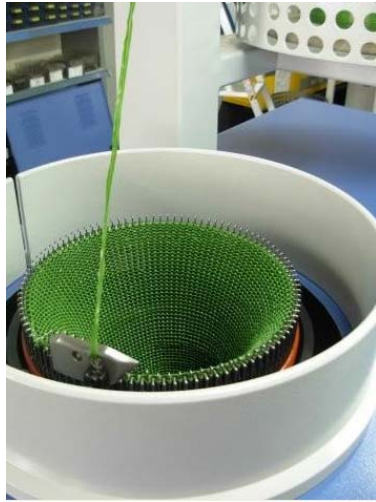


Strain measurements of needles during the operation of the textile machine



Yarn inside the textile machine during the operation step by step changing from one needle to another



120 Ω 1 mm X 1 mm size small strain gauge positioned at the top of hook region



Final view of strain gauge bonded onto the hook of the needle. Special Teflon insulated cables are inserted into the machined channel

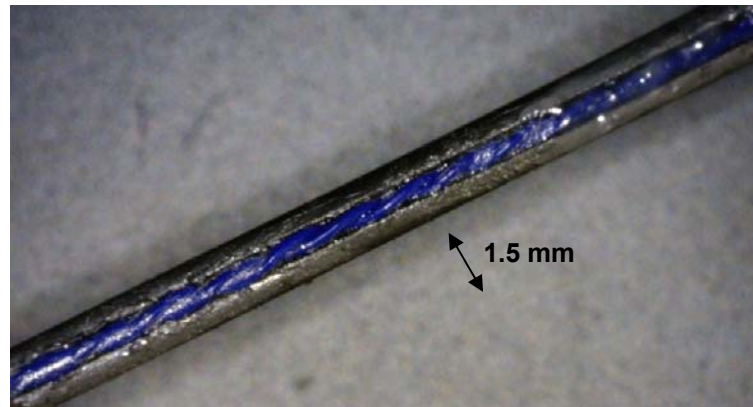
Company who manufactures the machines:

Ipekçiöglu Textile machines

Rami Kışla Cad. Emintaş Aktoker San. Sit. No:165

Daire:160 Bayrampaşa / İstanbul

Turkey



Twisted cable inside the groove embedded



The second strain gauge bonded inside the cavity of the needle.