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ABSTRACT

MATERIALS SCIENCE RESEARCH AND DEVELOPMENT

**ASPECTS REGARDING
NUMERICAL SIMULATION OF C35
STEEL BILLET DURING HOT
UPSETTING PROCESS**

Adriana NEAG, Mariana POP

.....5

Key words: simulation, plastic deformation, upsetting, Forge2009 software

Abstract: *In order to study the plastic deformation characteristics of C35 steel in upsetting process, by means of Forge 2009 software, the forging process of C35 billet was simulated. The aim of this work is to determine by simulation the temperature, stress and strain distributions in the forged billet. The changes in temperatures, stresses and strains in different regions of the billet were simulated.*

**INFLUENCE OF THE HEAT
TREATMENT'S PARAMETERS
OVER THE STRUCTURE AND
PROPERTIES OF A Cu-Mo
ALLOYED S.G. CAST IRON**

Ioan MILOSAN

.....9

Key words: S.G. cast iron, heat treatment, technological parameters, hardness, impact strength.

Abstract: *The paper presents a study about the influence of some heat treatment parameters of austempering and annealing with tempering over the structure and values of hardness and impact strength of a low alloyed S.G. cast iron.*

**NUMERICAL STUDY ON
DEFORMATION BEHAVIOR IN
DIELESS DRAWING PROCESS**

Mariana POP, Adriana NEAG

.....13

Key words: plastic deformation, dieless drawing, simulation, Forge 2009.

Abstract: *The aim of this article is to cover some aspects regarding the mechanics of dieless drawing. A finite element analysis (FEA) of the drawing process has been carried out using Forge 2009 software in order to determine the stress, strain, strain rate and temperature distribution along the specimen. From the FEA results, it is evident that between the process parameters exists a complicated interdependence. The largest impact on the process has: drawing force, temperature, drawing velocity, cooling velocity.*

**INFLUENCE OF INCLINATIONS
AND CORNER RADII APPLIED TO
RIBS ON THE SOLIDIFICATION OF
CAST PARTS**

**Ioan CIOBANU, Diana TUTUIANU,
Tibor BEDŐ, Aurel CRIȘAN**

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Key words: inclinations, corner radii, solidification.

Abstract: *The inclinations and corner radii applied to ribs are designed for enhancing both stiffness and aesthetics. The presence of inclinations and corner radii applied to ribs modifies the conditions of heat transmission and*

implicitly the solidification of the alloy in the joining area of the rib to the part wall. This is highlighted by changing the radius of circles inscribed in the wall - rib joining area. The diameter of the circles inscribed in this area is greater than of those in rest of the part wall. This leads to the assumption that the solidification of the alloy in the wall-rib joining area is slowed. The paper presents the results of a study concerning the influence of inclinations and corner radii applied to ribs on the duration of cast part solidification and on the position of the hot spots. The study was conducted by computer simulation of solidification. The results have revealed, that in certain limits this influence is negligible. The limits from which the influence becomes significant are determined.

**ASPECTS REGARDING
IMPLEMENTATION OF
CONCURRENT ENGINEERING
PRINCIPLES IN PLASTIC
DEFORMATION PROCESSES**

Mariana POP, Adriana NEAG

.....29

Key words: concurrent engineering, computer aided design, metal forming.

Abstract: *The aim of this paper is to present some aspects regarding the implementation of one of the concurrent engineering principles (computer aided design) in metal forming processes.*

**PROCEDURE USED TO CREATE A
LEAN MANUFACTURING
ENVIRONMENT IN A COMPANY**

**Mihai APREUTESEI, Ionela Roxana
ARVINTE, Emil SUCIU**

.....34

Key words: lean manufacturing, implementing, Toyota Production System (TPS), waste, management.

Abstract: *Lean manufacturing is more than a set of tools and techniques and has been widely adopted by many production companies. Lean manufacturing is a culture in which all employees continuously look for ways to improve processes. It is a management philosophy and system of organizing to eliminate all non-value added activities, or waste, throughout an organization's complete system. The essential goal of lean manufacturing is to compress time from the receipt of an order all the way through receipt of payment. The results of time compression are greater productivity, shorter delivery times, lower cost, improved quality, and increased customer satisfaction. The present article intend to make a briefly presentation of Lean Manufacturing and how a company can implement this system. Lean manufacturing refers to a complex approach of the management system within an organization, either a production company or a service organization. This method is one of the most used methods to reduce the waste and continuous business improvement. In order to transform a company into a Lean company, a strategic decision should be made. Afterwards, several steps have to be performed for implementing Lean, starting initial status diagnosis and continuing with keeping the level of improved results. In this paper are presented the Lean manufacturing techniques which are based on the application of the five principles to guide management to a continuous growth of the business, and also a short history of Toyota Production System (TPS). The paper contains also, the methods and the way how a company can implement the Lean system and the operational benefits of lean and some examples of manufacturers which are using lean manufacturing system.*

ECONOMICAL MANAGEMENT

BRIEF ECONOMIC APPROACH OF ABRAHAM MASLOW'S HIERARCHY OF NEEDS

Constantin SĂLCEANU, Alexandru TRIFU

.....42

Key words: decision making, motivation, psycho approach, hierarchy.

Abstract: *Dr. Abraham Maslow's Hierarchy of Needs is one of the most important theoretical construction of*

humanistic psychology nature, which explains the human being's main goal and, at the same time, is the foundation of motivation, the core element in pushing forward human's feelings and activities (of any kind). Therefore, we have to understand this theory, in order to reveal the link between means and goals, in the context of the psycho and economic approaches.



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