

**leMur**  
— ITALY —

*muriel*<sup>®</sup>

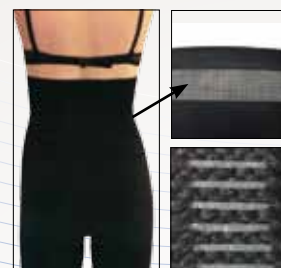
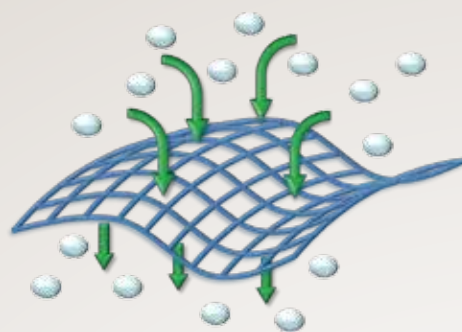


**On the edge of elastic yarn  
The finest continuous silicone profile  
in the world**

## APPLICATIONS

Thanks to its unique properties, innovative yarn *muriel*<sup>®</sup> is suitable for **various applications** in different areas.

- Plastic surgery (*Elasticum*<sup>®</sup>, [www.korpo.it](http://www.korpo.it), *muriel*<sup>®</sup>-med)
- Greenhouses (*OMBRA DLS*, [www.elasol.eu](http://www.elasol.eu), *muriel*<sup>®</sup>-ray)
- Sensor, i.e. monitoring systems (*muriel*<sup>®</sup>-sensor)
- Temperature stable and flame retardant fabrics (*muriel*<sup>®</sup>-ts)
- Anti-slip textiles (*muriel*<sup>®</sup>-grip)
- Sweating textiles

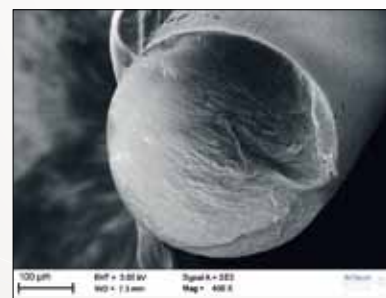


## FEATURES

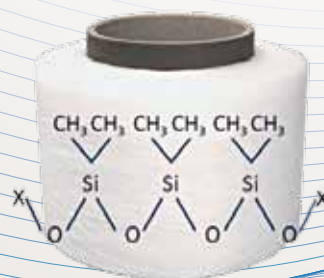
**LeMur Italy** is the first and only company able to produce a continuous extruded profile based on silicone, with a diameter  $\varnothing < 1$  mm and elastomeric properties: *muriel*<sup>®</sup>.

*muriel*<sup>®</sup> possesses a variety of properties that spandex yarns are not able to match:

- Elasticity
- Thermal stability
- Flame retardant
- Water and steam resistance
- UV resistance
- Gas permeability
- Solvent and chemical resistance
- High grip
- Moisture management
- Biomedical compatibility
- Insulation or electrical conductivity



**Silicone** is a material based on Silicon (**Si**), the second worldwide most present element with a long-lived availability.



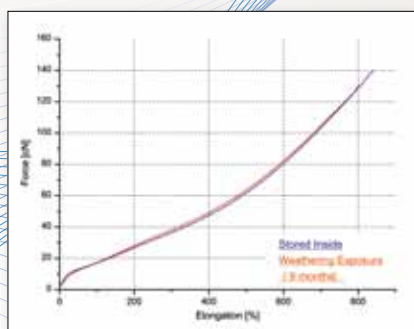
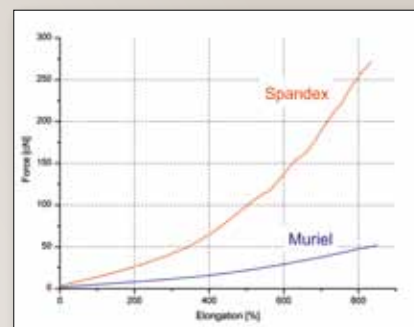
Silicone natural starting point is sand, the same material at the base of glass, cement, semiconductors and ceramic production.

## MECHANICAL PROPERTIES:

What is peculiar in tensile properties of *muriel*<sup>®</sup> is the low force applied to achieve high elongation, as shown in the table below.

Material	Tensile Strength (N/mm <sup>2</sup> )	Elongation at break (%)
<i>muriel</i> <sup>®</sup> 1600 dtex	3	> 900

The presented graph shows that *muriel*<sup>®</sup> reaches the same elongation with lower stress in comparison to a same dtex currently available spandex yarn. So, in comparison to all common spandex yarns, using *muriel*<sup>®</sup> it is possible to attain lower compression stresses.



## UV RESISTANCE PROPERTIES:

*muriel*<sup>®</sup> is almost untouched from UV radiations without any ageing phenomenon occurring; its properties only change a little after a long time exposure (several years).

The mechanical test presented demonstrates that after many months of weathering exposure the properties are unchanged.

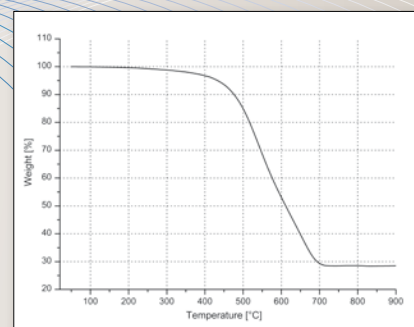
## THERMAL PROPERTIES:

*muriel*<sup>®</sup> shows very low transition temperatures, for this reason the yarn stability is provided even many degrees below zero, with a slow elasticity decrease starting from T= -40 °C.

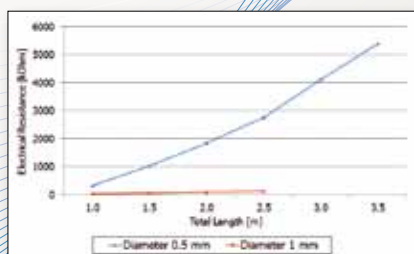
*muriel*<sup>®</sup> maintains its thermal stability up to T= 350 °C without any chemical or physical change, i.e. due to decompositions, reactions or volatiles loss. Moreover, at T= 500 °C it loses only 15% of its weight.

*muriel*<sup>®</sup> hot-air resistance assures the mechanical properties keeping even at high temperature loading.

*muriel*<sup>®</sup> shows flame retardant properties and when burns it doesn't form scalding drops but a non-toxic ash releasing non-corrosive combustion gasses.



Test performed by Materials Engineering department of University of Trento, Italy



Test performed by ITP GmbH, Germany

## ELECTRICAL PROPERTIES:

*muriel*<sup>®</sup> can exhibit insulating properties, conductive properties or high sensitivity electrical resistance variation depending on the base material and/or the post-processing treatment used.

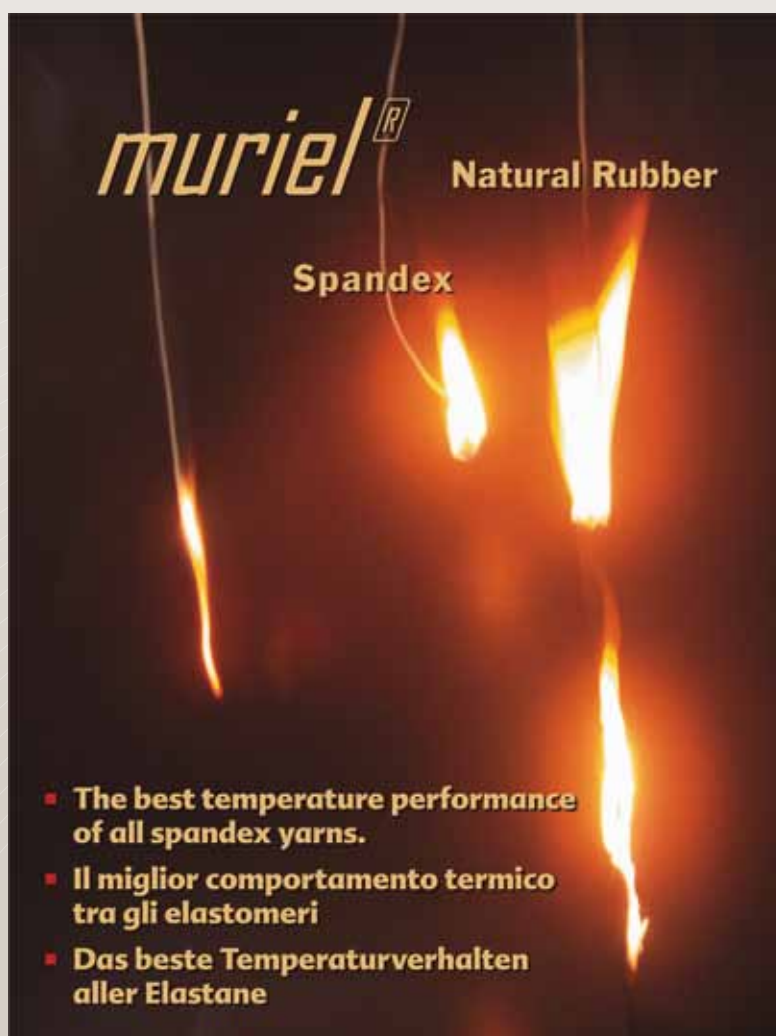
## COLORS:

*muriel*<sup>®</sup> can be produced in a broad variety of colors, meeting all your needs or wishes.

*muriel*<sup>®</sup> can be transparent, standard colored or of a desired nuance. So it is possible to acquire a particular tone and create a customized colored yarn.



- *muriel*<sup>®</sup> is Oeko-Tex Standard 100 certified, I class product.
- *muriel*<sup>®</sup> is Skin Friendly certified for skin contact compatibility (test performed by Hohenstein Laboratories, Germany).
- Elasticum<sup>®</sup>, is a brand of Korpo and belongs to the *muriel*<sup>®</sup>-*med* family. It is registered at the Italian Department of Health (3 April 2009) and CE certified (27 March 2013); it is used by Korpo, a supply company in the fields of Medicine, Plastic and Aesthetic Surgery.
- Limited flame spread: ISO 15025 test performed on textiles containing *muriel*<sup>®</sup>-*ts* gave a 1 mm hole formation after 10 s surface ignition (Index 3).
- UV-resistance: *muriel*<sup>®</sup>-*ray* retains its function after 3000 h QUV test (test performed by Centexbel, Belgium).



The production of *muriel*<sup>®</sup> is protected by international patents

