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(71) Applicants:
• **Politecnico di Milano**
20133 Milano (IT)
• **Stazione Sperimentale per la Seta**
20133 Milano (IT)

(72) Inventors:
• **Freddi, Giuliano**
20133 Milano (IT)

• **Tanzi, Maria Cristina**
20133 Milano (IT)
• **Fare', Silvia**
20133 Milano (IT)
• **Alessandrino, Antonio**
20133 Milano (IT)
• **Calimani, Roberto**
20129 Milano (IT)

(74) Representative: **Long, Giorgio et al**
Jacobacci & Partners S.p.A.
Via Senato 8
20121 Milano (IT)

(54) **Silk fibroin textile structures as biomimetic prosthetics for the regeneration of tissues and ligaments**

(57) The invention concerns a silk fibroin weave structure comprising a concentric tubular outer sheath and an inner core, wherein said sheath is a woven fabric with interlaced loop and said core is a woven fabric with interlaced loop or is braided using a braiding machine.

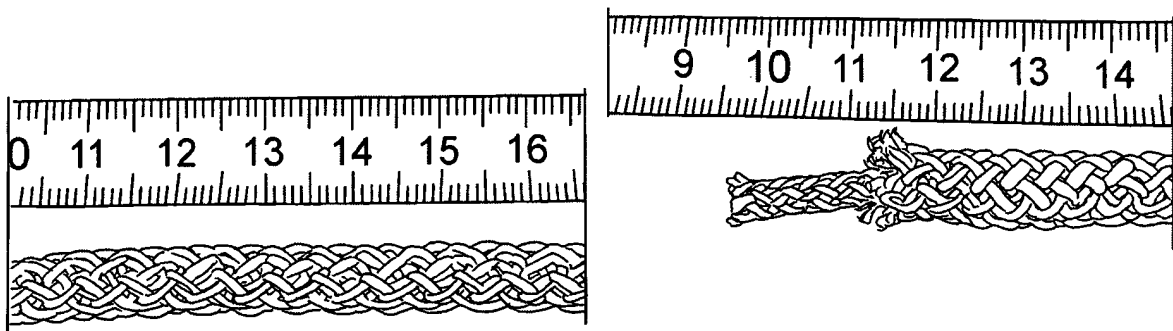
The silk fibroin used to weave the structure of the invention is a silk yarn with a linear density comprised of between approx. 40 den and approx. 640 den, preferably, the linear density is approx. 80 den or approx. 320 den.

The core of the structure has a mean pore area com-

prised of between 0.001 and 2.000 mm², while the outer sheath has a mean pore area comprised of between 0.005 and 15.000 mm².

The structure of the invention is used for the *in vivo* or *in vitro* regeneration of ligaments, particularly the anterior cruciate ligament, tendons, muscles and blood vessels. Furthermore, the structure promotes *in vivo* and *in vitro* cell adhesion and proliferation.

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Fig. 3