

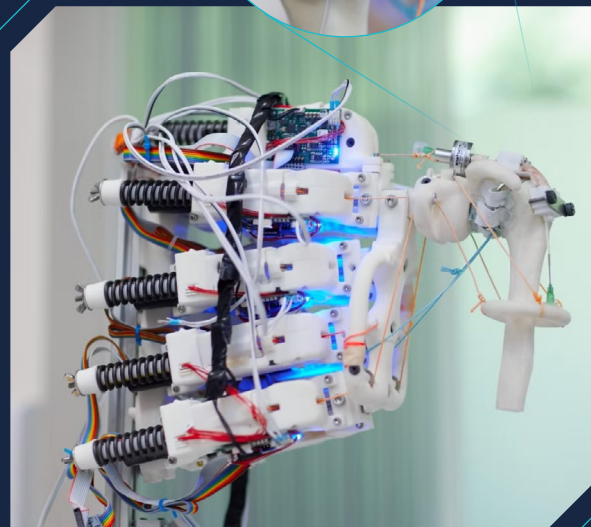
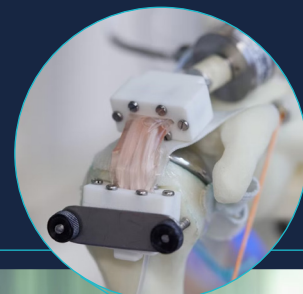
INNOVATION
BULLETINPERFORMANCE
ENHANCING
TUFTANE® TPU
FILMS

Permali have supplied **Tuftane TFL-2EA** film in a pioneering tissue engineering application, supporting the development of advanced humanoid robotic systems; Humanoid robots to mechanically stress human cells grown in soft bioreactors.

The science.

The **Tuftane TFL-2EA** material was used specifically for the fabrication of the flexible tubular membrane. The film is folded in two and the long edge is welded with an electric heat sealer, each end of the tubular membrane is then positioned accordingly. This transparent polyether-based thermoplastic polyurethane film was specially selected due to its sealable, elastic and bio-compatibility behaviour combine to allow the membrane to retain its integrity at high strains .

TPU film technology continues to be used in cutting edge applications in the medical sector including medical devices, bioreactors, plasma bags, PPE, isolation fabrics, bio-medical reactors, pharmaceutical containment, disposable surgical arm covers and hot melt adhesive films for flexible bonding.



Credit: Fisher Studios / MedicalXPress

[Watch the video ▶](#)

[View the full paper](#)

THE FUTURE OF REGENERATIVE MEDICINE IS HERE.

Characteristics of Tuftane:



Highly elastic
& tough



Wear resistant



Environmentally
resistant



Variety of colours



Additive options for
enhanced properties



Range of film
hardness &
thickness



Easy to weld



Up to 650%
elongation



Compliant with
ISO10993



Anti-static,
anti-microbial &
anti-slip properties

Other applications



Construction
Body armour



Aerospace
Aircraft flooring &
furnishings



Motorsport
Fuel cells and
automotive
components



Textiles
Laminates for
furniture, sports
equipment & PPE

Have you got another application in mind? Are you looking to collaborate with an expert material science company?

We can make our materials work for your application.

permali.co.uk/contact

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