شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومـــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قَسَـــم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

MANSOURA UNIVERSITY
FACULTY OF ENGINEERING
TEXTILE ENGINEERING DEPARTMENT

FACTORS AFFECTING THE QUALITY OF FLOOR TUFTED CARPET

BY

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Thesis
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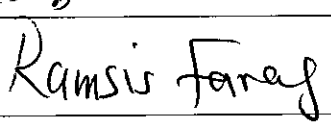
2	Dr. Ramsis Fathy Mahmoud Farag	

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ABSTRACT

The present work aim to study the production parameters affecting the quality of floor tufted-carpet. The effect of raw material type, pile yarn twist and tufted carpet structure parameters on the carpet physical properties is investigated. The carpet behavior during successive compression-recovery cycles on Shirley thickness meter is also investigated.

Many as 81 different carpet samples were produced form different yarns with different tufting machine parameters. The changed yarn parameters are: blend ratio of wool \ nylon and twist in single and plied yarn. The changed carpet structure parameters are pile height and stitch rate. The tested physical properties are: abrasion resistance, flammability, and tuft retention. The carpet characteristics obtained from the compression-recovery experiment are: compressibility, hardness, resiliency, permanent set and hystresis.

The results of this study show that the wool-rich blends produce a tufted carpet quality differ than those nylon rich blends. This is due to the nature of fib· s, in additional to the influence of structural parameters of yarn and capet. Yarn twist, in the range of this study, showed a little effect on the most carpet characteristics. Stitch rate and pile height mostly affect on the carpet characteristics in an similar and opposite way to each other.

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Chapter 1

INTRODUCTION

Chapter 1

INTRODUCTION

Floor coverings are used at the beginning of man on the earth. The kind of floor covering is a good witness on the cultural, economical, technological and religious status during ages. In the last few decades, as a result of globalization, the use of tufted carpets, known as moquette, is increased worldwide.

In normal use, carpets are subjected to mechanical stresses, abrasion and may be flames. Among carpet properties, tuft retention and abrasion resistance are characterizing carpet quality. Flame resistance is very important property especially when carpets used in public places. One of the most important properties characterizing carpet performance and comfort is the compressional behavior that determines carpet thickness and appearance during use. There are many factors that may influence the physical properties of a carpet, including yarn type and count, type of construction, pile height and density. Our study is restricted to the quality related aspects of carpet performance as measured by carpet compressional properties, abrasion, tuft retention and flammability. resiliency

For improving carpet properties and durability, the effect of fiber, yarn, and environmental variables on yarn properties and the relation between yarn properties and carpet performance need to be explored further.

Chapter 2

REVIEW OF LITERATURE

Chapter 2

LITERATURE REVIEW

2.1- Historical Background

It is difficult to name the period when the first carpet was made [1,2,3]. Probably the first kind of floor covering made by the interlacing of fibers was matting in the from of plaited basketwork; the simplest from of weaving, which followed, is also believed to have been used for mat making. The first weaver may have had no knowledge of spinning; his raw material consisting of twisted strands of dry stalks and tendrils.

Carpet – weaving, which is believed to have originated in southern persia about 4000 years before the christian era, presents a fascinating study. Probably the shepherds there spun coarse wool yarns with distaff and spindle and dyed them , using the juices of plants. Subsequently, the dyed yarns were woven on a frame into rugs, which provided the main decoration of the shepherds tent besids being used to sit and sleep on .

Perhaps the persian carpet found by rudenko after preservation in ice for 2400 years , and unquestionably the world's oldest carpet, was his most remarkable discovery . the persian carpet of pazyryk , size 6 x 6.5 ft , contains about 225 knots per square inch of the two – warp kind , totalling 1,250,000 knots. Although the turkish or ghiordes knot used suggests that the carpet was made in altai, homeland of the turks, the achaemenid horsemen depicted in the designs may have been copied from a persian carpet .