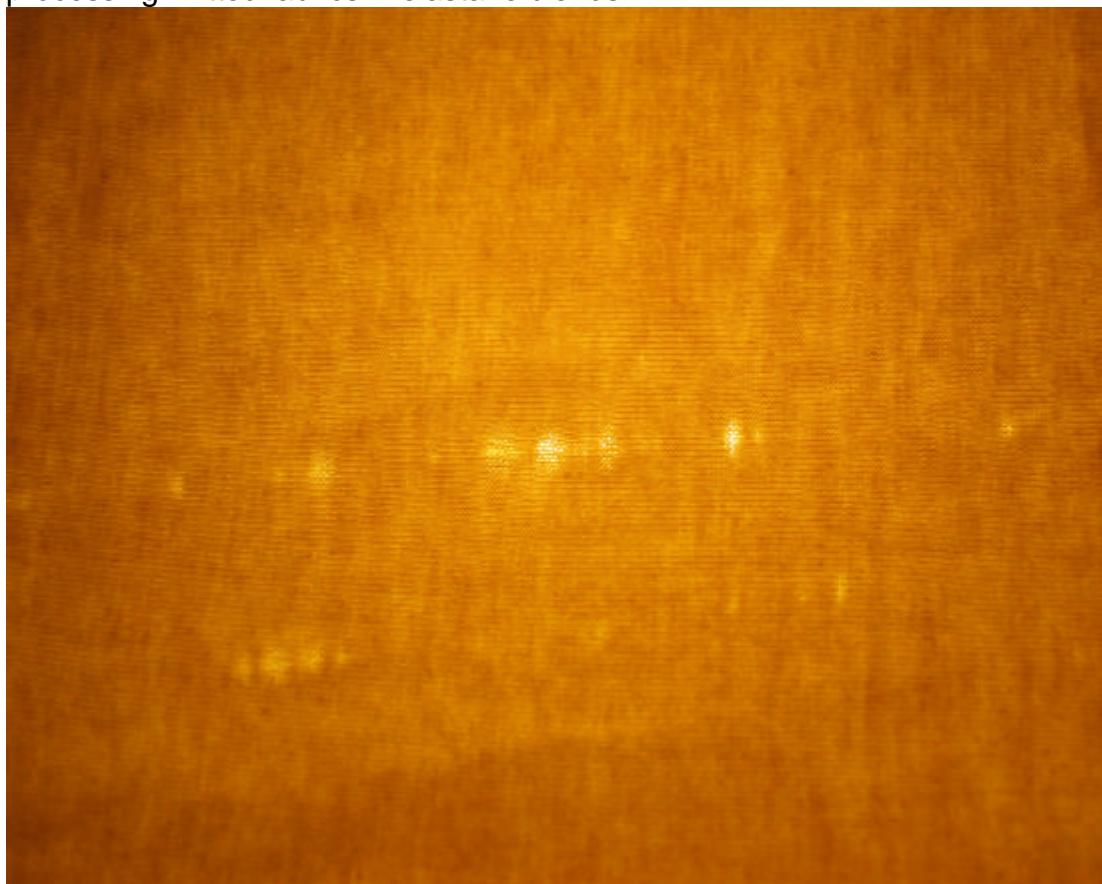


Nearchimica advises about problem of 'pin holes' in elastane blends.

Has your factory experienced problems of 'pin holes' or 'laddering' when processing knitted fabrics in elastane blends?



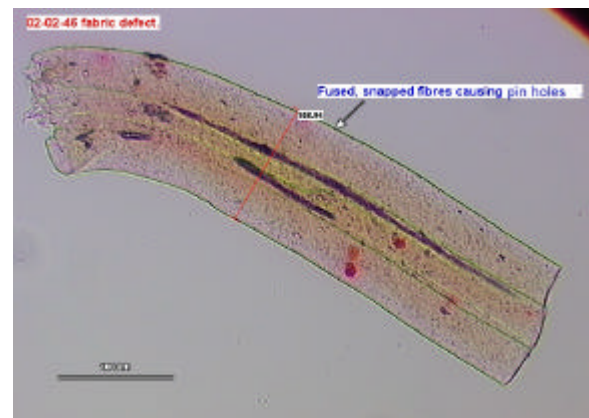
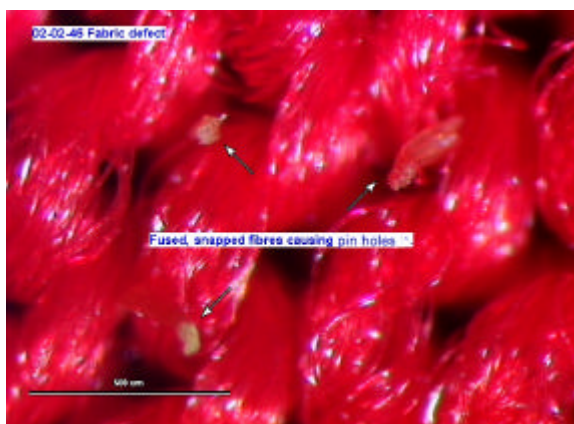
Many customers have experienced problems with pin holes in knitted fabric containing elastane fibres, especially when fabric is pre-set before any wet processing. Nearchimica have found that there can be two principal causes of this kind of fault, both concerning the oils used in spinning and knitting. The fabric may be pre-set at very high temperatures – typically 190-195° C for Lycra® Types T162C and T167M. No problem is apparent after heat-setting, but after subjecting to some tension, when dyed on a jet or overflow machine, 'pin holes' or 'laddering' appear when the fabric is held up to the light.

Speak to Nearchimica about how to avoid these problems.

- It is not so well known that all of the spinners of elastane fibres recommend caution when selecting the knitting oil used in knitting elastane blends, when the fabric will be pre-set before any wet processing.
 This is because it is possible that the emulsifying agents used in formulation of self-emulsifying or auto-emulsifying knitting oils can damage the elastane fibre. At the very high temperatures used in pre-setting, the emulsifiers in the knitting oil can enter into the elastane fibre structure and result in a 50% loss in tensile strength. After pre-setting there is no evidence of damage to the fabric, but when loaded into a jet dyeing machine and subjected to some tension, the elastane fibre can break leaving a pin hole or causing a 'ladder' in the fabric.
- Every spinner of elastane fibres uses silicone oil in spinning to assist in lubrication and to prevent 'tack' – preventing the elastane fibres from sticking together where they cross. Knitting and weaving oils will also be used during fabric production. During heat-setting of the fabric at 190-195° C or thereabouts, these oils present within the fabric can become super-heated – heated to such a high temperature that the oil will melt adjacent fibres.

Fibre	Plasticizing point	Melting Point
Polyamide 6,6	235/240° C	250/260° C
Polyester	230/240° C	250/255/260° C
Polyamide 6	215° C	225/230° C
Spandex (Lycra)		230° C

Example of a polyester/Lycra® fabric, dyed to a red shade, exhibiting pin holes.



In either of the above cases, damage can be prevented if the oil present on the fabric is effectively removed before heat-setting, using **NEARPON KR** from Nearchimica, a detergent specifically developed for the scouring of difficult to remove oils, like the silicone oil present on elastane fibres.

