



... To my father
... To my mother
... To my family
... To all my friends

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:خلاصة

اثناء العمليات المختلفة فى اقسام الغزل والنسيج يتم سحب الخيط من البكرة الثابتة بسرعة محددة فان الجزء من الخيط بين البكرة وموجه الخيط يدور حول محور البكرة بسرعة زاوية مما يجعل الخيط يبتعد عن البكرة مكونا ما يعرف بالبالون . حجم وشكل البالون يؤثر على شدد الخيط المسحوب من البكرة مما ينتج عنه بعض المشاكل التى تؤدى الى عدم انتظامية المنتج وبعض العيوب . فى هذه الدراسة تم توضيح طرق سحب الخيط من البكرة – القوى المؤثرة على البالون . تم اجراء اختبارات عملية مفصلة توضح كيف يتغير قطر بالون الخيط اثناء عملية سحب الخيط من البكرة مع المتغيرات الاتية:

- المسافة بين دليل الخيط وقاعدة البكرة -
- زاوية البكرة المستخدمة -
- قطر بكرة الخيط -
- شدد التدوير -
- نمرة الخيط -
- سرعة سحب الخيط من البكرة -

خلصت الدراسة الى ان العوامل اعلاه تؤثر على قطر البالون مما يؤثر على الشدد ووضحت الدراسة انه لكى يتم تفادى الزيادة فى قطر البالون يجب ان يكون دليل الخيط فى نقطة اعلى من نقطة قمة الارتفاع للبكرة مع الاخذ فى الاعتبار تغير قطر البكرة اثناء سحب الخيط الذى ينتج عنه تغيير فى نقطة قمة الارتفاع.

Abstract:

During different manufacturing processes as the yarn drawn foreword at a certain linear velocity, the portion of the yarn between the package and guide eye necessarily attain an angular velocity, through it is rotation about the package axis which causes the yarn to fly out and form characteristic balloon. This affect the tension in the yarn as it is passes through the guide and this affect the product quality and causes some problems during the process. This project explains the three modes of unwinding, balloon physics and show that factors affect the balloon diameter are:

- Guide distance.
- Cone angle.
- Package diameter.
- Winding tension.
- Yarn count.
- Unwinding speed.

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