

### **Structural Parameters For Woven Textile Articles Meant For Aeronautic Field**

Mihai, Anghel, Bucevschi, Popa, Barbu, no.3/2006

The paper presents the accomplishing of the research team in the unfolding period of a research contract executed together with I.N.C.D.T.P.- Bucharest, which supposes the realization of a woven fabric meant for the piping of the ventilation and heat installation for military helicopter IAR 330. The paper addresses aspects related to computing aided by a program specific to structural parameters of fabrics meant for the piping of ventilation and heat installation for the military helicopter. Through research thematic solving, there are given fabric main characteristics: Para-aramidic yarns (Kevlar) with  $T_d = 220$  dtex/134 fx1, weave used - plain, fabric mass - max. 85-106 g/m, density in warp and in weft - 180-220 yarns / 10 cm and warp and weft elongation - max. 10%.

Key words: structural parameters, woven fabric, yarns, military helicopter

### **Invasive Textile Medical Device For The Reconstruction Of The Semirigid Tissue Of The Thoracic Cavity**

Ene, Mihai, Nicodin, no.3/2006

In order to provide an efficient structural support of the thoracic wall, with a direct impact in avoiding the paradoxical respiration and the pulmonary hernia, there have been designed and performed complex variants of products – with dimensional stability given by the type of binding, structural parameters, suitable raw materials with respect to the chemical nature, structure and biocompatibility – used in surgical interventions aiming at osseous malignant tumours, malignant tumours of the soft parts, benign tumours etc. The paper presents the performances of INCDTP in correlation with the world evolution of these prosthetic systems, their biomedical and biofunctional performance level, the admissibility conditions imposed by the international legislation in the field concerning the manufacturing and commercialization of the medical implants with textile structures.

Key words: medical device, reconstruction, thoracic wall, prosthetic systems

### **Virtual Processing Of The Textile Products Design Activity**

Stan, Visileanu, Ciocoiu, Ghituleasa, no.3/2006

The paper approaches the aspect of the global designing in the textile sector, which may be achieved due to the progress that has been done in the field of simulating textile structures in different stages of the technologic processing on one hand, and in the field of simulating the surface appearance of these structures on the other hand. The starting point is the achieving of a knowledge basis (complex database) which may be used in simulating certain structures and structural parameters, specific to some products categories. One of the simulated parameter is the draping. This model is then used in the virtual processing of a confection on a virtual dummy, for modeling the wearing behavior

of the material. By this kind of designing activity, starting from the characteristics of the raw materials and a knowledge basis in association with the adequate models, the best aesthetic and economic variants may be rendered evident, thus achieving important resource savings.

Key words: design, virtual, textiles, knowledge basis, finished element, draping

### **C++ Program For The Statistical Analysis Of Some Physical And Mechanical Characteristics Of Flax Fibres And Yarns**

Slabu, Mustata, no.3/2006

The present paper presents a Turbo C++ program, under 2.0 version Windows operating system, meant for determining the compliance coefficients, coefficient of skew and excess coefficients, that are used on studying the distribution of certain physical and mechanical characteristics of flax fibers and yarns, as compared to the normal distribution. The program allows a natural interface, easy to access by users, on the one hand, and provides the mentioned results in an extremely short (seconds) time, on the other hand. The data that have been used in performing the program resulted from researches regarding the way in which the wet drafting process on a PM-88-L5 spinning frame and the flax boiling and bleaching stage influence the length of the flax fibers in the raw rove, bleached rove and wet spun. The same program has been used in the statistical analysis of the jute fiber length distributions and of other characteristics concerning the processing and behavior of certain flax fibers and yarns.

Key words: program Turbo C++, regression coefficient, compliance coefficient, excess coefficient, fiber, yarn, flax, correlation, drafting

### **Geotextiles Containing Fibers Recovered From Reusable Textile Materials**

#### **Part II. Non-conventional articles meant for roads and highways construction**

Preda, Campeanu, Harpa, Racu, no.3/2006

A special category in the class of non-conventional textile materials is the one of geotextiles. These materials can be used in roads and highways construction. Due to economical reasons, geotextiles have in their structure fibers recovered from reusable materials blended with fibers at first use or they contain 100% recovered fibers. Geotextiles behavior to different stresses (characteristic to destination field) is influenced by the nature of raw material, through participation rates of components in the fiber blend. The experiments were focused, in the first phase, on the manufacture of fibrous blends with content of recovered fibers, following to be further practically performed and to be tested as non-conventional articles for geotextiles. Researches in course have shown that

## “Industria Textila” Magazine - synopsis

non-woven geo-textile material of 50% polypropylene fibers at first use and 50% fibers recovered from reusable textile materials (RTMs) is most adequate for proposed scope.

Key words: geo-textiles, polypropylene, technological parameters, apparent density, air permeability, radial extension

### **Measurement Methods And Techniques Concerning The Evaluation Of The Performances Of The Elastomer Textile Materials**

Surdu, Visileanu, Nicula, no.3/2006

In this paper we present measurement methods and techniques concerning the physical and mechanical properties of the textile materials with elastomer content and a method for determining the snag resistance of the woven materials and knitted fabrics containing elastomer. Due to the fineness characteristics and the special using conditions of the elastomer yarns, special testing methods must be used. The testing methods of the textile materials with elastomer content have been experimented in the I.N.C.D.T.P labs, on modern equipments with specialized software. The elastic properties have been evaluated on the Tinius Olsen and Fafegraph Me dynamometers. The diameter of the yarn and the cross-section appearance have been analyzed on the Micro Macro Projector Projectina equipment. The snag resistance of the knitted fabrics and woven materials with elastomer content has been determined on the Orbitor Pilling& Snagging Tester equipment.

Key words: elastomer, “elastomultiester”, physical and mechanical properties, snag resistance, yarns, warp, weft

### **Defects In Filament Yarns Tester. Part I. Theoretical aspects regarding the detection of the defects**

Mitu-Cretu, Dumitrache, Lici, no.3/2006

The tester presented within this paper is completely automated, thus leading to operative processing in assessing the quality of the yarns. The control is performed on yarn lengths of 1, 10 or 100 km, for a yarn rate of travel of 250-400 m/min. The tester makes possible to reduce the active time with almost 80% for a measuring head and to increase the laboratory labour productivity with 20%; the material subjected to analyze may be reused in production. For the interpretation of the signals coming from the defect transducers, the tester has been endowed with a computer that controls the entire process, works out the signal from the transducers, counts the defects on types, communicates with the operator by means of the keyboard, measures the yarn length on which the test is performed and, at the end of the measurement, displays, on request, the defects on

## “Industria Textila” Magazine - synopsis

classes: broken filaments, loops, snarls, thickenings, lints, unstretchings and the whole number of defects.

Key words: filament yarns, opto-electronic principle, defect transducers, measuring