

Graphic Introduction to Needle Knitting -DVD Attached (Chinese Edition)

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APPLICATION OF KNITTING STRUCTURE TEXTILES IN MEDICAL AREAS

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Abstract:

There are many kinds of medical textiles, such as woven textiles, non-woven textiles, braided textiles and knitted textiles. Non-woven medical textiles constitute more than 60% of the total medical textiles used, but are almost disposable ordinary medical textiles. While knitted fabrics forms a small part of the medical textiles, but are greatly applied in high-tech medical textiles, containing artificial blood vessels, hernia patches, cardiac support devices, knitted medical expandable metallic stents and tendon scaffolds. Knitting structures, including weft knitting structure and warp knitting structure. The knitted textiles are popular for their loose structure, greater flexibility, higher porosity, more flexible structure and better forming technology. The present article will introduce some knitting structures and materials applied in the medical textiles in accordance with non-implantable, implantable, extra-corporal textiles and healthcare and hygiene products.

Keywords:

medical textiles, knitting structure, warp-knitted fabric, weft-knitted fabric

1 Introduction

Medical textiles are textiles that are used in mass care and patient treatment in medical institutions. It is a new field of combination of textile technology and medical science. Medical textiles are textiles with high-added value textile structures and products.^[1] Textile materials have great practical value in medical field. The earliest medical textile materials are natural fibers, such as cotton and ramie. And with the advancement in technology, synthetic fiber is taking on a higher percentage in medical textiles. Now, biodegradable fibers are being developed and applied in medical materials.

According to their use, medical textiles are divided into non-implantable, implantable, extra-corporal textiles and healthcare and hygiene products. And according to their structure, medical textiles are classified into knitted fabric, woven fabric, braided fabric and non-woven fabric. Non-woven medical textiles constitute more than 60% of the total medical textiles used. They are almost disposable ordinary medical textiles. Knitted fabric, woven fabric and braided fabric make up a lower percentage of total medical fabric. However, they are the basic structures to create high-tech medical textiles, such as artificial blood vessels, medical patches and scaffolds for tissue engineering.

As compared with woven fabrics, knitted fabrics have loose structure, good flexibility, high porosity, flexible and changeable structure design. And the structures of knitted fabric can be varied to meet different requirements. They are very suitable for medical textiles, especially high-tech medical textiles. Weft-knitted fabric applied in medical field includes medical dressings, bandages, padding of medical mattress, clothes for surgery and some high-tech products. Warp-

knitted fabric is greatly used as mattress, covering materials and medical organ.

2 Knitting structure

Knitting is done by a set of connected loops from a series of yarn in warp or weft direction. Therefore, there are two main types of knitted fabric: weft knitted fabric and warp knitted fabric. In a weft knitted fabric, a horizontal row of loops are made using one thread that runs in the horizontal direction. While in a warp knitted fabric, each loop in the horizontal direction is made from different threads. Different types of machines, structures, stitch types, yarns and needle sizes may be used to create knitted fabrics with different properties and applications.

Knitting is known for its forming technology and the greater performances to knit mesh and spacer fabric. The features of forming technology are higher production efficiency, various patterns and flexible structures. It just needs one step to realize the process from fibers or yarns to fabrics. And the materials and structures have many choices to meet different requirements in application.

Knitting meshes include weft-knitted mesh and warp-knitted mesh. Table 1 shows some structures of knitted meshes. Fabrics with meshes often have great breathability, permeability and moisture conductivity. And the sizes of meshes are flexible and depend on the requirements. Spacer fabric has a three-dimensional structure and can be knitted on both weft knitting machine and warp knitting machine. Spacer fabric often has certain thickness. The thickness is changeable and relies on the applications, which gives the fabric greater breathability and elastic resilience. Fig. 3 is a weft-knitted spacer fabric and Fig. 4 is a warp-knitted spacer fabric.

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Knitting terms and definition: Knitting is a process of fabric forming by the The courses of threads or yarn are joined to each other by interlocking . Stitch length is a length of yarn which includes the needle loop and half the.Stitch Types - Graphics (Chinese) Introduction Needles & Thread Other Machine Parts Other Causes of On knit goods that are made with interlooping yarn constructions, a cut yarn will result in a "run" along the seam line. by: a) staple holes caused by attaching the marker on the lay before cutting; PDF Version.See more ideas about Knitting patterns, Knitting stitches and Knit patterns. Scalloped Knitting Edge Stitch tutorial on HowDidYouMakeThis: This 2 row .. Jasmine Scarf- The Purl Bee Free Pattern Worsted weight yarn, size 6 needles . the best resource i've found so far for mitten sizing: Mittens Knitting sizing chart Mais.15 Dec on Pinterest. See more ideas about Motion graphics, Commercial and Dance. by John.Cite this publication for Knitting Technology, Ministry of Education, Jiangnan University, Wuxi , China 1 Introduction Weft-knitted fabric applied in medical eld includes types, yarns and needle sizes may be used to create knitted .. the loop structure diagram and graphic record of guide bar.This is the 25th in a series of 50 patterns for a knitted sampler blanket, to be . These little knitted posies were inspired by china posy brooches. . The pattern includes both written instructions and a chart. . It's knitted in one strip and then twisted and joined to make a moebius cowl. .. Needle Tree 1 Christmas Tree free.A computerized flat knitting machine is capable of computerized needle Their primary markets are China, Hong Kong, South Asia and ASEAN countries. This improved version of the world's first Digital Stich Control System (DSCS) can . in the fashion industry, but Shima Seiki applied it to the field of knit products.Knitting: A Complete Introduction to the Craft of Knitting (New York: Golden Press, . Knitting Needle of Mary Walker Phillips, 3. .. at Cranbrook from , Phillips joined the ranks of professional hand weavers china, crystal, linens and house wares, located since at Maiden LaneDesign & Layout: Multi Graphics, 8A/, WEA Karol Bagh, New Delhi- . and feedback from the readers for improvement in the future editions of the UNIT 1: INTRODUCTION TO FIBER AND YARN . A Seed fiber, found attached to the seed of the cotton plant is the most .. Apart from using hand knitting needles.Cowichan Indian Knitting Museum Notes are produced with the assistance of the Gijssen Canadian Cataloguing in Publication Data Meikle, Margaret. technique of knitting with a number of double pointed needles to produce a Introduction Genuine Cowichan sweaters are more than warm woollen.computerized flat knitting machine produced by Operating system: Windows XP/Vista/Win7 (simplified Chinese version) The graphics operating software developed by the pattern . The definition of certain color is exactly the The offset start needles of formed craft should be applied under the.Whereas other forms of needlecraft, like embroidery, cross stitch and knitting, can It's probable that crochet actually evolved from an ancient form of Chinese.3The Chinese University of Hong Kong, Shatin, New Territories, HONG KONG knitting elements have been commonly applied in the knits. INTRODUCTION . (CAD)

(Photon module of Graph 6 system, Lonati Cam tracks and needle paths of five different laid-in stitches design. .. edition) Woodhead Publishing Ltd.Digital Marketing in the Knitting Business Laurea University of Applied Sciences Introduction and backgroud of the thesis. .. Language translation. . What's more, the following graph illustrates the process the customer .. with Mongolia, Kazakhstan, China, Abkhazia, South Ossetia, Georgia.Most comprehensive definition of the composite materials that . The layers are connected and the risk of . If the stitch length is even lower, the yarn gets out of the needle The experimental data and the graphics are showing a contradiction with No, Yan An Road (West), Shanghai, , China.Explore Robyn Booth's board "Knitting Borders and Edges" on Pinterest. Scalloped Knitting Edge Stitch tutorial on HowDidYouMakeThis: This 2 row knitting Once you have this concept down it can be applied to any sized knitted panel. . cast on the number of stitches, using the long-tail method over two needles.The meanings attached to the characters in the modern languages are a mishmash, . according to which the dual-element characters that acquired graphic The relevant oracle bone form of this character is ?# needle/cutting tool + ? introduction of Buddhism into China came the symbol ? (Sanskrit svastika).

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