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PERFORMANCES OF THE LAYERS OBTAIN BY THE HVOF THERMAL SPRAYING PROCEDURE

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The article “Performances of the layers obtain by the HVOF thermal spraying procedure” has as objective the evaluation of the sprayed deposit performances obtain by thermal spraying. Were realised deposits on paralipedic plates, from OL37, using 3 different powders. Technologic parameters were chosen taking into consideration the GTV specifications.

MONITORING THE HVOF THERMAL SPRAYING PROCESS FOR QUALITY IMPROVEMENT OF THE DEPOSITED COATINGS

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*The article **Monitoring the HVOF thermal spraying process for quality improvement of the deposited coatings** shows the approach regarding assessment of sources of variation, such as vibrations and temperature, concerning the quality of the deposited coatings by HVOF process and proposes the modification of the parameters of technological process to mitigate the sources of variation monitored and quality improving of the HVOF coatings produced by thermal spraying.*

FRICITION STIR PROCESSING AS A NEW SURFACE FINISHING TECHNOLOGY

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The paper presents Friction stir processing (FSP) as a specific method for surface engineering. This method is derived from Friction stir welding (FSW) patented in 1991 by British scientists of The Welding Institute (TWI). Later on it was found that the method can be effectively used for surface finishing, specifically to obtain a very fine grain surface layer with far superior mechanical and tribological properties compared to the base material of the workpiece.

DETECTION EFFICIENCY OF ROAD VEHICLES IN MOTION FOR TRANSPORT COMPANIES

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Automation became necessary in the road since the authorities have realized that the number of road accidents and material losses of life have increased alarmingly long. The complexity of these processes, the extent of large geography, transport systems and road infrastructure to achieve scale automation in this area is needed a large merger of several specific technologies: Capture information, Information processing, Submit Information, Use of information. The general objectives of the latest research and development programs in the field were directed to obtaining and exploitation of new knowledge on the applicability of traffic control systems in major cities, traffic management . Research has focused mainly on the applicability of self-training these types of embedded systems, auto optimization urban traffic control strategies.

ADDITIVE MANUFACTURING TECHNOLOGIES USED FOR SUPERALLOYS PROCESSING

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The paper presents Additive Manufacturing (AM) technologies used for building parts from superalloys. The main objective of this article is the state of the art of AM used for metal parts, of presentation of the working principle of the metal AM, of the types and characteristics of AM machines used and also of the applications for superalloys.

INNOVATIVE TECHNOLOGIES IN DENTISTRY AND DENTAL TECHNIQUE

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Investments made during the last decades in dentistry field and borrowing advanced industrial technologies have led to spectacular and irreplaceable results. The most advanced methods, such as three-dimensional digital photography, using virtual working models and building models of laser sintered metal powder by Rapid prototyping method were immediately assimilated.

**AN EXTENSION
OF THE ELECTROMECHANICAL ANALOGY
IN THE DOMAIN OF HYDROSTATIC
TRANSMISSIONS
(Part II. THE ELECTROHYDRAULIC
ANALOGY AND ITS EXTENSION)**

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This paper represents the part II of a research: "The Transmission Coefficient of Hydrostatic Drives", which is published in Power Transmissions, Proc. Of the 4th International Conference, June 20 – 23, Sinaia, 2012, pp.399 – 415. The paper aims to expand the electromechanical analogy in other domains of technology: hydraulic, pneumatic, acoustic, sonic, and even in thermodynamics.

In addition to the similarity of the equations and mathematical models, in the domain of fluidic systems we have highlighted the analogy of the circuit elements and some basic structures, for which the equivalent schemes are given. Analogy tables are presented, including the important sizes, units, symbols and generalized mathematical models applicable in all domains above and the advantages of the analogy and its limits of application are highlighted.

OVERVIEW ON FEATURE-BASED DESIGN

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Concurrent/simultaneous engineering admits that the design and manufacturing are strongly interdependent. Concurrent engineering argues that critical manufacturing issues should be considered early in design stage in order to reduce the number of design iterations. Therefore the information provided by a CAD system must contain, in addition to the geometric information, information for process planning, manufacturing, NC programming etc. Feature-based design has received much attention in last decade because the features are considered the connection elements among CAD, CAPP and CAM systems. This paper presents an overview of the research carried out in feature-based design (FBD), the evolution of their definitions, representation techniques as well as their role in design and manufacturing.

**COMPORTAREA ÎN FUNCȚIONARE
A GRUPURILOR DE REZEMARE
ALE CUPTOARELOR ROTATIVE
(BEHAVIOR IN OPERATION OF ROTARY
FURNACES BEARING GROUPS)**

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In the present work is presented the functional behavior of bindings and roles as parts in the bearing groups of rotational ovens. The influence of manufacturing precision, installation and adjustment of bearing groups is considered.

**INFLUENȚA DE FEED
ASUPRA CALITĂȚII ȘI
ACURĂȚII INDICATORILOR LA
PROCESAREA DENTILOR
INVOLUTELOR**

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The processing through Superficial Plastic Deforming (SPD) of the spur gear is a final cold-work hardening and finishing process of the superficial stratum. Quality and accuracy of the processing are influenced by the deforming parameters regime, deforming force, physical and mechanical properties of the work piece and by the cooling and lubricating regime. In this paper the author presents the influence of the feed over the roughness R_a , micro hardness HV of the tooth flank and over the processing accuracy. This influence is given by the next terms: length over the tooth W, teeth thickness S_c , profile error F_{fr} and tolerance from teeth striker F_k .

**PRINCIPALELE PROBLEME ALE
TEHNOLOGIEI PRELUCRĂRII METALELOR
PRIN DEFORMARE PLASTICĂ LA RECE
(MAIN PROBLEMS OF METALS
PROCESSING TECHNOLOGY BY COLD
PLASTICAL DEFORMATION)**

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In this paper the main technological parameters of manufacturing through plastic cold deformation are reviewed and their calculation in the specific case of bending on machines with rotational cylinders is considered.

**REZEMAREA CIURURILOR VIBRATOARE
PE ELEMENTE ELASTICE DIN CAUCIUC /
THE VIBRATING SCREENS BEARING
SYSTEM WITH ELASTIC RUBBER
ELEMENTS**

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The paper focuses on design issues related to the vibrating screens bearing system with elastic rubber elements. A calculation method for this elastic support systems is presented. Finally, a numerical example is used to illustrate the application of this methodology.

CAD-CAM SOLUTIONS FOR CNC MILLING OF 3D SURFACES USING FASC-14 SOFTWARE SYSTEM

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Absolutely, the manufacturing of complex 3D surfaces should be performed nowadays in accordance with the newest scientific and technical conditions. This implies that the parts manufacturing should be performed according with the CAD / CAM techniques. Hence, as well as the new engineering concepts such as modelling and simulation engineering and also because of the need to consider the technological impact over the constructive phase, it is necessary that the geometric information, generated within the CAD-C (CAD - Conception) stage to be used in the CAD-T (CAD - Technology) stage. This paper proposes an alternative for using established CAD / CAM / CAE systems, for CNC processing, by milling complex shape surfaces, generated with 4 spline curves, using end mills or ball nose mills. The software package presented in this paper offers facilities both for the surfaces designing phase and also for the manufacturing process phase, through the design of customized pull-down menus and commands specific the CAD CAPP and CAM phases in Romanian language. Another advantage, far from being insignificant, of this system, is a significantly lower acquisition cost than dedicated systems existing nowadays on the market: CATIA, ProEngineer, Solid Works etc.

RESTITUȚIA STEREOSCOPICĂ A ACOPERIȘURILOR (STEREOSCOPIC RESTITUTION ROOFS)

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For 3D models, it is necessary to use some effective methods to reduce working time and lighten the work of operators. In this context it creates a continuous flow technology to bring the ease of achievin g realistic virtual models.

NONLINEAR FINITE ELEMENT ANALYSIS FOR ENGINEERING APPLICATIONS OF COMPRESSIBLE METALLIC FOAMS

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The present article proposes the improvement of a Finite Element Analysis (FEA) applied to the study of a metallic foam material submitted to a compression loading. The purpose of the study is to achieve a compressible model using the finite element method that will reproduce the experimental conditions and physical phenomena resulted while testing the sample on a test bench. Based on identified rheological input data, the model is used for two different samples geometries. The corresponding simulation results are compared with those obtained from a test bench. Starting from the obtained numerical results, conclusions will be made concerning the used numerical mesh and its geometry morphology.

RESEARCHES REGARDING THE ACHIEVEMENT OF AN INTERVIEW QUESTIONNAIRE FOR BUSINESS ENVIRONMENT AGAINST AN ECO-INNOVATION HUB

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Development of a questionnaire for enterprises that is working in the Romanian recycling of waste electrical and electronic equipment raises many issues. It is necessary to increase organizational competitiveness of firms operating in this area, also to increase the degree of involvement of these entities in promoting eco-innovation for green economy development.

By creating an eco-innovation hub prototype will get a transparent, easy to access infrastructure for collecting and analysing data. It will be facilitated the transfer of eco-innovation know-how, in order to improve the recycling of Electrical and Electronic Equipment Wastes and promote eco-innovation. The questionnaire is sent to companies that operate operating in this field, whose experience and competence may be useful to other stakeholders in the WEEE area.