

DynaMesh®-PP



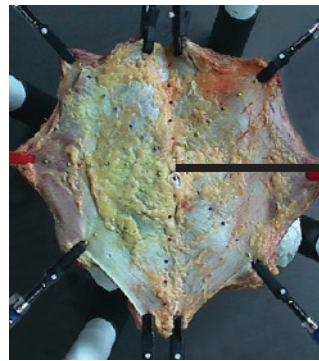
Optimal Dynamometry

Mesh implants for hernia surgery

- 100% monofilament polypropylene
- Best patient safety thanks to optimised stability and elasticity
- Lowest foreign body reaction due to minimised reactive surface
- Minimal formation of scar tissue thanks to maximised effective porosity
- Excellent memory effect, optimal handling

**made
in
Germany**

Optimal Stability & Elasticity

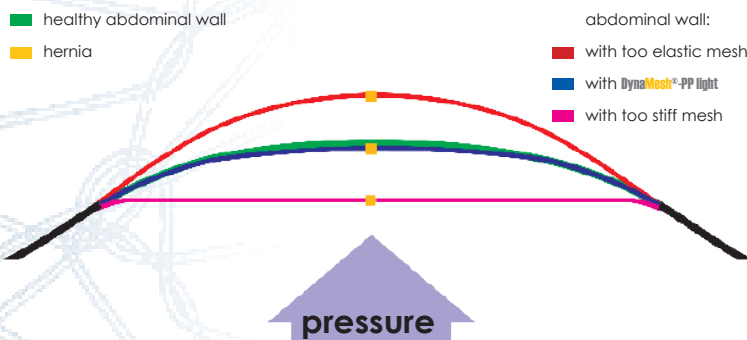


abdominal wall explant

Natural stability of abdominal wall:
32 N/cm

Natural elasticity of abdominal wall:
38% extension at 32 N/cm

Examination of explanted abdominal walls
(source: University Hospital Aachen)



Characteristics of abdominal walls with **hernia** under strain
with **different mesh implants**

To guarantee highest **patient safety** and at the same time best **patient comfort** after mesh implantation the implant must ensure adequate stabilisation of the abdominal wall and must furthermore not affect its natural elasticity.

To reach these objectives the hernia mesh with the ideal dynamometric properties needs a **slightly higher stability** (32 N/cm) and a **slightly lower elasticity** (38%) than the natural healthy abdominal wall.

DynaMesh®-PP light (stability 38 N/cm; elasticity 34%) ensures a safe strengthening and an optimal conservation of the dynamometric properties of the abdominal wall.

Minimal Reactive Surface

Today all modern mesh implants are made of monofilament threads. After implantation foreign body reaction takes place at the thread's surface, independent of its weight. To minimise this foreign body reaction, the total surface of the fibre the implant is manufactured from must be reduced. Thus an excessive scar tissue formation is avoided and a **higher patient comfort** is reached.

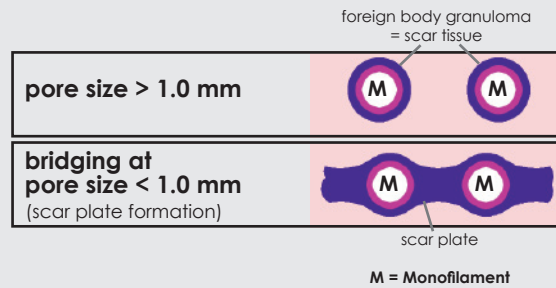
comparison	conventional small-pored mesh implant	closed membrane	DynaMesh®-PP light
implant			
dimension	15 x 15 cm	15 x 15 cm	15 x 15 cm
area of implant	225 cm ²	225 cm ²	225 cm ²
reactive surface of implant (surface of thread)	637 cm²	450 cm²	250 cm²
reaction surface/area of implant (factor)	2.83 cm ² /cm ²	2.00 cm ² /cm ²	1.11 cm ² /cm ²
changing of the reactive surface compared to a closed membrane	+ 42%	0%	- 44%

DynaMesh®-PP light has a minimal reactive surface and therefore causes least possible foreign body reaction and scar tissue formation.

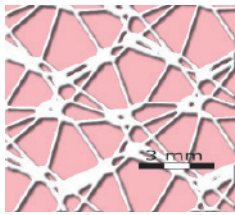
Maximised Effective Porosity

Requirements for optimal tissue ingrowth:

Using polypropylene monofilaments a **thread distance** of at **least 1 mm** is needed to avoid the adherence of scar tissue wrapping the monofilaments (bridging). A scar plate would considerably restrict patient comfort.



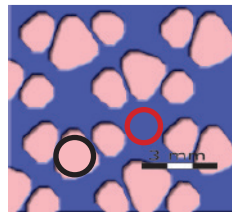
mesh **before** incorporation



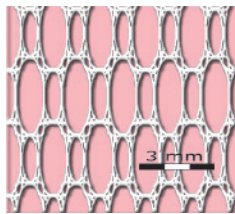
DynaMesh®-PP light



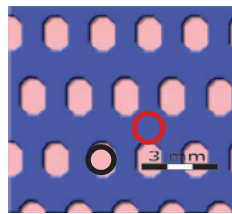
mesh **after** incorporation



effective porosity = 42%



conventional large-pored mesh



effective porosity = 19%



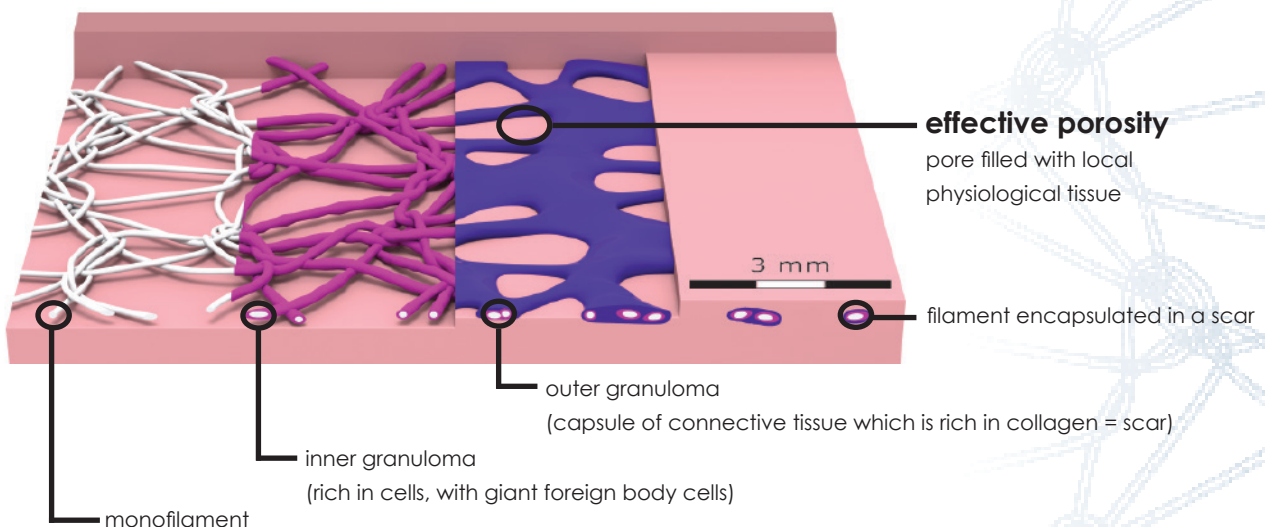
During incorporation the filaments are wrapped by an inner and outer granuloma, i.e. scar tissue. Thread distances of less than 1mm are bridged by scar tissue.

In order to avoid this bridging, pores need to have a thread distance of **at least 1 mm in all directions**. Only then local physiological tissue can form through a pore.

High **effective porosity** of a mesh implant means good permeability for local physiological tissue and thus prevents scar plate formation.

(source: New objective measurement to characterize the porosity of textile implants, Journal of Biomedical Materials Research Part B: Applied Biomaterials; 2007)

Optimal tissue ingrowth with DynaMesh®-PP light:



With an effective porosity of **42%** **DynaMesh®-PP light** reaches the highest value of the (non-absorbable) mesh implants and thus ensures **highest patient comfort**.

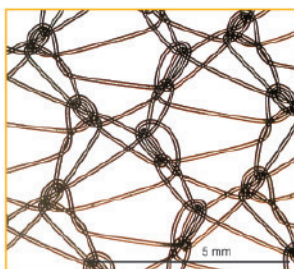
Application

DynaMesh®-PP mesh implants, the **light** as well as the **standard** version, are qualified for the following conventional open and laparoscopic surgery techniques of groin and scar hernia repair:

- Lichtenstein technique or TIPP
- transabdominal preperitoneal hernioplastic (TAPP) or
- total extraperitoneal hernioplastic (TEP)
- further extraperitoneal onlay- and sublay-techniques

Technical Data

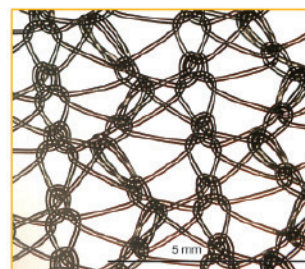
DynaMesh®-PP light



enlarged 12.5 fold

material:
100% polypropylene monofilament
weight: 36 g/m²
thickness: 0.6 mm
pore size: 1.6 mm x 2.6 mm
effective porosity: 42%
reactive surface: 1.11 m²/m²
max. stability: 38 N/cm
physiol. elasticity at 32 N/cm: 34%
max. suture pull out strength: 30 N

DynaMesh®-PP standard



enlarged 12.5 fold

material:
100% polypropylene monofilament
weight: 72 g/m²
thickness: 0.7 mm
pore size: 1.4 mm x 1.8 mm
effective porosity: 21%
reactive surface: 1.91 m²/m²
max. stability: 59 N/cm
physiol. elasticity at 32 N/cm: 25%
max. suture pull out strength: 43 N

Delivery Program

DynaMesh®-PP light

size: 06 cm x 05 cm	unit = 5 pcs. REF PP 010605F5
size: 06 cm x 11 cm	unit = 5 pcs. REF PP 010611F5
size: 06 cm x 30 cm	unit = 2 pcs. REF PP 010630F2
size: 7.5 cm x 15 cm	unit = 5 pcs. REF PP 010715F5
size: 10 cm x 15 cm	unit = 5 pcs. REF PP 011015F5
size: 15 cm x 15 cm	unit = 5 pcs. REF PP 011515F5
size: 20 cm x 30 cm	unit = 2 pcs. REF PP 012030F2
size: 30 cm x 30 cm	unit = 2 pcs. REF PP 013030F2
size: 30 cm x 45 cm	unit = 2 pcs. REF PP 013045F2

Delivery of special sizes upon request

DynaMesh®-PP standard

size: 06 cm x 05 cm	unit = 5 pcs. REF PP 020605F5
size: 06 cm x 11 cm	unit = 5 pcs. REF PP 020611F5
size: 06 cm x 30 cm	unit = 2 pcs. REF PP 020630F2
size: 7.5 cm x 15 cm	unit = 5 pcs. REF PP 020715F5
size: 10 cm x 15 cm	unit = 5 pcs. REF PP 021015F5
size: 15 cm x 15 cm	unit = 5 pcs. REF PP 021515F5
size: 20 cm x 30 cm	unit = 2 pcs. REF PP 022030F2
size: 30 cm x 30 cm	unit = 2 pcs. REF PP 023030F2
size: 30 cm x 45 cm	unit = 2 pcs. REF PP 023045F2

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