

TEXTILES. LEATHERSHIP

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TECHNOLOGICAL CALCULATION RELATIONS FOR COMPUTER CONTROL OF THE REVOLUTIONS OF DRIVING MOTORS OF THE BAND WARPING DRUM

BY

DANIELA LIUȚE and CRISTINA RACU

Abstract. The band warping machines, with separate variable speed, one for rotation and the other for the axial advance of the warping drum, can achieve the self-regulation of these motors speeds through computer programs based on mathematical relations. The paper presents the calculus equations for the kinetic feed of the warping cylinder and of the feed motor's rotation speed, as depending on the warp characteristics, of the rolled strip length or of the number of winding rotation speeds. The equations can be used for computer programs for textile windings to which it is not recommended or on which there cannot be realized on – line measuring for the winding ray.

Key words: band warping machines, computer control.

BARRÉ FABRICS OBTAINED WITH BASIC TWILL WEAVE WITH ODD REPEAT THROUGH NEGATIVATION, MAINTAINING CONSTANT THE TWILL DIRECTION I. FABRICS WITH AN EVEN NUMBER OF BARRE PAIRS

BY

GEORGETA POTOP and DANIEL CHINCIU

Abstract. This work describes the method to build the barré weaves obtained with the basic twill weave with odd repeat.

Here are also defined the structural elements used to emphasize the specific cases of structures whose components represent the basis for drawing up the computation algorithms for the repeat of weaves on the two yarn systems.

The approaching manner and the method to build and compute the repeat of the barré weaves, obtained from the basic twill weave that maintains the direction of the lines on which the weaving points are placed, represent elements of novelty and originality in the field.

Key words: weave, basic twill with odd repeat, barrés with odd number of stripes, weave repeat.

BARRÉ FABRICS OBTAINED WITH BASIC TWILL WEAVE WITH EVEN REPEAT THROUGH NEGATIVATION, MAINTAINING CONSTANT THE TWILL DIRECTION

BY

DANIEL CHINCIU and GEORGETA POTOP

Abstract. The work includes building methods and relationships for the computation of the repeat of barré weaves obtained from the basic twill weave.

Here are established the structural elements which represent the basis for emphasizing certain specific cases of structures that define the components of the algorithm for the computation of the repeat margins for weft systems.

By its content and approached problems, as well as by its original manner to solve these, the work can be considered as a complete novelty in the field.

Key words: basic twill, weave, negativation, barrés.

OPTIMUM PROFILE OF THE RAISING CAM DESIGN BY POLYDIN EQUATIONS

BY

VIORICA CREȚU and LAURA MACOVEI

Abstract. Higher knitting speed is a characteristic of modern circular weft-knitting machinery, which required to design non-linear cams which provide a complete control over the needle-butt acceleration resulting in continuous curve acceleration with maximum values that are not too high. The paper presents, among different mathematical functions used to design non-linear cams, the authors' contributions to the investigation of the effects of polydin functions, on designing raising cams.

Key words: raising cam, large circular knitting machine, design.

EXPERIMENTAL RESEARCH CONCERNING TEXTILE FABRIC DRAPE

BY

ELENA FILIPESCU and STAN MITU

Abstract. Fabric drape is among the most important quality features for assessing fabric performance in apparel. Selecting the right fabric with desirable drape is something that has to be done to produce well fitting clothes, allowing the wearer to move comfortably, as well as producing specific design aura and appearance. Since the textile industry is capable of producing a variety of fabrics with specific features, finding the most suitable fabric for a specific clothing end-use is becoming more important. Drape, along with colour, lustre and texture is an important factor affecting the aesthetics and dynamic functionality of fabrics. Drape is defined as “the extent to which a fabric will deform when it is allowed to hang under its own weight” (British Standard Institute). Drape is a critical textile characteristic in determining how clothing conforms to the human silhouette. It prescribes the fabric deformation produced by gravity when a part of the fabric is directly supported. In use, this unique characteristic can provide a sense of fullness and a graceful appearance, which ultimately distinguishes fabric from other sheet fabrics. The present paper presents the possibility to analyze this characteristic by using a three-dimensional Cusick meter. The study was made on a certain number of fabrics, with totally different characteristics. The samples were first analyzed by the traditional method and afterwards by the new three dimensional methods. The Drape Coefficient was selected as a comparison parameter. The study demonstrates the fact the result obtained by traditional method is the same with the one obtained using the three dimensional method.

Key words: drape, garment, dresses for women.

A REDUCTIVE APPROACH TO COLOUR REMOVAL OF TEXTILE WASTEWATERS

BY

ANIȘOARA BERTEA and ANDREI PETRU BERTEA

Abstract. The paper presents a study of the capability of 3 dyes, a direct, an acid and a reactive dye, to be transformed into uncoloured substances using sodium dithionite. The selection of those classes of dyestuffs has been made considering their low capability of adsorption on activated sludge in a biological plant (especially for the last two). The influence of pH, sodium dithionite concentration and temperature has been studied. It was found that, in some special cases, the use of sodium dithionite may represent a solution for the colour removal of textile wastewaters. The results depend heavily on the pH value, and the needed dithionite concentration is relatively low, depending on the dyestuff concentration. The influence of the temperature is important, and this is why on site treatment is highly recommended.

Key words: colour removal, wastewaters, reductive discoloration, activated sludge, anionic dyes.

THE EFFECTS OF PRE-TREATMENTS WITH CHITOSAN ON THE COLOR STRENGTH OF ACRYLIC FIBERS DYED WITH CATIONIC DYESTUFFS

BY

VASILICA POPESCU

Abstract. The tinctorial system cationic dyestuffs-acrylic fibre makes difficult to obtain a high and uniform colour strength when are used low dyestuffs concentrations.

The presence of a retarding agent into the dyeing bath leads to uniform dyeing but the colourist efficiency is lower and the technology is more complicate because it consists in observing of some restrictions as combinability index, the concentrations of the dyeing partners, the saturation index of fibre and so on. All these drawbacks are avoided by the use of chitosan in the pre-treatments.

The effects of fibre fineness, the concentration of chitosan, the type of chitosan and the heating gradient for colour strength of Melana dyed with Maxilon Blau GRL (CI Basic Blue 41) were studied. The results obtained confirm that the chitosan has a shutting off effect (pre-retarding effect) that led at uniform dyeing.

Key words: chitosan, colour strength, retarding effect, heating temperature gradient.