂCINAREA CIMENTULUI / COOLING OF BALL MILLS FOR GRINDING CEMENT

I. Diferite modalități de răcire a morilor de ciment / Different ways for cooling of cement mills

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In this paper are presented various ways to eliminate, by cooling, the heat developed in the process of grinding cement in ball mills. Are presented, for cooling of cement, a series of data necessary for the cooling of the mill (by ventilation and by spraying water) and for the adoption of the dedusting equipment.

RĂCIREA MORILOR TUBULARE CU BILE PENTRU MĂCINAREA CIMENTULUI / COOLING OF BALL MILLS FOR GRINDING CEMENT

II. Bilanțul termic al morii de ciment / Heat balance of the cement mill

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In this paper are presented the data necessary for the achievement of thermal balance of cement mill for determining the air flow of ventilation and water

spray to cool the cement mill up to a temperature that will not affect the quality of the cement and grinding process efficiency. Method of cooling determines, through the dew point of the exhaust air from the mill, the type of the dedusting equipment.

EXPERIMENTAL RESEARCHES CONCERNING THE MEASURING OF FLOW RATES IN INDUSTRIAL EQUIPMENTS

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Measurements of amount and flux of different media (liquid or gaseous) are very often done in laboratories or in industry. If the amount of flowing media is small, energy, velocity and pressure caused by the flowing are small, too. Thus, for small amounts of the flowing media it cannot be used classic flow meters (rotameters, anemometers, vibratory flow meters etc.). Application of constriction flow meters requires relatively large contractions causing suitable large pressure changes and it is not always acceptable in technological processes. If a technological process requires automated measurements at a low pressure drop and the flow varies in time, it is necessary to find other measuring methods. In this paper, the author proposes a solution enabling automated measurements and causing low pressure drops.

MECHANICAL TESTING OF ELECTRONIC PRINTED CIRCUIT BOARDS AND SOLDERING ALLOYS

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According to electronic technology theory, the electronic connection must satisfy electrical, thermal and mechanical functionalities. Is known that the resistance and mechanical integrity of the electronic assembly (composed from: printed circuit boards (PCB), devices/ electronic components and electronic component installation on printed circuit boards), is provided by the mechanical function.

The goal of the present paper is to describe some mechanical aspects regarding the behaviour of copper layer deposit on the PCB and of the soldering alloys deposit on the copper – PCB assembly used in electronic technology and also we want to determine the abrasion coefficient of those. In order to highlight the mechanical characteristics of tested boards in correlation with different rigid support, there were

performed some mechanical tests using a dedicated stand. The tested PCB's is CEM (Composite epoxy material) with deposited copper, and the soldering alloy was a lead free one SAC305.

Friction forces between sliding surfaces arise due to complex mechanisms and lead to mathematical models which are highly nonlinear, discontinuous and nonsmooth.

The novelty of the present paper is given by the materials that are tested and by the fact that this type of mechanical testing was never used in electronic technology, although the subject under discussion has major importance for mechanical integrity of electronic assemblies.

INCREASING THE PERFORMANCES OF SMALL AND MEDIUM-SIZED ENTERPRISES THROUGH EXPORT STRATEGIES

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The internationalization of business tends to become a condition of existence for every company, regardless the size or field in which it operates. Given that the national market is at its saturation level and cannot provide optimal conditions for national companies operating out only on the lands where they were founded, more and more of them are looking over their own borders in search of external space to ensure their environment for doing business.

RESEARCH ON THE ROMANIAN BUSINESS CONCERNS ON WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT AGAINST ENVIRONMENTAL AND ECO-INNOVATION ISSUES

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Research on the Romanian business environment concerns on Waste Electrical and Electronic Equipment against environmental and eco-innovation issues were made by developing a questionnaire for enterprises.

The questionnaire is addressed to the companies questions on problematic theme of electrical and electronic equipment waste and eco – innovation; it has been carried out an investigation for distributing the questionnaire. Once collected, the information were processed and after their received replies, it was the finalisation, the analysis and the drafting of conclusions regarding the Romanian business position and requirements towards the WEEE issues (waste electrical and electronic equipment) and eco - innovation.

The main idea is to increase the organizational competitiveness of Romanian companies that are operating in this area, also to increase the degree of involvement of these entities in promoting eco-innovation for green economy development.

GENERATING MACHINING SEQUENCES DURING DESIGN PHASE BASED ON CONSTRUCTIVE-TECHNOLOGICAL FEATURES - PART I

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Integrated development of products in the context of concurrent engineering requires taking into consideration during the design stage of manufacturing issues. For this purpose the part model provided by a CAD system must contain, in addition to the geometrical data, information used in process planning and manufacturing such as precision, materials, machine-tools, etc. In an integrated CAD/CAPP/CAM environment all this information must be transmitted, accessed and automatically retrieved from all stages. From this point of view Design by Features facilitates the integration of design with the downstream activities and the feature is the medium of information transmission between CAD, CAPP and CAM. In this paper, definition and use of simple and complex constructive-technological features in process planning are presented. These features are contained in the system software library and they are classified in three categories: external, internal and specific features.

GENERATING MACHINING SEQUENCES DURING DESIGN PHASE BASED ON CONSTRUCTIVE-TECHNOLOGICAL FEATURES - PART II

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Using constructive-technological features makes possible, since the early design stage (CAD), generation of the machining sequence with all associated parameters such as machining methods, cutting parameters, machining time and cost, CNC file etc. This approach allows detection of various types of problems at the design stage and designer has the opportunity to correct them. To demonstrate their essential role in process planning and manufacturing, in this part of the paper is presented the methodology of selecting the manufacturing methods of ones that are associated to features, their coding as well as generation of the machining sequences during CAD phase, before the part to be completely defined from geometrical point of view.