FACT SHEET ELASTANE – THE WONDER FIBRE

What is Elastane?

Elastane fibres are long, polymeric chains made from polyurethane. Their stretch and recovery properties depend on the construction of this chain. An elastane chain contains “hard” segments alternating with “soft” segments, where the hard segments do not stretch easily and the soft segments are readily extensible. The soft highly extensible segments can stretch more than three times their original length. An elastane fibre has at least 85% of its molecular chain made from these soft segments.

What Other Names Does Elastane Get Called?

Elastane fibres were originally called synthetic rubber. Spandex and Lycra are both commercial names that are most likely recognised by consumers.

Where is Elastane Used?

Elastane yarns are used widely today in both woven and knitted fabrics. A minor elastane component of 1-5% is common in these applications. Added comfort and fit make elastomeric fabrics a popular consumer choice.

Application Problems

Elastane filaments can retract from the garment seams, allowing free filament ends to protrude from the fabric surface. The length of free filament can range from short stubby ends to strands up to 20 mm long, giving an unsightly appearance.

Elastane failure is complex and there are a number of issues to consider. Its stretch properties has allowed consumers to wear a ‘size too small’ and this often contributes to product failure.

It is the skill of the garment manufacturer and fabric choice that is relied upon to use the correct type of elastane. Knitwear for instance requires different amounts of stretch to that used in a woven fabric. The elastomeric portion has to stretch at the same rate as the other fibres and then it has to come back to the original dimensions when the load is released.

Identifying the Cause or Potential for Problems

NZWTA conducts a variety of tests on fabrics which include elastane. Tests are able to measure extensibility properties in order to determine the potential for a future problem in a garment. Likewise NZWTA’s skilled and experienced staff can provide information on likely causes after garment damage has been sustained. These causes may be quite diverse depending on the construction of the garment, its typical use and how the garment has been cleaned.

Contact Us

*For more information on testing of garments involving **elastane**, contact **NZWTA** on **+64 6 835 1086**.*