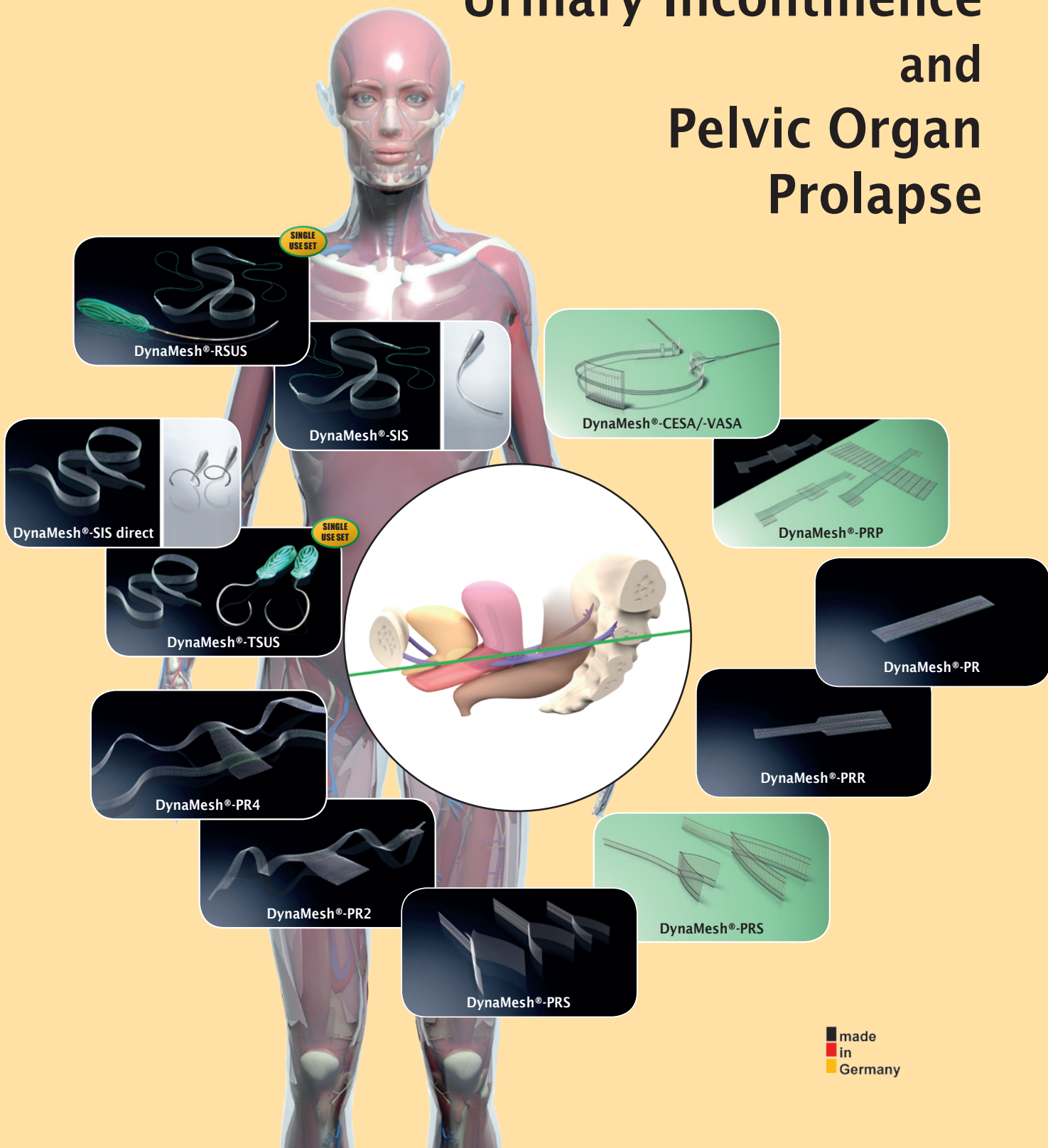


DynaMesh®

by FEG Textiltechnik mbH

Tailored Implants
made of PVDF

Female Urinary Incontinence and Pelvic Organ Prolapse

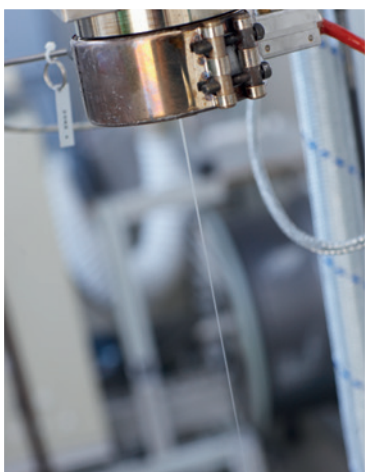


made
in
Germany

Some of our products may not be available in your country. Please contact your local distributor for more information.

Legal information

© FEG Textiltechnik mbH Aachen, Germany
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It all begins with a thread

In the beginning, there was not just any thread but a filament made of PVDF*: tear-resistant, biocompatible and smooth. PVDF “naturally” supplies many of the properties characteristic of an ideal implant. However, the thread first has to be warp-knitted into a textile structure. Not just anyhow but tailor-made for the relevant indication. The right stitch makes the difference. Only through the right stitch can we achieve the “inner values” required, such as stability, elasticity and porosity. So the end result is not a “one fits all” implant but a specifically created DynaMesh® high-tech product. A product which enables doctors to perform their duties as effectively as possible – and which gives patients many symptom-free and safe years.

***The polymer PVDF**

The starting point for all DynaMesh® products is a PVDF monofilament – a synthetic yarn made from polyvinylidene fluoride. Its diameter is between 0.085 and 0.165 mm. PVDF is an extremely ageing-resistant, thermoplastic fluoroplastic with suitably adapted elasticity. It is tear-resistant, biocompatible and produced with extreme precision. PVDF has been known to be a superior suture material since 1995; it has been used successfully in textile implants since 2003 [1,5].

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Implants for female urinary incontinence and pelvic organ prolapse

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What matters to you as a doctor

Textile implants that deliver optimal and efficient patient care. Efficient and uncomplicated handling during surgery. Surgical results that give doctor and patient lasting satisfaction.

What matters to your patients

Textile implants which are virtually undetectable, which provide freedom of movement without discomfort or restrictions and whose long-term functioning can be monitored postoperatively, thanks to visible technology, without further surgical procedures. Long-term solutions which mean they can live free of pain and discomfort.

What matters to us as the manufacturer

Textile implants made of a raw material which we understand completely: PVDF. A production that we have under control from start to finish. Our products are not only tailor-made for the relevant indications or surgical techniques but also been developed alongside surgeons for new and improved surgical procedures.

DynaMesh[®]
by FEG Textiltechnik mbH



Everything under one label

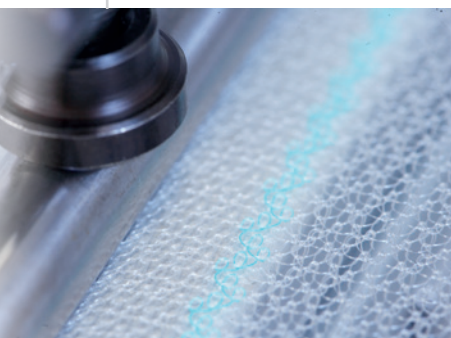
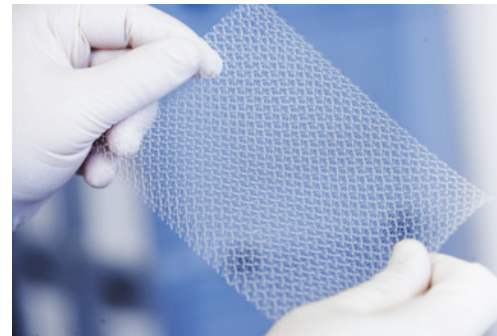
We, FEG Textiltechnik mbH, have our company head office in the city of Aachen (North Rhine-Westphalia, Germany). We are the leading developer of textile implants, which we manufacture exclusively in Germany. They are distributed worldwide under the brand name **DynaMesh**[®].

DynaMesh[®]
by FEG Textiltechnik mbH



Everything from a single source

Whether it's a matter of product development, manufacture, quality control, dispatch or advice, we undertake all production steps ourselves from spinning the filament (yarn) to final packaging. In this way, we achieve optimal results at every stage in the process.



Everything under control

When manufacturing our products we place the utmost importance on compliance with Medical Device Directive 93/42/EEC and are certified according to DIN EN ISO 13485. Production takes place in clean rooms certified according to ISO 14644-1 and graded as class 7 and class C under the EC GMP Directive.



Our company

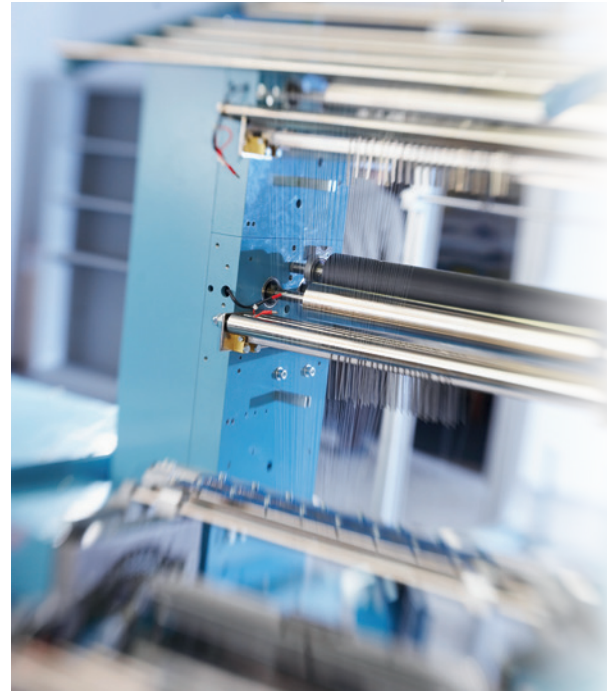
“Made in Germany“ high-tech products

Everything for the doctor

Our range includes customised textile implants for urogynaecology. As part of this, we offer special textile implant structures for the surgical treatment of urinary incontinence and pelvic organ prolapse. Together with experienced surgeons, we organise seminars and workshops.

You can find the latest information about workshops at:
<https://dyna-mesh.com>

DynaMesh[®]
by FEG Textiltechnik mbH



Everything for the future

Our high-performance Research and Development Department is working on the next generation of products today. In association with the world's leading research facilities and hospitals, our engineers work with well-known medical specialists to shape the future.

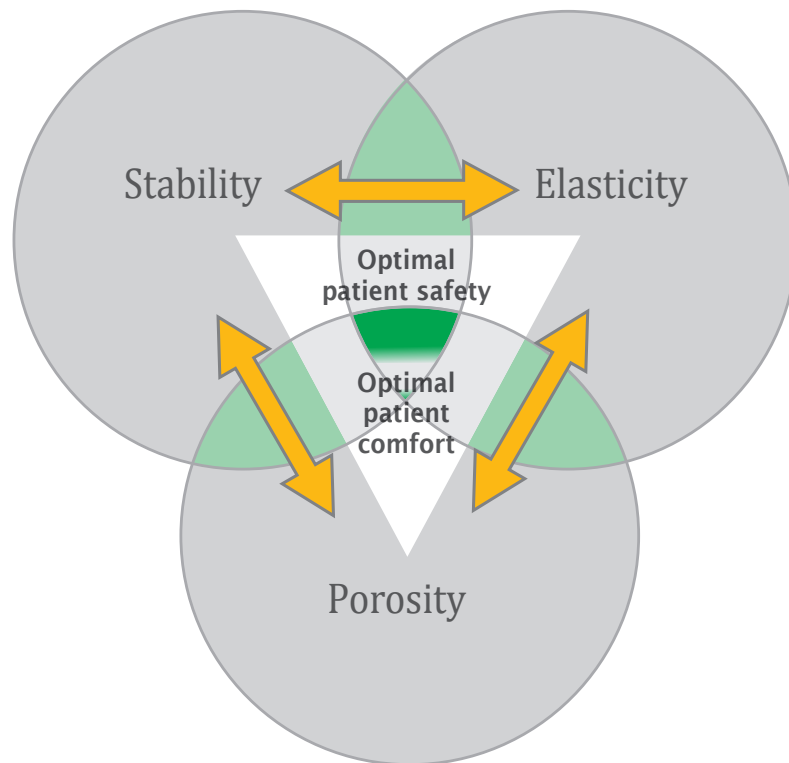
Everything with distinction

In 2003, we were awarded the Aachen Innovation Prize.
In 2007, our **DynaMesh**[®] **visible** technology won an award (“Innovation competition to promote medical technology” by the Federal Ministry of Education and Research).



Restoring functionality

Implants are designed to replace natural bodily functions that have been lost and in doing so to restore balance to destroyed physiology.



Understanding the problems

To develop an optimal implant we need to ask ourselves a lot of questions. For example: In which part of the body will it be implanted? What functions does it have to fulfil? What static and dynamic stresses act on the implant? Relevant dynamometric measurements, discussions with surgeons and the expertise of our engineers provide the answers.

Defining functionality

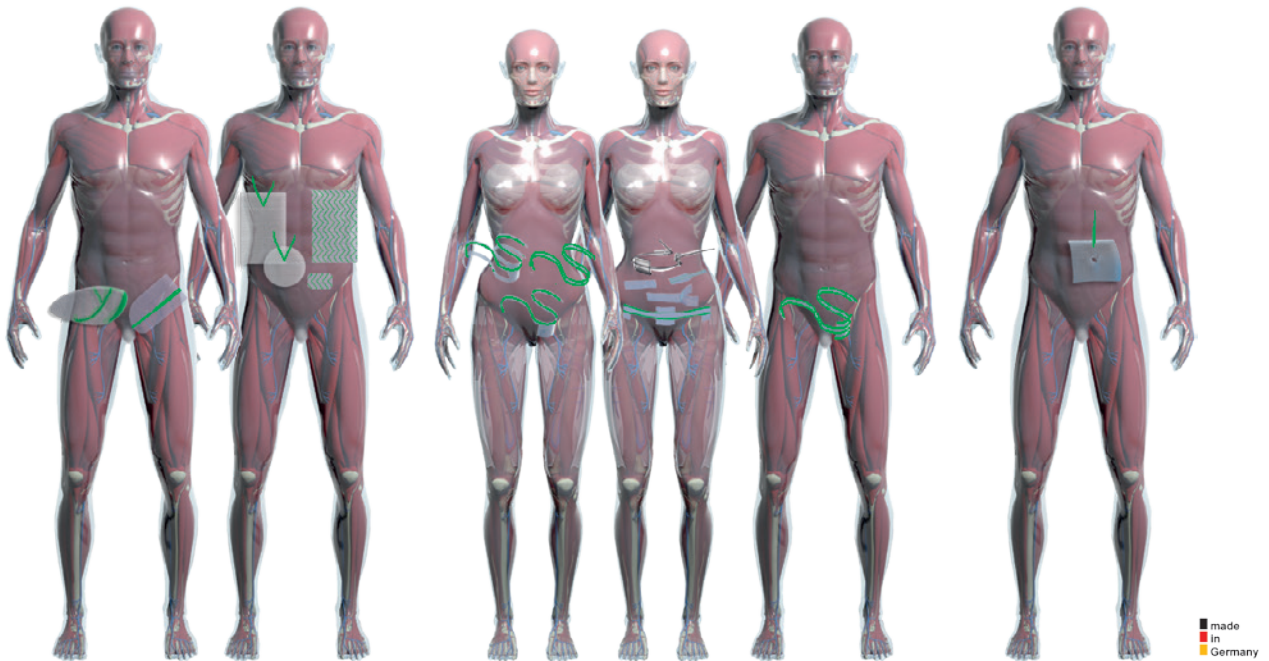
Together with medical experts our engineers can define the shape, functionality and profile of properties for the implant. They now know exactly what stabilities, elasticities and porosities are required, how handling can be improved for the surgeon and much more.

Our development

A specific solution for every indication

Finding individual solutions - avoiding the wrong path

There is no such thing as a single textile structure for all indications - no "allrounder" for all cases (no "one fits all"). As every indication makes different demands of a textile implant, every indication needs its individual solution (a tailored approach).

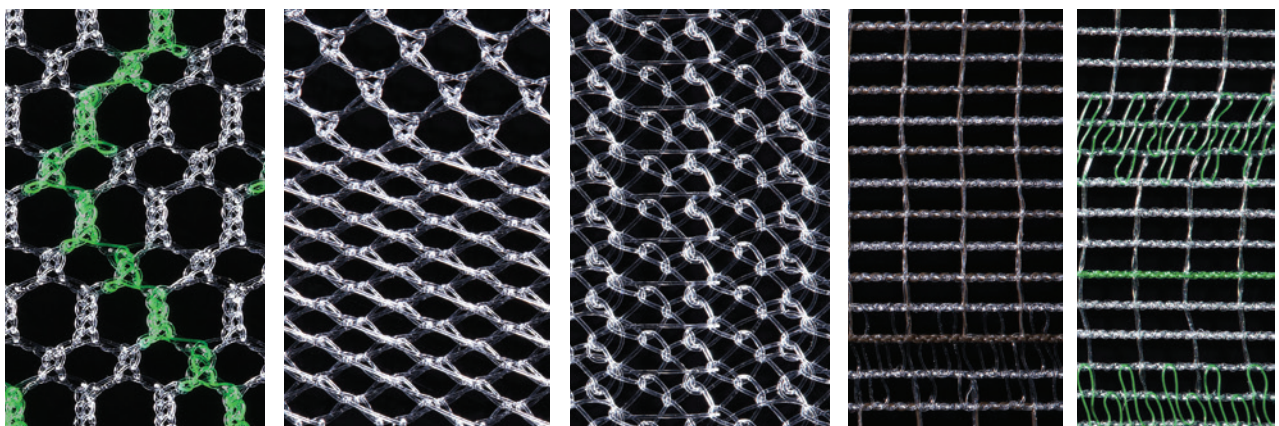


Adapting properties

DynaMesh® products are not woven or conventionally knitted but warp-knitted*. This technology, unlike any other, makes it possible to make specific variations in the shape and structure of a textile implant, which means that we can construct features with different characteristics in different places within the structure. More accurate adaptation of implants to the relevant indication is impossible.

*Warp-knitted fabric.

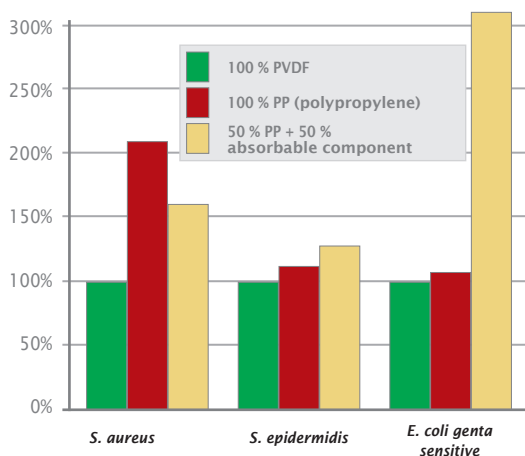
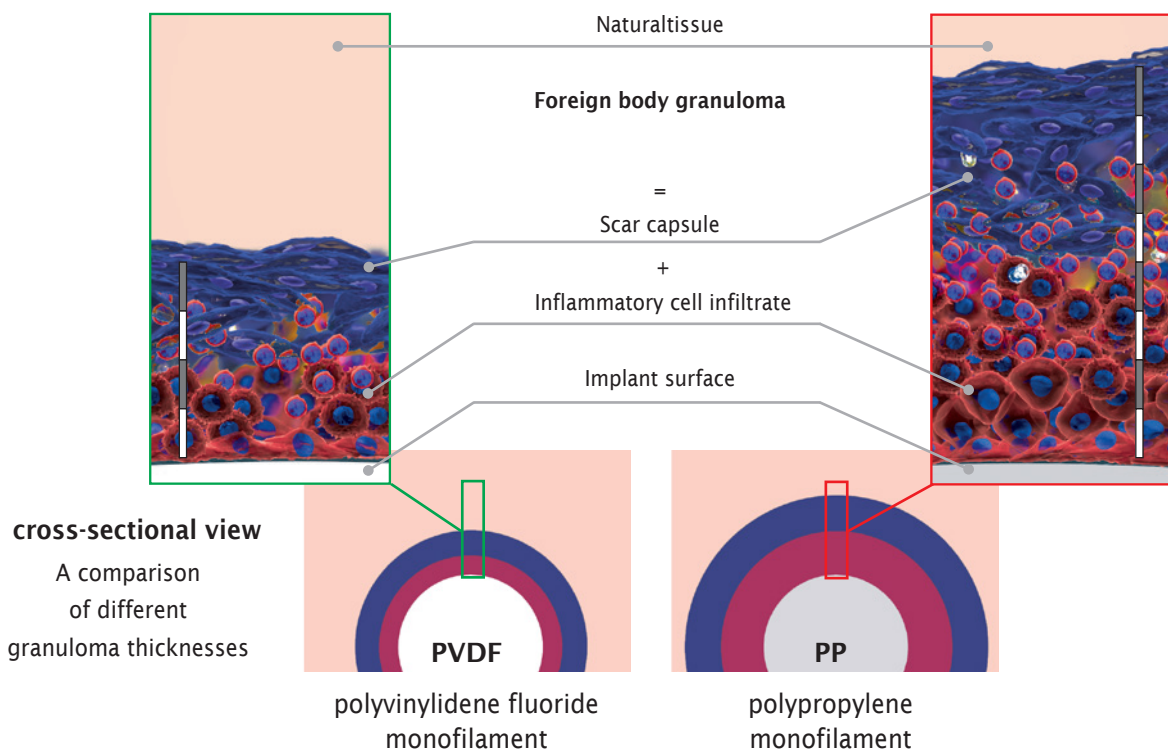
Warp-knitted fabrics are a type of knitted fabric. A warp knitting machine is used for industrial production of this kind of fabric (by stitch formation from thread systems).



The filament (“yarn”) we spin from the high-tech polymer PVDF is the first guarantee of the high quality of DynaMesh® products: a filament with many positive “natural” properties. The textile structures warp-knitted from this are the second guarantee.

Very high body compatibility

PVDF filaments have excellent biocompatibility and reduce adverse foreign body reactions, such as scar contractions or pain. In addition, they are finer and smoother than conventional filaments. So PVDF is associated with substantially lower granuloma formation (scar tissue) compared with conventional polymers [2,3,4].



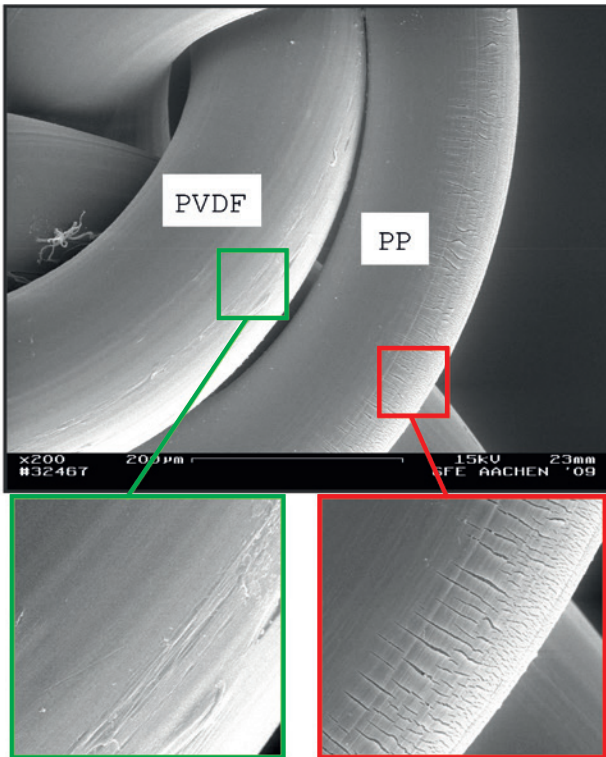
Reduced bacterial adherence

Scientific studies* from Aachen University (RWTH) Hospital demonstrate that lower quantities of bacteria adhere to textile implants made from pure PVDF (reduced bacterial adherence). This is a significant finding for all open techniques because the risk of infection drops substantially with lower bacterial adherence.

* **Klosterhalfen, B.**, Pathologisches Institut, Krankenhaus Düren and **Klinge, U.**, Universitätsklinikum Aachen «Vergleich von Bakterienadhärenzen» (2010)
 A comparison of 100% PVDF (polyvinylidene fluoride) with 100% PP (polypropylene) and 50% PP + 50% absorbable component. In this study, cultures of reference strains of relevant bacteria were applied to different meshes. A subsequent fluorescence measurement clearly showed that the smallest quantity of bacteria had colonised meshes made from pure PVDF.

DynaMesh® products

Excellent properties



High ageing resistance

It is not just experience that shows that PVDF provides lasting success in many surgical disciplines. A long-term study over seven years has demonstrated that the condition of the PVDF surface remains unchanged. Thread and warp-knitted fabric remain stable and nothing becomes brittle [2].

A long-term trial (7 years):

- PVDF loses only 7.5% tensile strength
- PP loses 46.6% tensile strength and stiffens

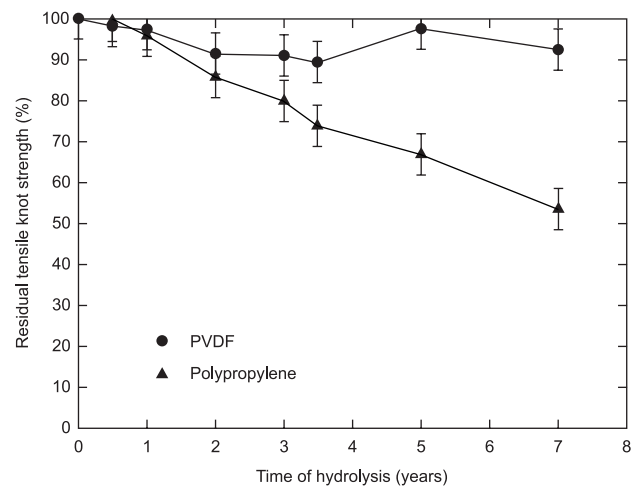


FIG. 5. The residual tensile strength of PVDF and polypropylene sutures during the 7 years of exposure to hydrolytic conditions is illustrated.

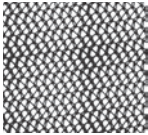

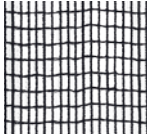
With the kind permission of:

Laroche G, Marois Y, Schwarz E, Guigoin R, King M W, Pâris E, Douville Y:
Polyvinylidene Fluoride Monofilament Sutures:

Can They Be Used Safely for Long-Term Anastomoses in the Thoracic Aorta?
Artificial Organs 19/11: 1190-1199; ©Blackwell Science, Inc., Boston (12/1995)

Minimally reactive surface

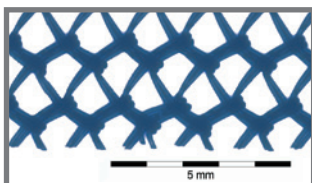
If you want to minimise adverse foreign body reactions and scarring associated with textile implants, besides using biocompatible material you have to provide the least possible contact area. The following formula applies: thread surface = bioreactive surface area of the implant. Our implants have a comparatively minimal reactive surface area, which means that they cause the least possible foreign body reaction and scar tissue formation.

Comparison	Conventional small-pore mesh implant	Closed membrane	DynaMesh®-PR soft
Implant/Size	 15 x 15 cm	 15 x 15 cm	 15 x 15 cm
Plant surface area	225 cm ²	225 cm ²	225 cm ²
Reactive surface area of the implant (thread surface)	637 cm²	450 cm²	428 cm²
Reactive surface area / implant surface area (factor)	2.83 cm ² /cm ²	2.00 cm ² /cm ²	1.90 cm ² /cm ²
Change in the reactive surface area compared to closed membrane	+ 42%	0%	- 5%

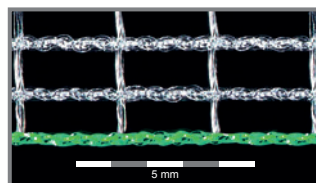
Atraumatic selvages

DynaMesh® products are not simply cut from a flat piece of mesh. Using our special warp knitting machines we are able to produce smooth and therefore atraumatic selvages (no “sawtooth” edges).

These “soft” selvages make it easy for the surgeon to place and adjust the implant - without irritating or even damaging the surrounding tissue. And the patient receives an implant with selvages which will not “pinch” or cause other injury later on.



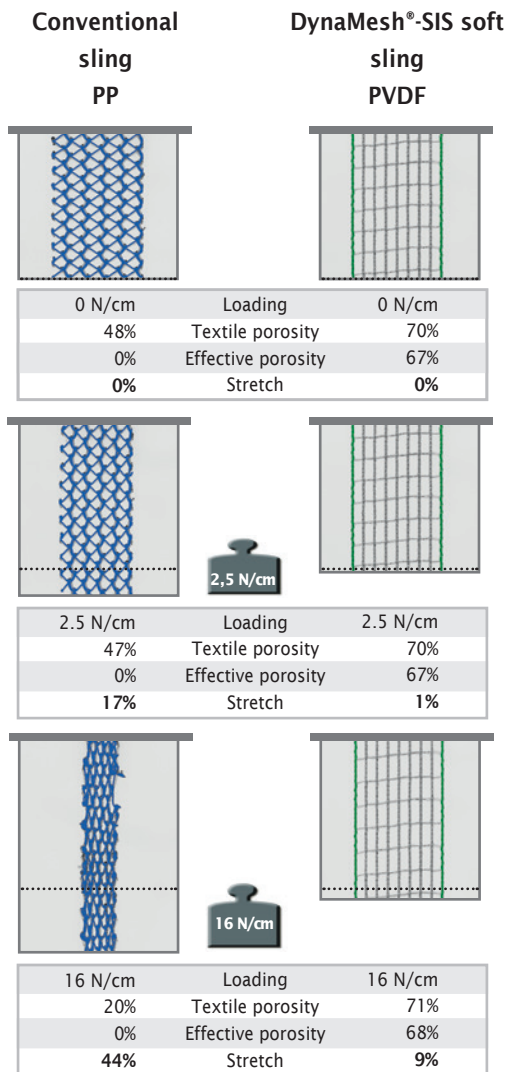
Conventional mesh



DynaMesh®-SIS

DynaMesh® products

Superior Textile Engineering



Pronounced curling up

No curling up

Optimal dynamometry

Sling or mesh implants must reinforce, support, protect or replace muscles, organs, tissues and ligaments. When doing so they have to cushion different forces which prevail in the body, including extreme tensile loading.

Conventional slings and/or implant arms have a strong tendency to curl up under stress. If they are set in motion, this frequently leads to the feared "saw effect".

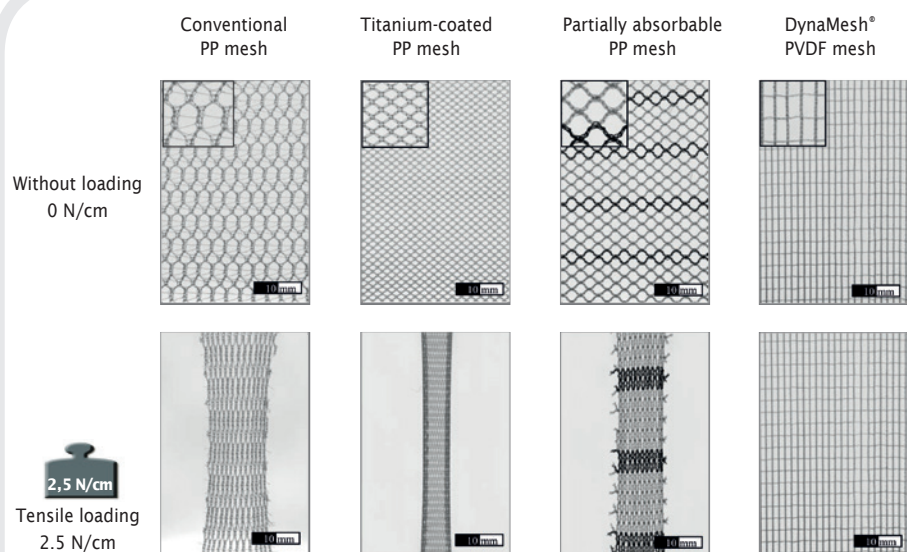
In addition, effective porosity drops to zero and a high risk of erosion develops [21].

Shape stability and defined elasticity

DynaMesh® structures are distinguished by high shape stability with defined elasticity.

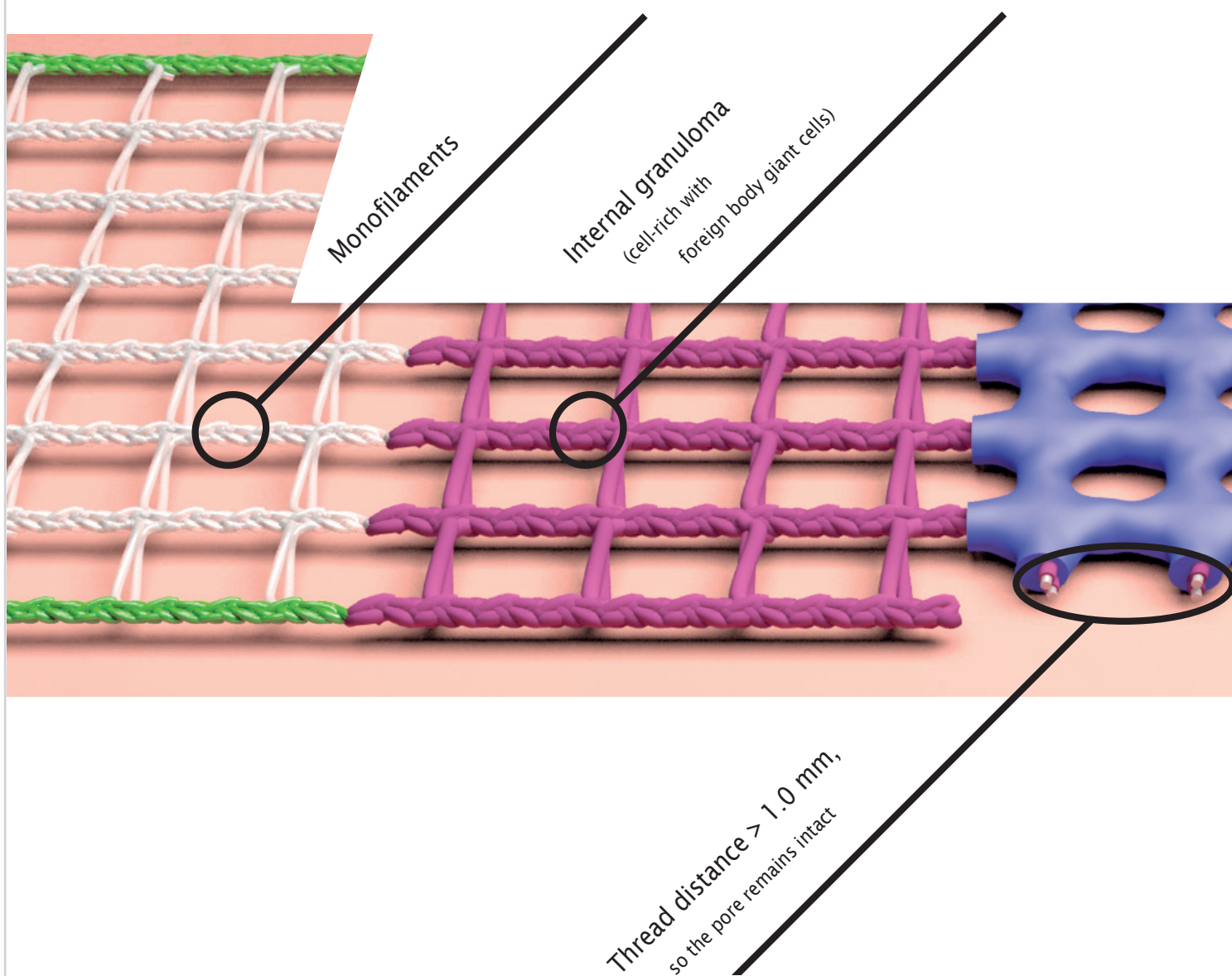
They do not curl up, and they retain their shape and high effective porosity under stress [26].

Effect of low tensile loading (2.5 N/cm) on the shape and pore size of different mesh implants for pelvic floor surgery.



Effective porosity

During incorporation the filaments are enclosed by an internal and external granuloma. When filament distance is too small, there is a risk that the whole of the intervening space will be filled with scar tissue (closed pores). The scar plates that develop in this way cause patients great discomfort. Sufficiently large pores can prevent this.



Textile porosity refers to the permeable component of a mesh **before** the body has reacted to the implant.

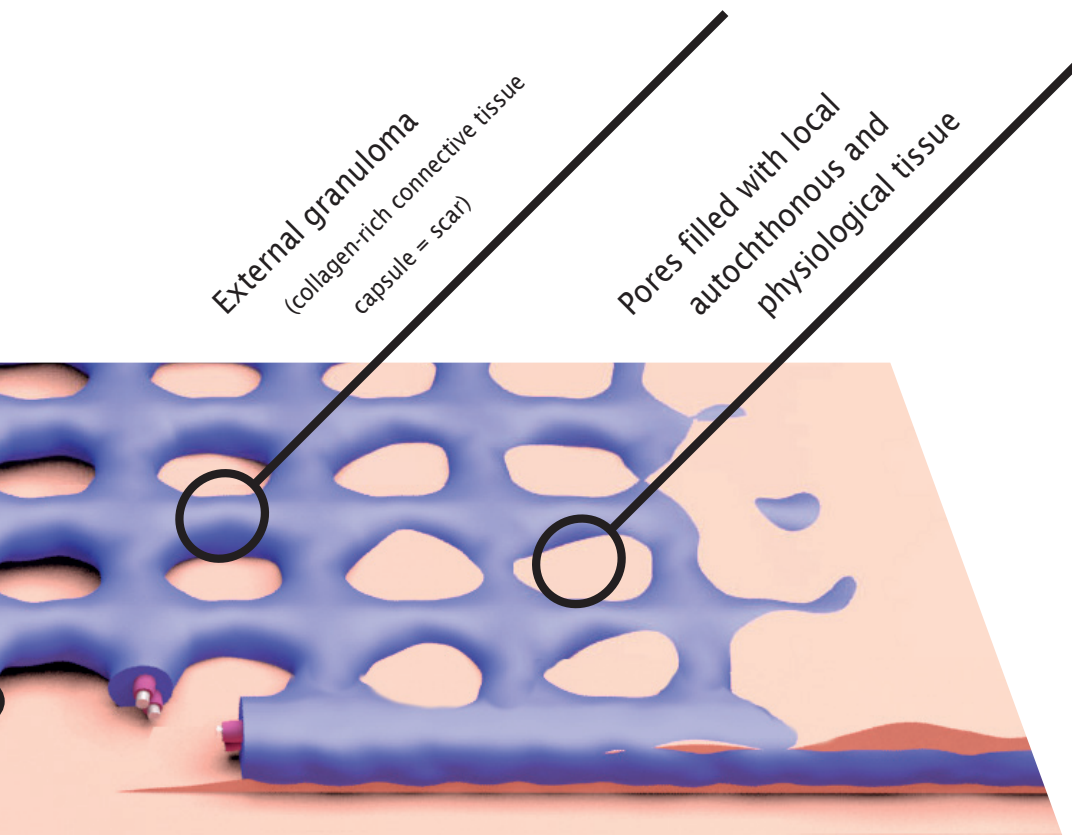
DynaMesh® products

Optimal integration

How is this prevented? PP implants must have a **pore diameter of at least 1 mm** in all directions - under loading as well (!) (**because of the lower** granuloma thickness, just 0.6 mm is sufficient in the **case of PVDF**) - for the pores to remain open.

Only in this way can local autochthonous tissue form through a pore [6,8].

DynaMesh® warp-knitted fabrics provide this prerequisite because of their optimal pore geometry and the high effective porosity* (up to 70 %) achieved through this geometry.



Compared to:

Thread distance < 1.0 mm

Scar plate formation (bridging effect)

Pores closed by scar tissue



***Effective porosity** refers to the permeable component of a mesh **after** the body has reacted to the implant.

Rule of thumb:

A "pore" less than 1 mm in diameter is closed by the body with scar tissue
= 0% effective porosity

The problem with monitoring

In many indications, the correct positioning of the implant must be checked after a certain time. But a “look inside” involves risks. Conventional mesh implants are invisible in diagnostic radiology. Patients sometimes have to undergo a second-look operation.

A simple alternative

The unique DynaMesh® visible provides cutting edge technology, which is extremely safe and effective. To put it simply: we mix the PVDF filament with ferromagnetic micropigments using an inhouse procedure. This guarantees optimal incorporation of the pigments. Long-term tests demonstrate that the micropigments are integrated into the PVDF polymer – you could say hermetically sealed.

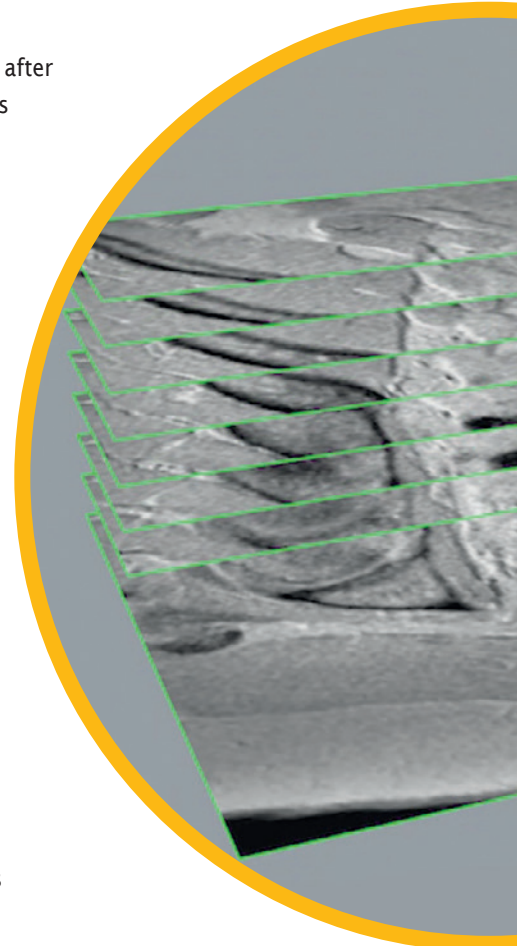
A clear internal view

DynaMesh® visible implants can be made visible using magnetic resonance imaging (MRI) [7] both in standard sequences and in high-resolution, three-dimensional images or even films. As such, radiologists can reliably and accurately determine the position and condition of the implant. Additionally, if required, they can observe how the implant behaves in motion.

Effective healing

Because it is so easy and safe to take a „look inside”, DynaMesh® visible opens up new perspectives. Risk-free monitoring of how healing is progressing, optimal monitoring in clinical studies or more rapid development of pioneering implants – together with world-renowned clinical partners.

Moreover, DynaMesh® visible is the world’s first technology to visualise textile implants. It was given an award by the German Federal Ministry of Education and Research (BMBF 01EZ 0849).



Gained an award
in the innovation competition run by the

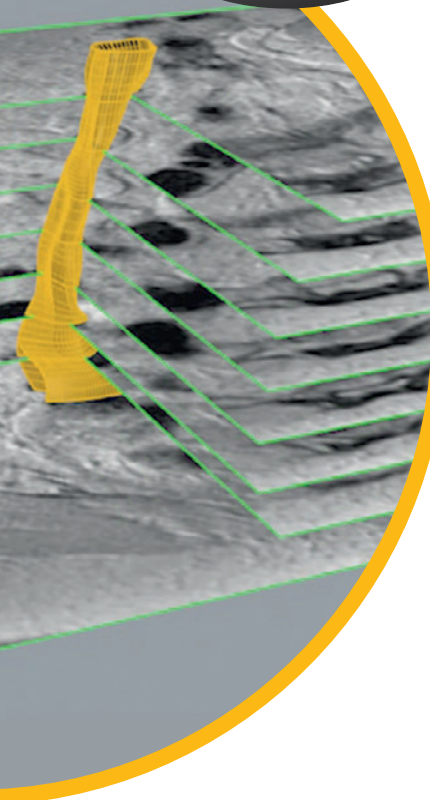


The development was sponsored by the
German Federal Ministry
of Education and Research
(BMBF 01EZ 0849)

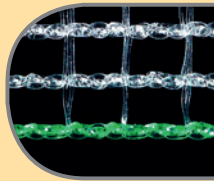
DynaMesh® visible

A better internal view without risk

MRI
visible

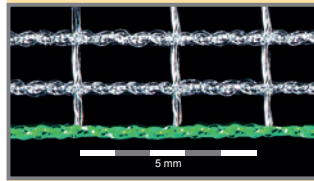


DynaMesh®-SIS



little material
SOFT
large pore

DynaMesh®-SIS soft
with SOFT structure



little material
SOFT
large pore

+

MRI
visible

DynaMesh®-SIS visible
with SOFT structure
+
visible on MRI



DynaMesh®-PRS visible
3-dimensional remodelling



A video on Dynamesh visible technology can be viewed
on our web site at
<https://en.dyna-mesh.com/visible-gb/>

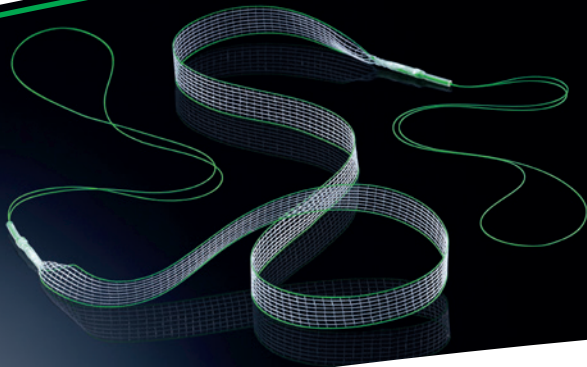


During MRI scans, in imaging terms the part of the body being analysed is scanned step by step and deconstructed into many “wafer-thin optical slices”. At the end, these “slices” are reconstructed to form 3-dimensional images or motion sequences (remodelling).

- The position of the DynaMesh® visible implant can be visualised and monitored in detail. The 3D internal view supplies useful information.

Produktgruppe	SIS p. 20	SIS direct p. 22	RSUS p. 24	TSUS direct p. 25	PR p. 26	PRR p. 27
						
	DynaMesh®-SIS DynaMesh®-SIS soft DynaMesh®-SIS visible	DynaMesh®-SIS direct DynaMesh®-SIS direct soft DynaMesh®-SIS direct visible	DynaMesh®-RSUS DynaMesh®-RSUS soft	DynaMesh®-TSUS direct DynaMesh®-TSUS direct soft	DynaMesh®-PR soft DynaMesh®-PR visible	DynaMesh®-PRR soft DynaMesh®-PRR visible
Pelvic floor reconstruction Indication			Disposable instrument + Implant	Disposable instrument + Implant		
Stress urinary incontinence / SUI	●	●	●	●		
Urinary urge incontinence / UUI						
Mixed urinary incontinence / MUI	●	●	●	●		
Uterus prolapse					●	●
Vaginal prolapse					●	●
Cystocele						
Rectocele					●	●
Surgical access						
Laparotomy (open)					●	●
Laparotomy (endoscopic)					●	●
Transvaginal	●	●	●	●		
Incontinence surgical techniques:						
„Tension free Vaginal Tape“ - retropubic	●		●			
„Tension free Vaginal Tape“ - transobturatoric	●	●	●	●		
Surgical techniques for pelvic floor prolapse – apical						
Cervicosacropexy - unilateral					●	●
Vaginosacropexy - unilateral					●	●
Hysterosacropexy - unilateral					●	●
Cervicosacropexy - bilateral						
Vaginosacropexy - bilateral						
Cervicopexy - bilateral						
Vaginopectopexy - bilateral						
Hysteropectopexy - bilateral						
Surgical techniques for pelvic floor prolapse – anterior:						
Anterior wall repair with implant						
Surgical techniques for pelvic floor prolapse – posterior:						
Posterior wall repair with implant					●	●

Tailored Implants made of PVDF

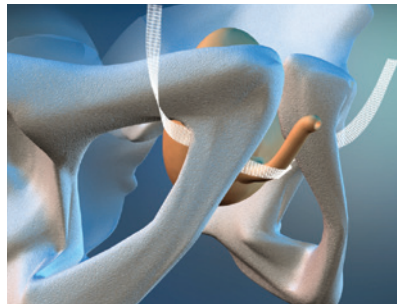
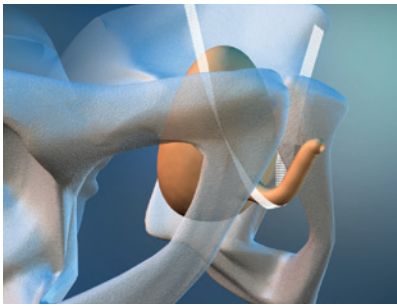


For the surgical treatment of stress and mixed urinary incontinence Retropubic and transobturatoric position of the tape in “inside-out” and “outside-out” technique. Outstanding shape stability, defined elasticity, high effective porosity and atraumatic selvages [21].

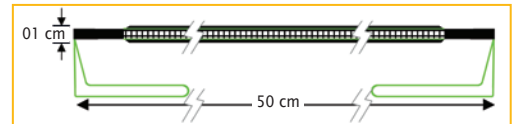
DynaMesh®-SIS
DynaMesh®-SIS soft
DynaMesh®-SIS visible

Retropubic (inside-out)

Transobturator (outside-in)



DynaMesh®-SIS	01 cm x 50 cm	PV211056F1	Unit = 1 EA / BX
		PV211056F3	Unit = 3 EA / BX
DynaMesh®-SIS soft	01 cm x 50 cm	PV411056F1	Unit = 1 EA / BX
		PV411056F3	Unit = 3 EA / BX
DynaMesh®-SIS visible	01 cm x 50 cm	PV471056F1	Unit = 1 EA / BX
		PV471056F3	Unit = 3 EA / BX

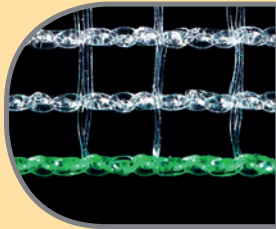


For associated instruments, see page 42

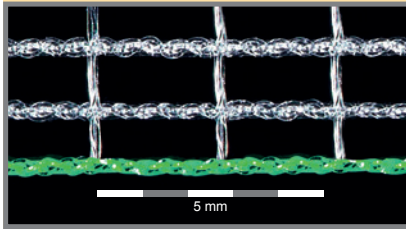
Use and Properties

Product	Field of application	Surgical method	Fixation	Optimal handling	Optimal patient safety	Optimal patient comfort	Atraumatic selvages	No curling up	Shape stability	Defined elasticity	visible technology								
SIS	stress urinary incontinence / mixed urinary incontinence	transvaginal / retropubic / transobturator	none	●	●	●	●	●	●	●	●								
SIS soft											●	●	●	●	●	●	●	●	●
SIS visible											●	●	●	●	●	●	●	●	●
				p.8	p.8	p.12	p.13	p.13	p.13	p.13	p.16								

DynaMesh®-SIS



DynaMesh®-SIS soft
with SOFT structure



DynaMesh®-SIS visible
with SOFT structure
+
visible on MRI



(see page 17)

Associated instruments
for the retropubic application of:
DynaMesh®-SIS / DynaMesh®-SIS soft /
DynaMesh®-SIS visible (see page 42)

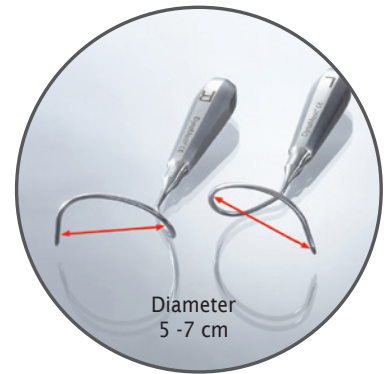


DynaMesh®-ISR01

Associated instruments for the transobturatoric application off:
DynaMesh®-SIS / DynaMesh®-SIS soft / DynaMesh®-SIS visible (see page 42)



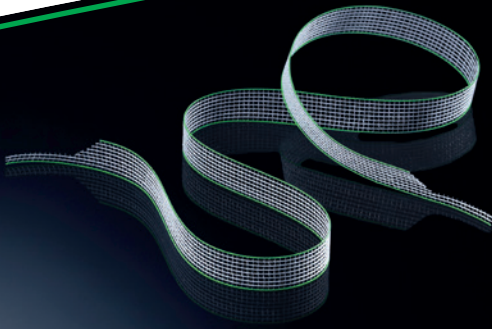
DynaMesh®-IVT01



DynaMesh®-IST01 / -IST02 / -IST03

Technical data

	Polymer (monofilament)	Excellent biocompatibility	Minimal foreign body reaction	Reduced bacterial reaction	High ageing resistance	Optimal dynamometry	Reactive surface ^(a) [m ² /m ²]	Maximum stability ^(b) [N/cm]	Elasticity ^(b) at 16 N/cm ^(c) [%]	Textile porosity ^(c) [%]	Effective porosity ^(c) [%]	Effective porosity at 2.5/16 N/cm ^(c) [%]	Classification ^(d)
PVDF	●	●	●	●	●	2.8	117	6	63	57	57/59	1a	
						2.2	76	9	70	67	67/68		
						2.2	76	9	70	67	67/68		
p.10	p.10	p.10	p.10	p.11	p.13	p.12	p.13	p.13	p.14	p.15	p.15		



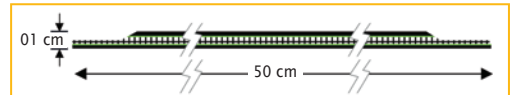
For the surgical treatment of stress and mixed urinary incontinence
Transobturatoric position of the tape, in “outside-in” technique.
Outstanding shape stability, defined elasticity, high effective porosity and atraumatic selvages [21].

DynaMesh®-SIS direct
DynaMesh®-SIS direct soft
DynaMesh®-SIS direct visible

Transobturator (outside-in)



DynaMesh®-SIS direct	01 cm x 50 cm	PV211050F1	Unit = 1 EA / BX
		PV211050F3	Unit = 3 EA / BX
DynaMesh®-SIS direct soft	01 cm x 50 cm	PV411050F1	Unit = 1 EA / BX
		PV411050F3	Unit = 3 EA / BX
DynaMesh®-SIS direct visible	01 cm x 50 cm	PV471050F1	Unit = 1 EA / BX
		PV471050F3	Unit = 3 EA / BX



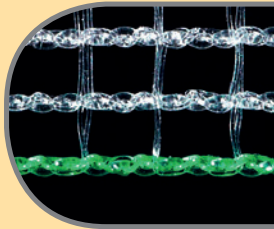
For associated instruments, see page 42

Use and Properties

Product	Field of application	Surgical method	Fixation	Optimal handling	Optimal patient safety	Optimal patient comfort	Atraumatic selvages	No curling up	Shape stability	Defined elasticity	visible technology
SIS direct	stress urinary incontinence / mixed urinary incontinence	transvaginal / transobturator	none	●	●	●	●	●	●	●	●
SIS direct soft											●
SIS direct visible											●
				p.8	p.8	p.12	p.13	p.13	p.13	p.16	

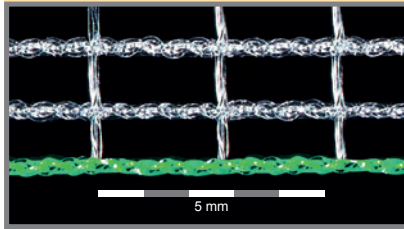
● Applies to all product sizes
● Does not apply

DynaMesh®-SIS



little material
SOFT
large pore

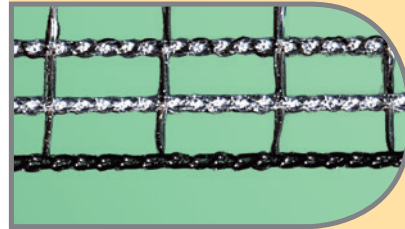
DynaMesh®-SIS soft
with SOFT structure



little material
SOFT
large pore

MRI visible

DynaMesh®-SIS visible
with SOFT structure
+
visible on MRI

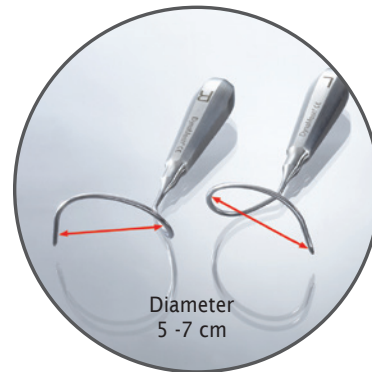


(see page 17)

Associated instruments for the transobturatoric application of:
DynaMesh®-SIS / DynaMesh®-SIS soft / DynaMesh®-SIS visible (see page 42)



DynaMesh®-IVT01



DynaMesh®-IST01 / -IST02 / -IST03

Technical data

	Polymer (monofilament)	Excellent biocompatibility	Minimal foreign body reaction	Reduced bacterial reaction	High ageing resistance	Optimal dynamometry	Reactive surface ^(a) [m ² /m ²]	Maximum stability ^(b) [N/cm]	Elasticity ^(b) at 16 N/cm ^(g)	Textile porosity ^(c) [%]	Effective porosity ^(c) [%]	Effective porosity at 2.5/16 N/cm ^(c) [%]	Classification ^(d)
PVDF	●	●	●	●	●	2.8	117	6	63	57	57/59	1a	
						2.2	76	9	70	67	67/68		
						2.8	117	6	63	57	57/59		
p.10	p.10	p.10	p.10	p.11	p.13	p.12	p.13	p.13	p.14	p.15	p.15		

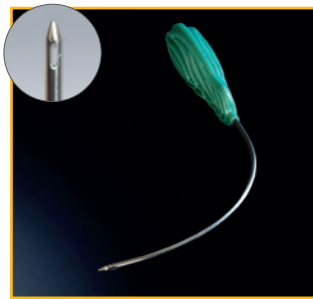


**SINGLE
USE SET**

DynaMesh®-RSUS
DynaMesh®-RSUS soft

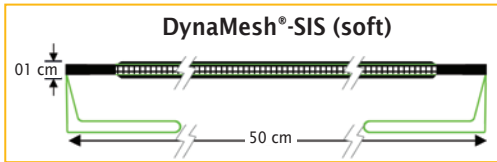
For the surgical treatment of stress and mixed urinary incontinence

Retropubic position of the tape with “inside-out” technique.
Outstanding shape stability,
defined elasticity, high effective porosity and atraumatic warp-knitted selvages.

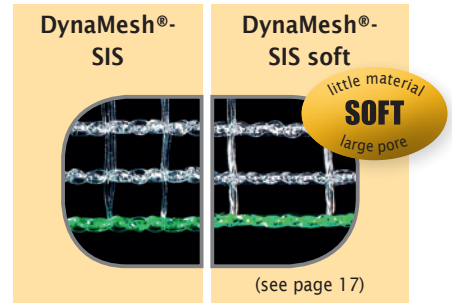


Single Use System
comprising:

Instrument
+
Implant



Retropubic (inside-out)



DynaMesh®-RSUS	S211056R1F1	Unit = 1 set
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DynaMesh®-RSUS soft	S411056R1F1	Unit = 1 set
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Use and Properties

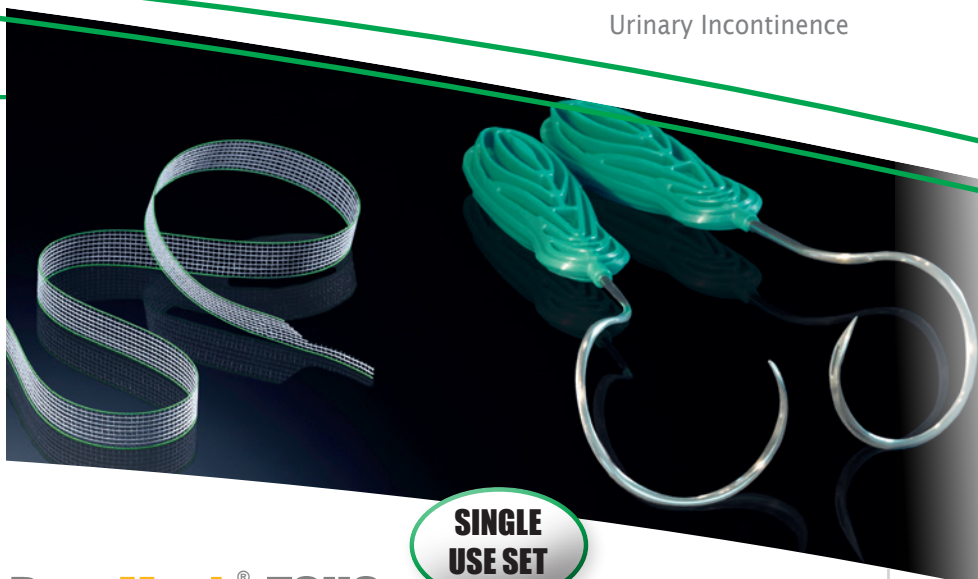
Product	Field of application	Surgical method	Fixation	Optimal handling	Optimal patient safety	Optimal patient comfort	Atraumatic selvages	No curling up	Shape stability	Defined elasticity	visible technology
SIS	stress urinary incontinence / mixed urinary incontinence	transvaginal / retropubic	none	●	●	●	●	●	●	●	●
SIS soft		transvaginal / transobturator									
SIS direct											
SIS direct soft											
				p.8	p.8	p.12	p.13	p.13	p.13	p.16	

● Applies to all product sizes
● Does not apply

For the surgical treatment of stress and mixed urinary incontinence

Transobturatoric position of the tape, in "outside-in" technique.

Outstanding shape stability, defined elasticity, high effective porosity and atraumatic warp-knitted selvages.



SINGLE USE SET

DynaMesh® -TSUS
DynaMesh® -TSUS soft

Transobturator (outside-in)



Single Use System comprising:

Instruments + Implant

DynaMesh®-SIS direct (soft)

DynaMesh®-SIS direct soft

DynaMesh®-SIS direct

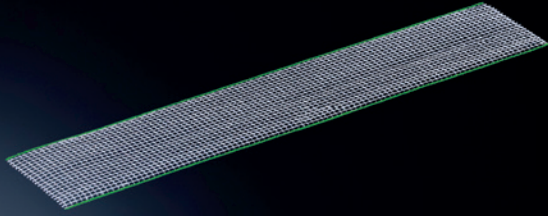
little material
SOFT
large pore

(see page 17)

DynaMesh®-TSUS	S211050U1F1	Unit = 1 set
DynaMesh®-TSUS soft	S411050U1F1	Unit = 1 set

Technical data

	Polymer (monofilament)	Excellent biocompatibility	Minimal foreign body reaction	Reduced bacterial reaction	High ageing resistance	Optimal dynamometry	Reactive surface ^(a) [m ² /m ²]	Maximum stability ^(b) [N/cm]	Elasticity ^(b) at 16 N/cm ^(g)	Textile porosity ^(c) [%]	Effective porosity ^(c) [%]	Effective porosity at 2.5/16 N/cm ^(c) [%]	Classification ^(d)
PVDF	●	●	●	●	●	2.8	117	6	63	57	57/59	1a	
						2.2	76	9	70	67	67/68		
						2.8	117	6	63	57	57/59		
						2.2	76	9	70	67	67/68		
p.10	p.10	p.10	p.10	p.11	p.13	p.12	p.13	p.13	p.14	p.15	p.15		

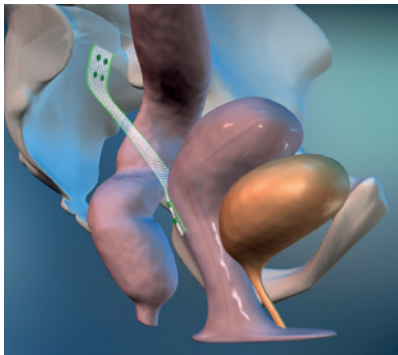


For the surgical treatment of apical vaginal descent

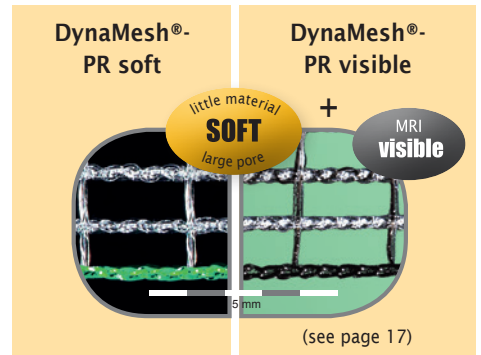
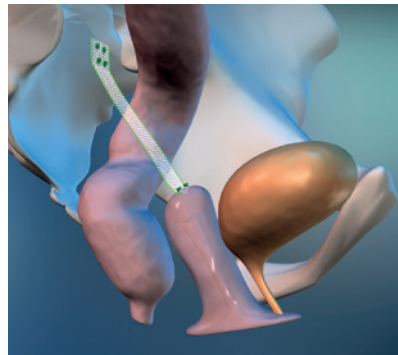
Cervical or vaginal stump fixation.
Permanently stable implant length without stretching, constriction or shrinkage [22].

DynaMesh®-PR soft
DynaMesh®-PR visible

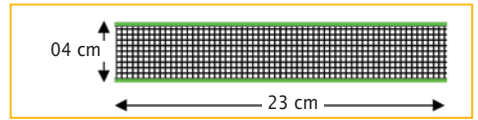
Apical mesh repair
for uterus preservation



Apical mesh repair
following hysterectomy



DynaMesh®-PR soft	04 cm x 23 cm	PV500423F1	Unit = 1 EA / BX
		PV500423F3	Unit = 3 EA / BX
DynaMesh®-PR visible		PV700423F1	Unit = 1 EA / BX

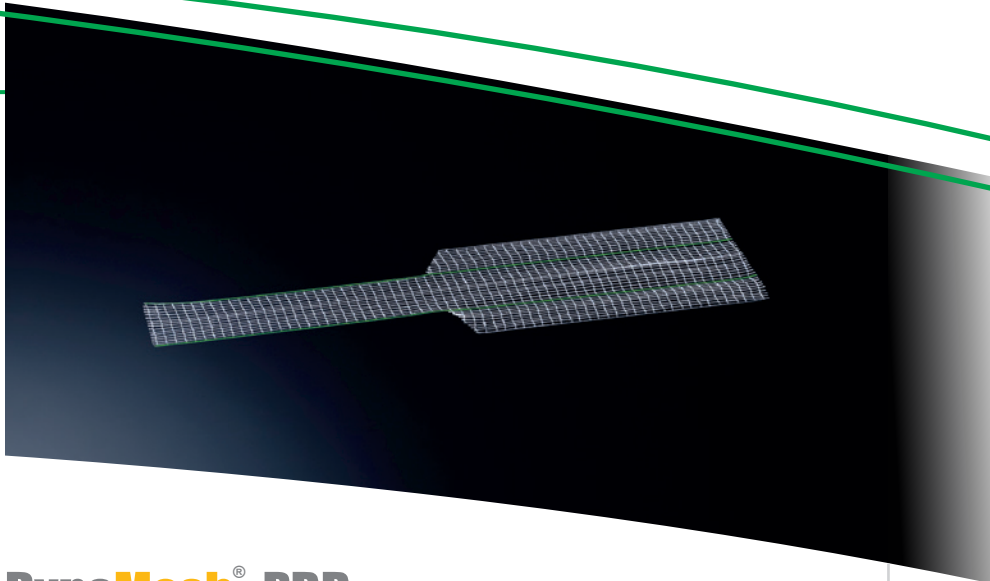


Use and Properties

Product	Field of application	Surgical method	Fixation to sacrum	Optimal handling	Optimal patient safety	Optimal patient comfort	Atraumatic selvedges	Minimal use of material	Shape stability	Defined elasticity	visible technology
PR soft	uterine prolapse / vaginal stump prolapse	open / laparoscopic	suture / stapler	●	●	●	●	●	●	●	●
PR visible											●
PRR soft											●
PRR visible											●
				p.8	p.8	p.12	p.12	p.13	p.13	p.16	

For the surgical treatment of apical vaginal descent

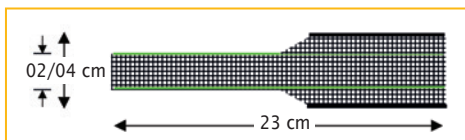
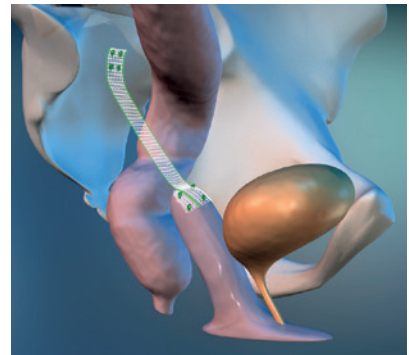
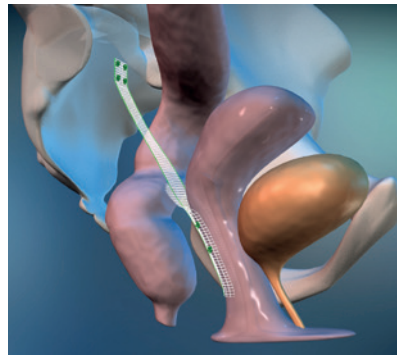
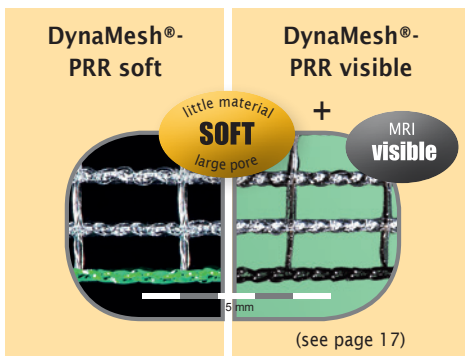
Cervical or vaginal stump fixation as well as uterus fixation.
Permanently stable implant length without stretching, constriction or shrinkage [22].



DynaMesh®-PRR soft
DynaMesh®-PRR visible

Apical mesh repair for uterus preservation

Apical mesh repair following hysterectomy



DynaMesh®-PRR soft	02/04 cm x 23 cm	PV360423F1	Unit = 1 EA / BX
		PV360423F3	Unit = 3 EA / BX
DynaMesh®-PRR visible		PV760423F1	Unit = 1 EA / BX

Technical data

	Polymer (monofilament)	Excellent biocompatibility	Minimal foreign body reaction	Reduced bacterial reaction	High ageing resistance	Optimal dynamometry	Reactive surface area ^(a) [m ² /m ²]	Maximum stability ^(b) [N/cm ²]	Elasticity ^(b) at 16 N/cm [g]	Textile porosity ^(c) [%]	Effective porosity ^(c) [%]	Effective porosity at 2.5 N/cm ² ^(d) [%]	Classification ^(e)
PVDF	●	●	●	●	●	1.9	58	13	71	68	68	1a	
	p.10	p.10	p.10	p.10	p.11	p.13	p.12	p.13	p.13	p.14	p.15	p.15	

* vaginal / dorsal

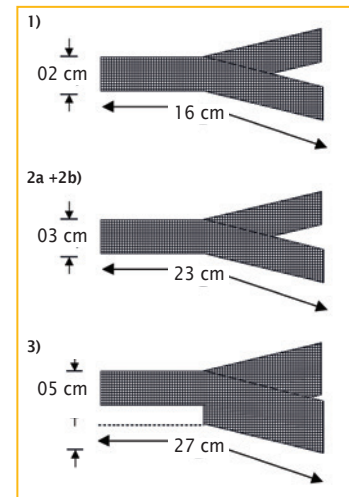
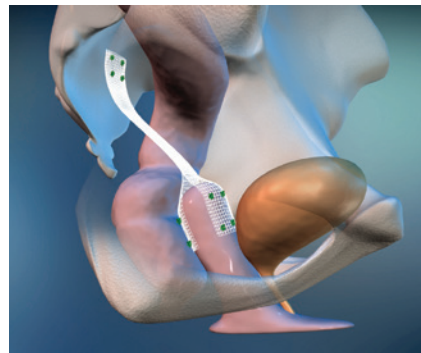
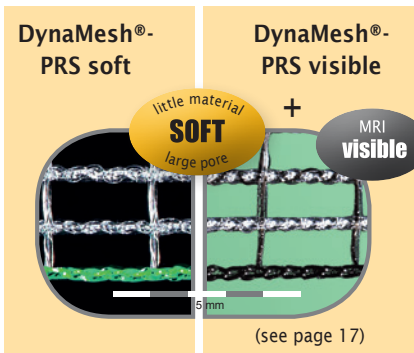
For the surgical treatment of apical vaginal prolapse

Apical mesh repair using the open or laparoscopic technique for fixation of the cervical or vaginal stump.

Optimised and safe transmission of force achieved through attachment to the anterior and posterior vaginal wall.

DynaMesh®-PRS soft
DynaMesh®-PRS visible

Apical mesh repair



DynaMesh®-PRS soft	02 cm x 16 cm	PV350216F1	Unit = 1 EA / BX
	03 cm x 23 cm	PV350323F1	Unit = 1 EA / BX
DynaMesh®-PRS visible	03 cm x 23 cm	PV750323F1	Unit = 1 EA / BX
DynaMesh®-PRS soft	05 cm x 27 cm	PV350527F1	Unit = 1 EA / BX

Use and Properties

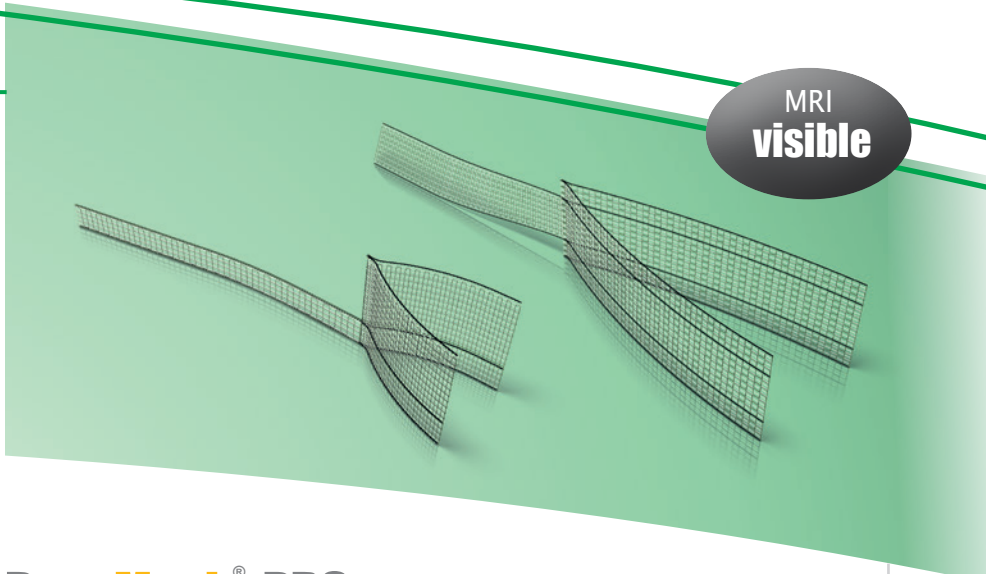
Product	Field of application	Surgical method	Fixation to sacrum	Optimal handling	Optimal patient safety	Optimal patient comfort	Atraumatic selvedges	Minimal use of material	Shape stability	Defined elasticity	visible technology
1, 2a, 3) PRS soft	Cervical / vaginal stump prolapse	open / laparoscopic	suture / stapler	●	●	●	●	●	●	●	●
2b) PRS visible											●
4) PRS visible (3.3 cm x 24 cm)											●
5) PRS visible (04 cm x 20 cm)											●
											●

p.8 p.8 p.12 p.12 p.13 p.13 p.16

MRI
visible

For the surgical treatment of apical vaginal prolapse

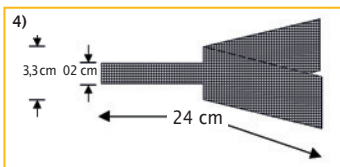
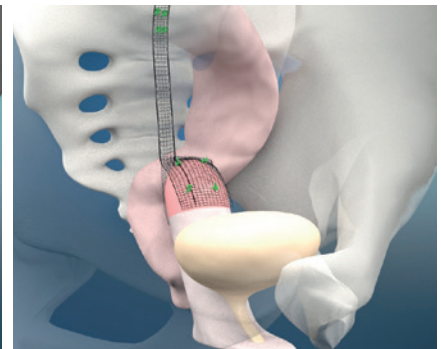
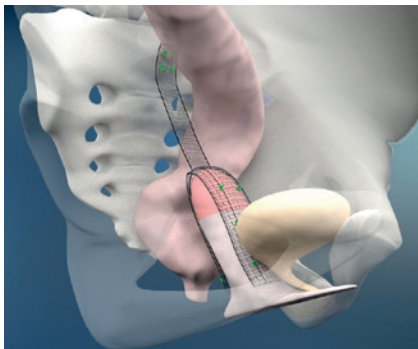
Apical mesh repair using the open or laparoscopic technique.
Optimised and safe transmission of force achieved through attachment to the anterior and posterior vaginal wall.



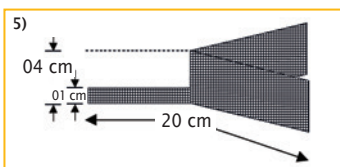
DynaMesh®-PRS visible

Apical mesh repair with DynaMesh®-PRS visible (3.3 cm x 24 cm) Apical mesh repair with DynaMesh®-PRS visible (04 cm x 20 cm)

- Atraumatically warp-knitted selvedges
- Defined shape stability
- Warp-knitted in one piece
- No seams or adhesive edges
- Easy handling memory effect
- MRI visibility



DynaMesh®-PRS visible 4) 3.3 cm x 24 cm PV750424F1 Unit = 1 EA / BX
PV750424F10 Unit = 10 EA / BX



DynaMesh®-PRS visible 5) 04 cm x 20 cm PV750420F1 Unit = 1 EA / BX
PV750420F10 Unit = 10 EA / BX

Technical data

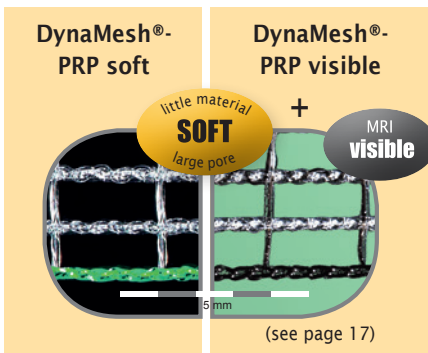
	Polymer (monofilament)	Excellent biocompatibility	Minimal foreign body reaction	Reduced bacterial adherence	High ageing resistance	Optimal dynamometry	Reactive surface area ^(a) [m ² /m ²]	Maximum stability ^(b) [N/cm]	Elasticity ^(b) at 16 N/cm [%]	Textile porosity ^(c) [%]	Effective porosity ^(c) [%]	Effective porosity at 2.5 N/cm ² ^(c) [%]	Classification ^(d)
PVDF	●	●	●	●	●	2.2/1.9*	44/58*	14/13*	68/71*	62/68*	62/68*	1a	
						1.9/2.2*	50/52*	16/18*	69/64*	64/58*	64/58*		
						2.2/1.9*	52/87*	18/6*	64/69*	58/64*	58/64*		
	p.10	p.10	p.10	p.10	p.11	p.13	p.12	p.13	p.13	p.14	p.15	p.15	

* vaginal / dorsal

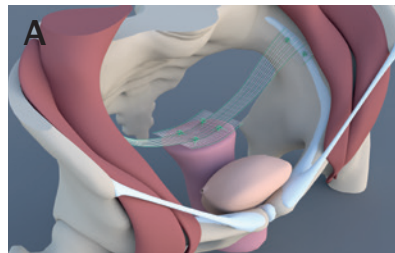
Tailored Implants made of PVDF

For the surgical treatment of apical vaginal prolapse
Bilateral cervical or vaginal stump fixation as well as anterior uterus fixation with small uterus on the pectineal ligament.

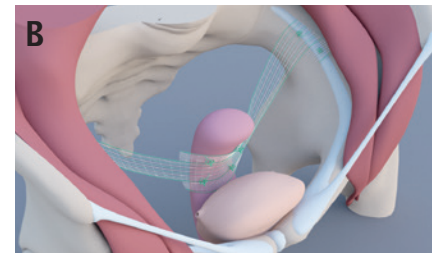
DynaMesh®-PRP soft (03 cm x 15 cm)
DynaMesh®-PRP visible (03 cm x 15 cm)



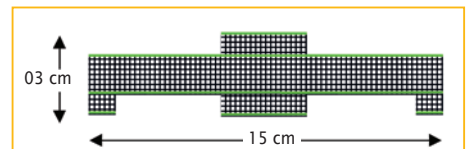
Apical mesh repair
- Vaginal stump / cervical stump



Apical mesh repair
for uterus preservation (with small uterus)



DynaMesh®-PRP soft	^{1a)} 03 cm x 15 cm	PV540315F1	Unit = 1 EA / BX
	^{1a)} 03 cm x 15 cm	PV540315F3	Unit = 3 EA / BX
DynaMesh®-PRP visible	^{1b)} 03 cm x 15 cm	PV780315F1	Unit = 1 EA / BX



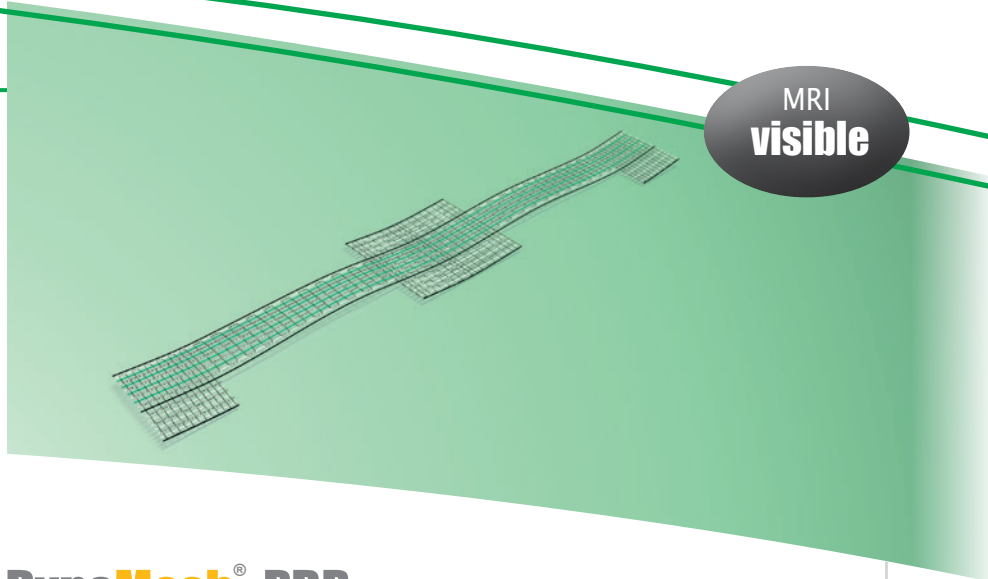
Use and Properties

Product	Field of application	Surgical method	Pectineal ligament fixation	Optimal handling	Optimal patient safety	Atraumatic selfedges	Minimal use of material	High Shape stability	Defined elasticity	visible technology
^{1a)} PRP soft (03 cm x 15 cm)	vaginal prolapse / uterine prolapse	open / laparoscopic	suture	●	●	●	●	●	●	●
^{1b)} PRP visible (03 cm x 15 cm)										
²⁾ PRP visible (03 cm x 18 cm)	uterine prolapse									
³⁾ PRP visible (17 cm x 15 cm)	vaginal prolapse									●
For more information see the specified pages of the DynaMesh® Pelvic Floor Surgery catalogue			p.8	p.8	p.12	p.12	p.13	p.13	p.16	

MRI
visible

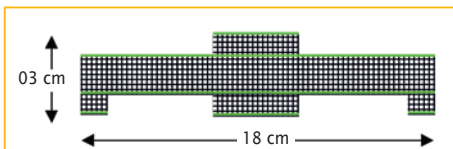
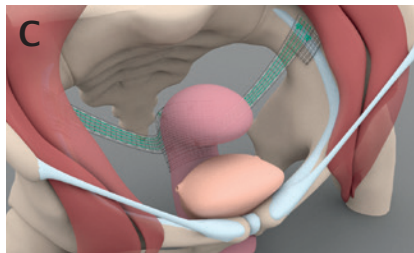
For the surgical treatment of uterine prolapse with bilateral, posterior uterus fixation on the pectineal ligament (hysteropectopexy)

Safe positioning of the uterus thanks to the special implant structure with exceptional dimensional stability and highly effective porosity.



DynaMesh®-PRP visible (03 cm x 18 cm)

Apical mesh repair
for uterus preservation



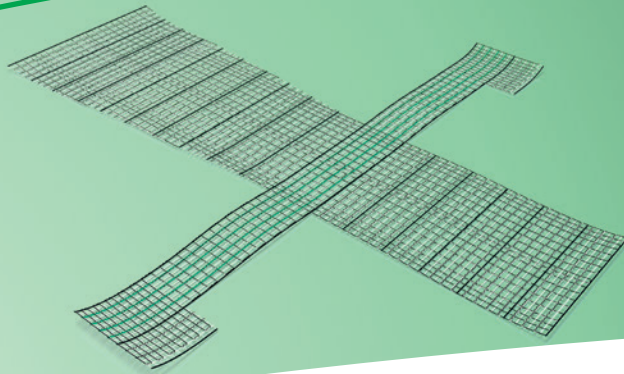
DynaMesh®-PRP visible ²⁾ 03 cm x 18 cm PV780318F1 Unit = 1 EA / BX
PV780318F3 Unit = 3 EA / BX

The visible factor: DynaMesh®-PRP visible (03 cm x 18 cm) features DynaMesh® visible technology (see page 17).

Technical data

	Polymer (monofilament)	Excellent biocompatibility	Minimal foreign body reaction	Reduced bacterial reaction	High ageing resistance	Optimal dynamometry	Reactive surface ^(a) [m ² /m ²] Central part of the mesh	Maximum stability ^(b) [N/cm]	Elasticity ^(b) at 16 N/cm ^(c) [%]	Textile porosity ^(c) [%] Central part of the mesh	Effective porosity ^(c) [%]	Effective porosity at 2.5 N/cm ^(c) [%] Central part of the mesh	Classification ^(d)
	PVDF	●	●	●	●	1.9	71	9	68	63	63	1a	
	p.10	p.10	p.10	p.10	p.11	p.13	p.13	p.13	p.14	p.15	p.15		

MRI
visible

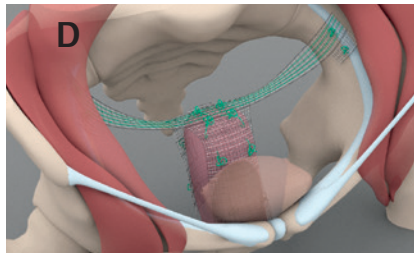


For the treatment of apical vaginal descent with simultaneous cystocele and rectocele repair

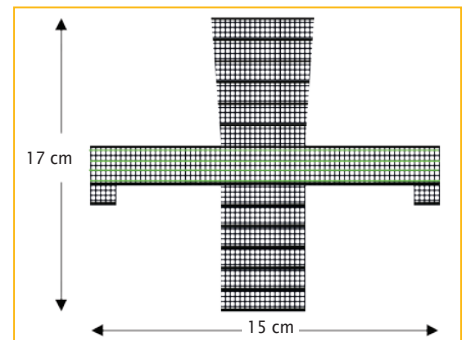
Bilateral cervical or vaginal stump fixation on the pectineal ligament.
Anterior and posterior vaginal wall tightening and reinforcement with extended implant structure.

DynaMesh®-PRP visible (17 cm x 15 cm)

Apical mesh repair
- Vaginal stump / cervical stump



DynaMesh®-PRP visible ³⁾ 17 cm x 15 cm PV781715F1 Unit = 1 EA / BX
PV781715F3 Unit = 3 EA / BX



The visible factor: DynaMesh®-PRP visible (17 cm x 15 cm) features DynaMesh® visible technology (see page 17)

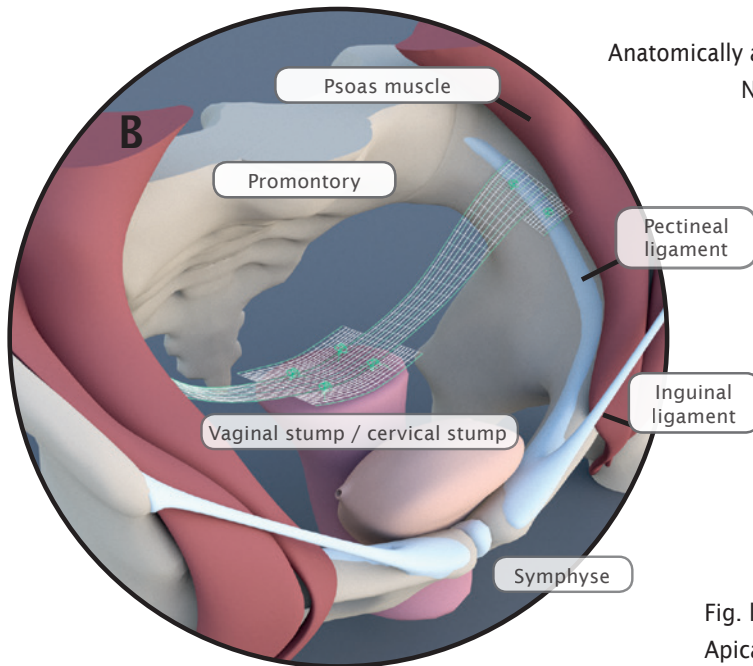
Special features

DynaMesh®-PRP soft^{1a)} / visible^{1b)} (03 cm x 15 cm)
DynaMesh®-PRP visible²⁾ (03 cm x 18 cm)
DynaMesh®-PRP visible³⁾ (17 cm x 15 cm)

- No presacral preparation
- Avoidance of injury to and irritation of nerves
- Low risk of defecation disorders as there is no constriction of the lesser pelvis
- Indication-related implant selection
- Very good anatomical and physiological organ positioning
- Safety through specific, standardised surgical techniques

Pectopexy

Bilateral fixation on the pectineal ligament
Apical mesh repair

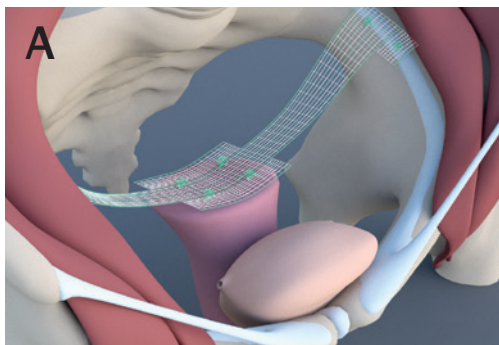


Anatomically and physiologically correct organ repositioning.
No reduction of pelvic volume via lateral fixation to the pectineal ligament. Prevention of defecation disorders, reduction of new lateral cystoceles. [32]
The mobility of the vagina is retained.

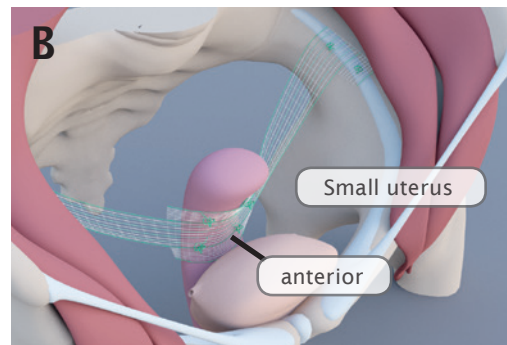
Optimised safety with specific, standardised implant structure of polyvinylidene fluoride (PVDF). Improved effective porosity and atraumatic warp-knitted margins.
Optimal dynamometry, shape stability and defined elasticity

Fig. left:
Apical mesh repair following hysterectomy with **DynaMesh®-PRP soft / visible** (03 cm x 15 cm)

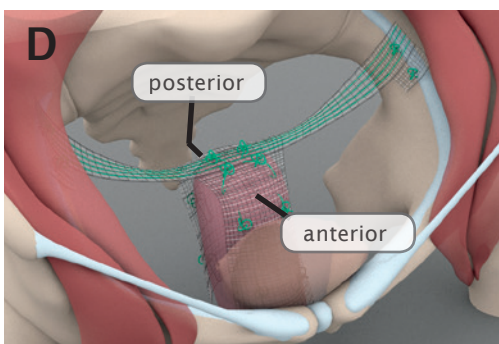
Apical mesh repair
(vaginal stump / cervical stump) with
DynaMesh®-PRP soft / visible (03 cm x 15 cm)



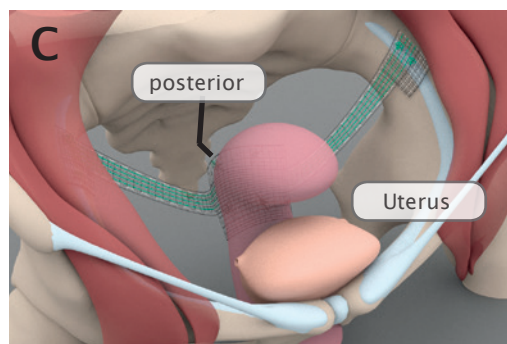
Apical mesh repair for uterus preservation
(with small uterus) with
DynaMesh®-PRP visible (03 cm x 15 cm)
fixed uterus anterior



Apical mesh repair
(vaginal stump / cervical stump) with
DynaMesh®-PRP visible (17 cm x 15 cm)
posterior and anterior fixation



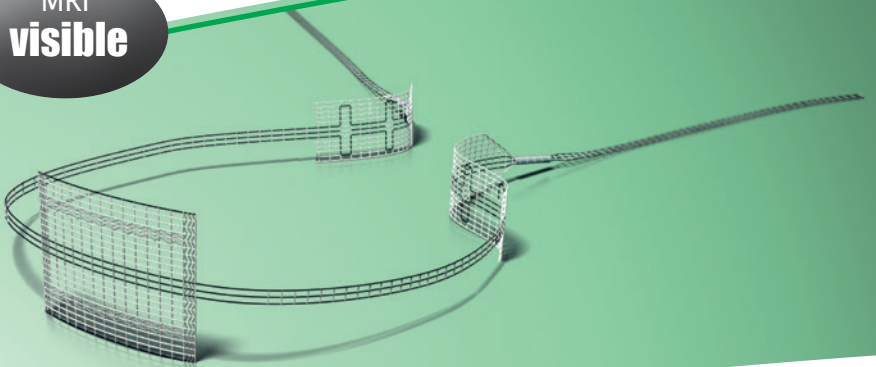
Apical mesh repair for uterus preservation with
DynaMesh®-PRP visible (03 cm x 18 cm)
fixed uterus posterior



Pelvic Floor Repair
 Urinary Urge and Mixed Urinary Incontinence
 Pelvic Organ Prolapse

Tailored Implants made of PVDF

MRI
 visible

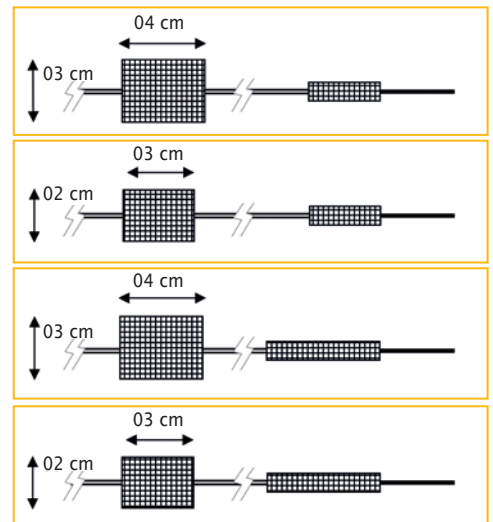


For the surgical treatment
 of pelvic organ prolapse and
 urinary urge incontinence

Modified sacrocolpopexy with
 bilateral ligament augmentation
 of the uterosacral ligaments [23].
 Maximal physiological vaginal mobility
 with minimal use of material.

DynaMesh®-CESA /-CERESA DynaMesh®-VASA /-VARESA

DynaMesh®-CESA	03 cm x 04 cm	PV740404F1	Unit = 1 EA / BX
		PV740404F3	Unit = 3 EA / BX
DynaMesh®-VASA	02 cm x 03 cm	PV740203F1	Unit = 1 EA / BX
		PV740203F3	Unit = 3 EA / BX
DynaMesh®-CERESA	03 cm x 04 cm	PV770404F1	Unit = 1 EA / BX
		PV770404F3	Unit = 3 EA / BX
DynaMesh®-VARESA	02 cm x 03 cm	PV770203F1	Unit = 1 EA / BX
		PV770203F3	Unit = 3 EA / BX



The visible factor: All DynaMesh®-CESA/-VASA/-CERESA/-VARESA implants have DynaMesh® visible technology (see page 17).

Use and Properties

Product	Field of application	Surgical method	Fixation to sacrum	Optimal handling	Optimal patient safety	Optimal patient comfort	Atraumatic selvedges	Minimal use of material	Shape stability	Defined elasticity	visible technology
CESA VASA	pelvic organ prolapse / urinary urge incontinence / mixed urinary continence	open / laparoscopic	suture / stapler	●	●	●	●	●	●	●	●
CERESA VARESA				p.8	p.8	p.12	p.12	p.13	p.13	p.16	

Standardised surgical method: “The CESA/VASA system”

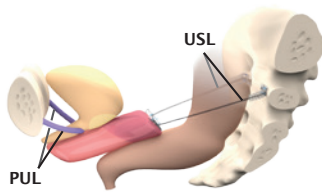
The surgical method is a modified sacrocolpopexy procedure, in which the **uterosacral ligaments (USL) are bilaterally** reinforced or replaced by the implant.

Mobility of the reconstructed uterosacral ligaments is guaranteed.

Concomitant urinary urge incontinence can be successfully treated using this procedure.

Depending on the nature of the operation to be performed and the patient’s anatomical defect, different versions of DynaMesh® implants are available:

DynaMesh®-CESA
(Cervico-SAcropexy)

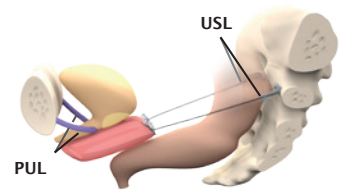


Bilateral fixation of the cervical stump to the sacrum



Bilateral fixation of the vaginal stump to the sacrum

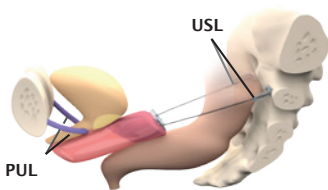
DynaMesh®-VASA
(VAgino-SAcropexy)



In the case of concomitant faecal incontinence, the procedure can be combined with rectopexy.

The DynaMesh®-CERESA/VARESA implants are used for this purpose:

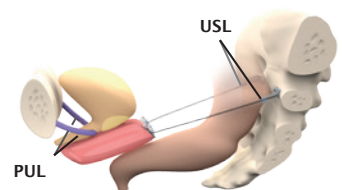
DynaMesh®-CERESA
(Cervico-REcto-SAcropexy)



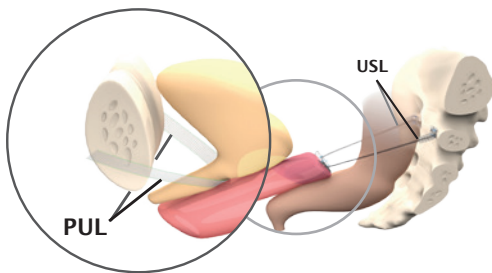
Bilateral fixation of the cervical stump to the sacrum and additional rectopexy in the case of concomitant faecal incontinence

Bilateral fixation of the vaginal stump to the sacrum and additional rectopexy in the case of concomitant faecal incontinence

DynaMesh®-VARESA
(VAgino-REcto-SAcropexy)



In the case of simultaneous defect of the **pubourethral ligaments (PUL)**, the CESA/VASA system is applied [33].



Technical data

	Polymer (monofilament)	Excellent biocompatibility	Minimal foreign body reaction	Reduced bacterial adhesion	High ageing resistance	Optimal dynamometry	Reactive surface ^(a) [m ² /m ²] Fixation areas	Maximum stability ^(b) [N/cm ²]	Elasticity ^(b) at 16 N/cm [g]	Textile porosity ^(c) [%] Fixation areas	Effective porosity ^(d) [%] Fixation areas	Effective porosity at 2.5 N/cm ^(e) [%]	Classification ^(e) (a)-(e) p. 41
PVDF	●	●	●	●	●	1.9	61	11	71	68	68	1a	
	p.10	p.10	p.10	p.10	p.11	p.13	p.12	p.13	p.13	p.14	p.15	p.15	

Ligament augmentation with a system

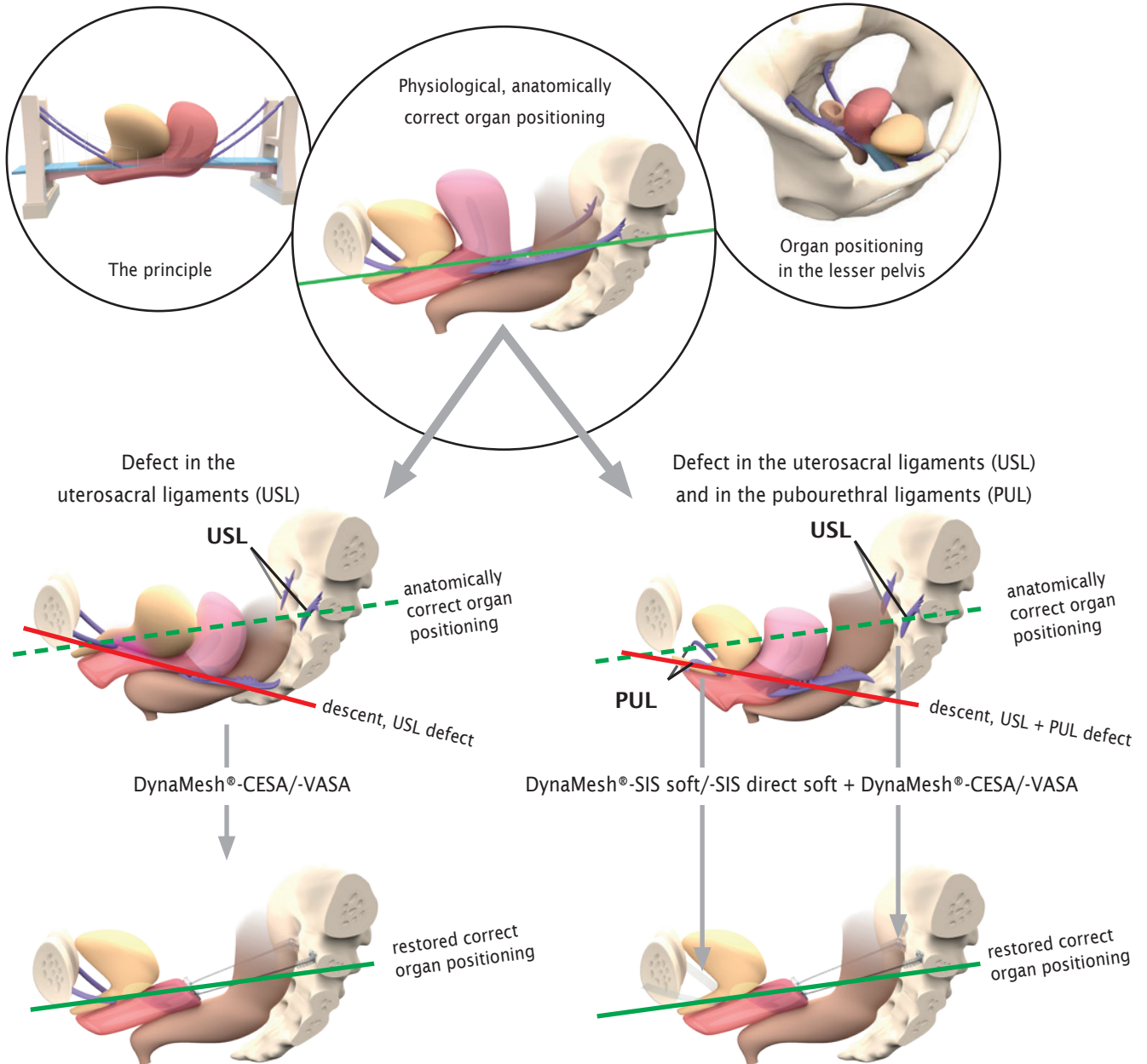


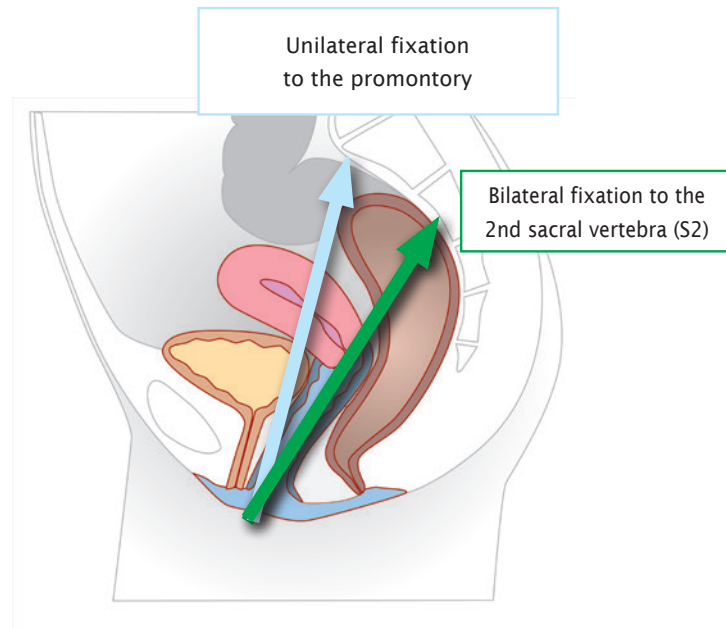
Diagram showing reconstruction of the posterior ligaments (USL) using DynaMesh®-CESA

Diagram showing reconstruction of the posterior ligaments (USL) using DynaMesh®-CESA and additional reconstruction of the pubourethral ligaments (PUL) using DynaMesh®-SIS soft

Anatomy

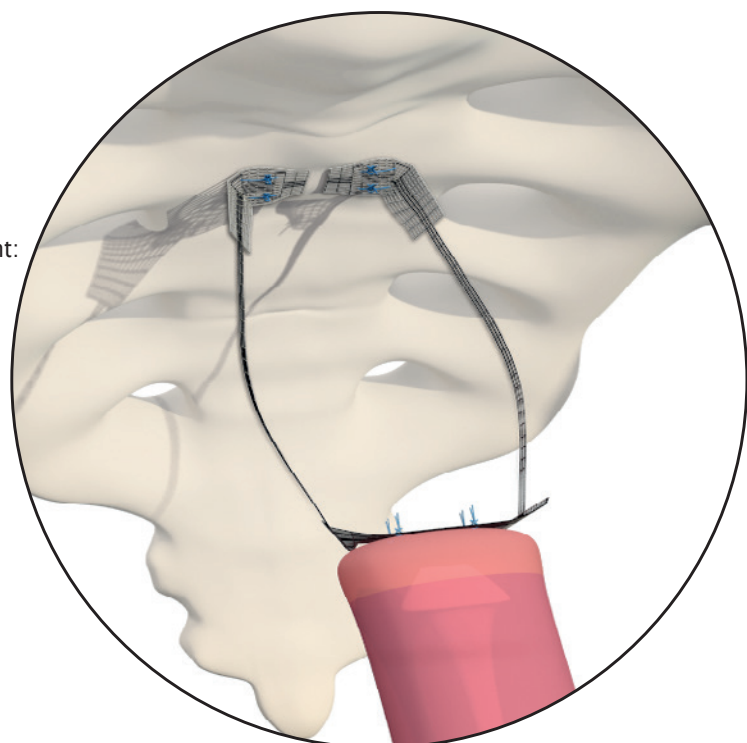
The surgical method using the “CESA/VASA system” achieves physiological and anatomically correct and safe reconstruction in cases of pelvic organ prolapse.

Stable and physiological organ positioning is achieved through bilateral fixation to sacral vertebra S2.



Sacral fixation


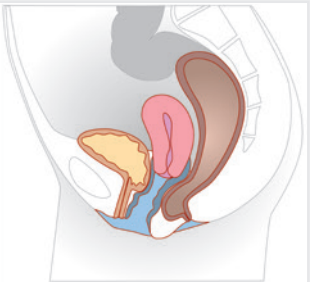

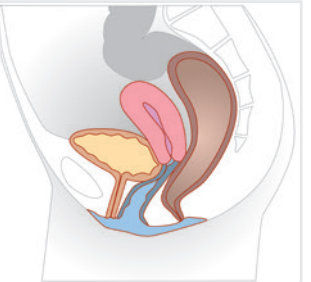
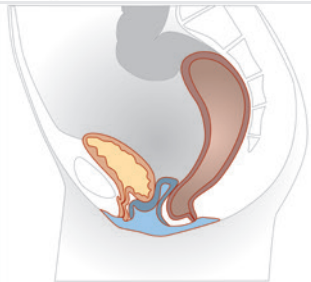
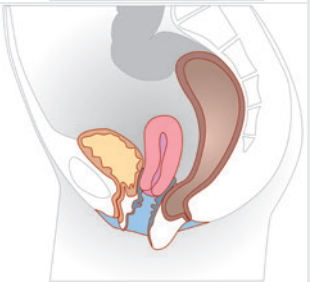

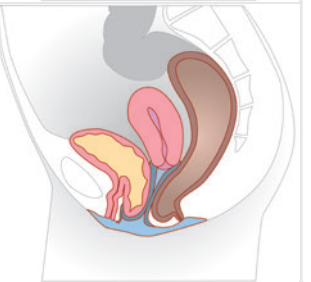





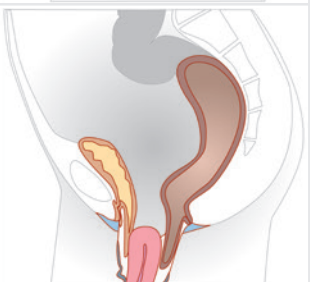
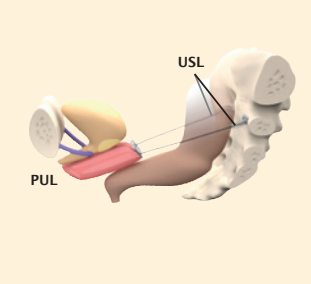
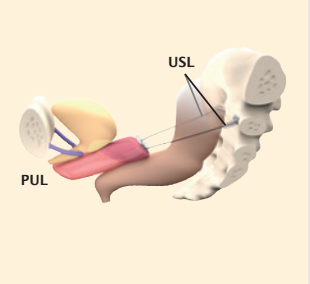
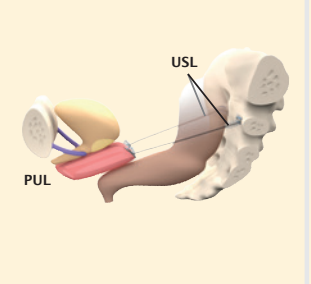
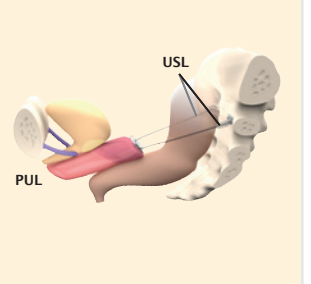
Position of the DynaMesh®-CESA implant: bilateral cervicosacropexy to sacral vertebra S2



Indication spectrum

CESA/VASA - Surgical technique for treatment of:

Pelvic Organ Prolapse

POP-Q Stage	Vaginal stump prolapse	Uterine prolapse	Cystocele after HE	Cystocele
POP-Q Stage I				
POP-Q Stage II				
POP-Q Stage III				
POP-Q Stage IV			✕	✕
Status post CESA/VASA				

Therapy

and

Urinary Urge Incontinence

Clinical Diagnosis

Mild

URGE symptoms:

Patient holds urine for 3-10 min.
Micturition (daytime)
10-15 times

Severe

URGE symptoms:

Patient holds urine for < 3 min.
Micturition (daytime)
> 15 times

Potential

URGE symptoms:

differing severity

No

URGE symptoms

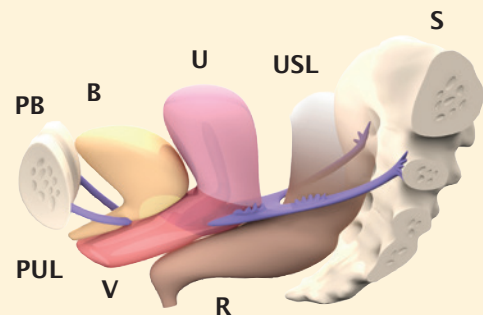
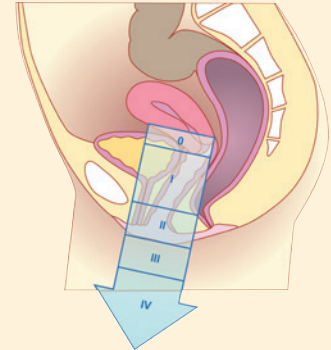
DynaMesh®-CESA
or
DynaMesh®-VASA

DynaMesh®-CESA
DynaMesh®-VASA

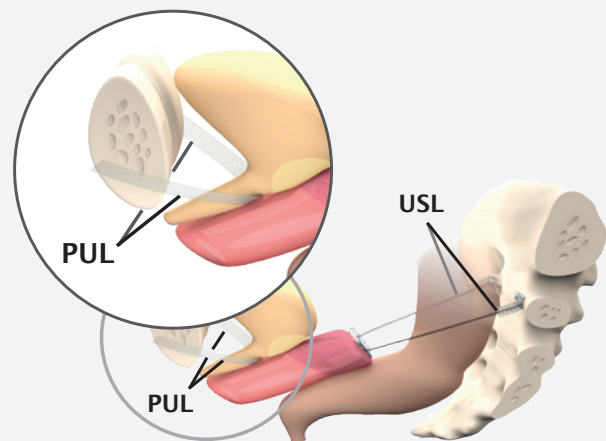
For the surgical treatment of pelvic organ prolapse and urinary urge incontinence CESA (CErvico-SAcropexy) and VASA (VAGino-SAcropexy). Bilateral augmentation of the USL.

POP-Q

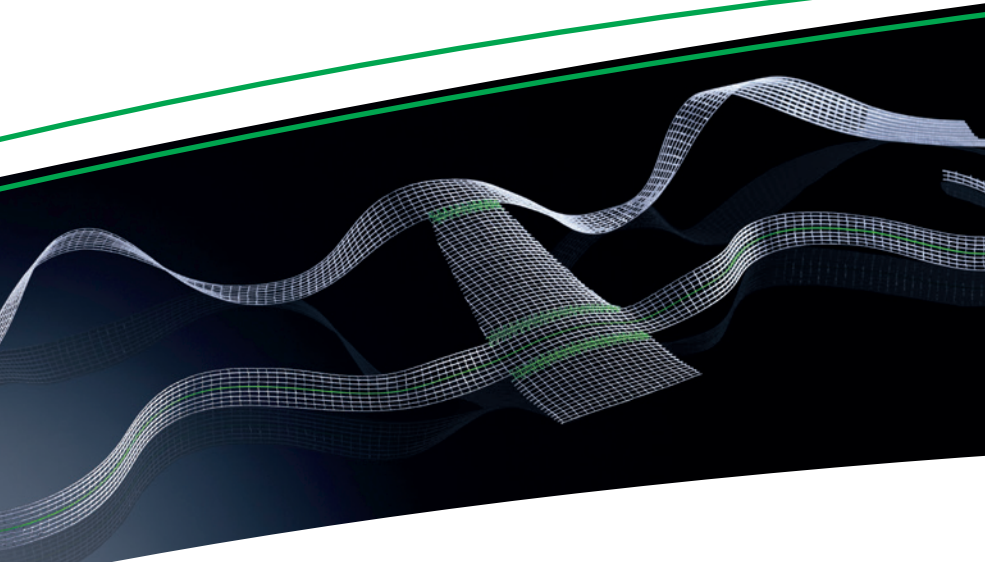
- S = Sacrum
- U = Uterus
- B = Bladder
- R = Rectum
- V = Vagina
- PB = Pubic Bone
- USL = Utero-Sacral-Ligaments
- PUL = Pubo-Urethral-Ligaments



In cases of defect of the pubourethral ligaments (PUL)



In cases of defect of the pubourethral ligaments (PUL), augmentation is performed with **DynaMesh®-SIS/-SIS soft/-SIS visible** (retropubic route) or **DynaMesh®-SIS direct/-SIS direct soft/-SIS direct visible** (transobturator route).



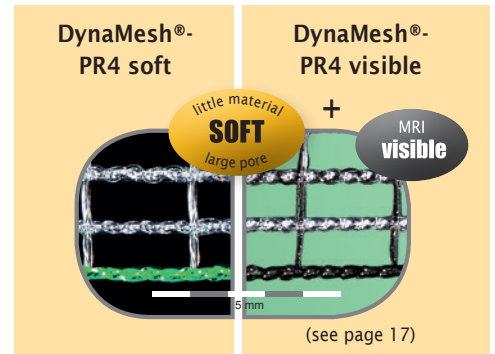
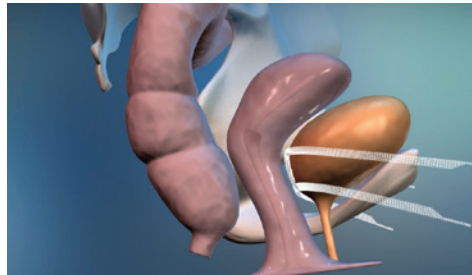
Tailored Implants made of PVDF

For the surgical treatment of cystocele

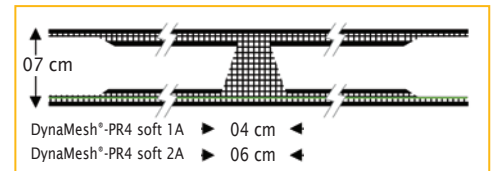
Minimised mesh sizes for transvaginal anterior mesh repair. Significantly less mesh shrinkage because of reduced foreign body reaction [20].

DynaMesh®-PR4 soft
DynaMesh®-PR4 visible

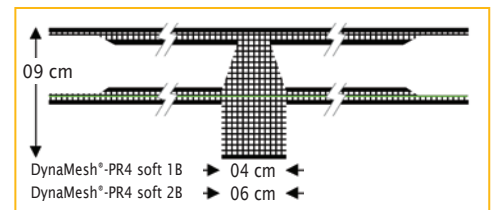
Anterior mesh repair



DynaMesh®-PR4 soft 1A	07 cm x 04 cm	PV520736F1	Unit = 1 EA / BX
DynaMesh®-PR4 soft 2A	07 cm x 06 cm	PV520740F1	Unit = 1 EA / BX



DynaMesh®-PR4 soft 1B	09 cm x 04 cm	PV520904F1	Unit = 1 EA / BX
DynaMesh®-PR4 visible 1B		PV720904F1	Unit = 1 EA / BX
DynaMesh®-PR4 soft 2B	09 cm x 06 cm	PV520906F1	Unit = 1 EA / BX

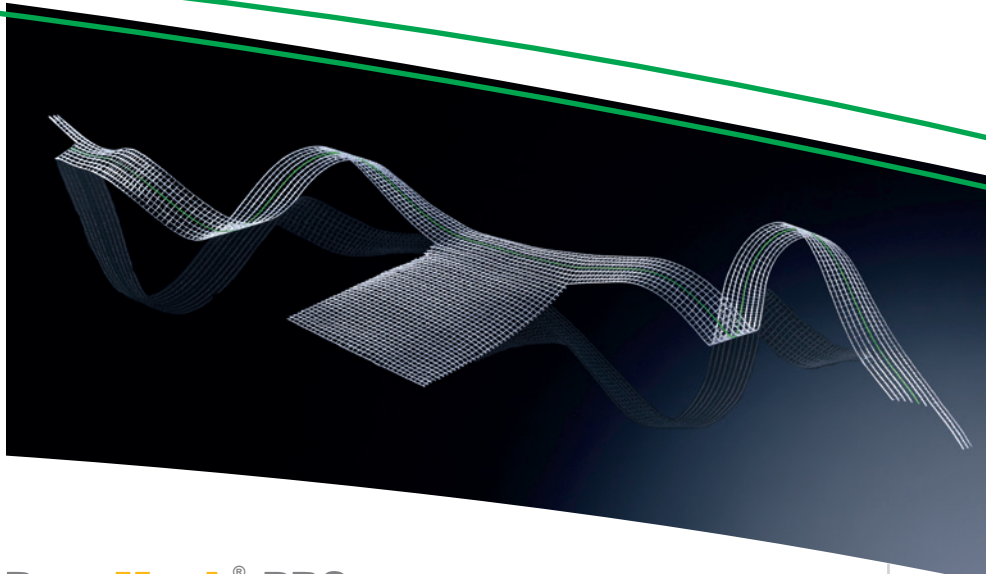


For associated instruments, see page 42

Use and Properties

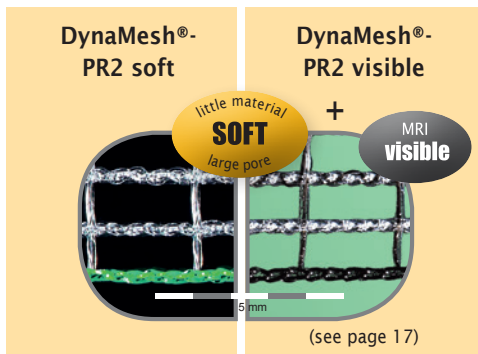
Product	Field of application	Surgical method	Fixation of central part of the mesh	Optimal handling	Optimal patient safety	Optimal patient comfort	Atraumatic selvedges	Minimised mesh size	Shape stability	Defined elasticity	visible technology							
PR4 soft	cystocele	transvaginal / anterior	suture	●	●	●	●	●	●	●	●							
PR4 visible											●							
PR2 soft	rectocele	transvaginal / posterior									●	●	●	●	●	●	●	●
PR2 visible											●	●	●	●	●	●	●	●

● Applies to all product sizes
● Does not apply



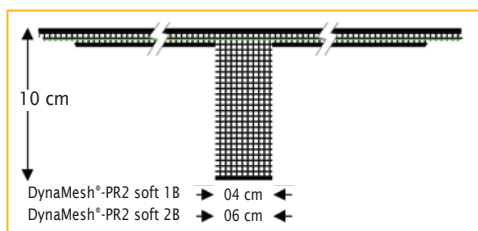
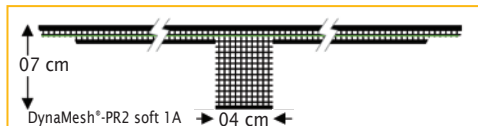
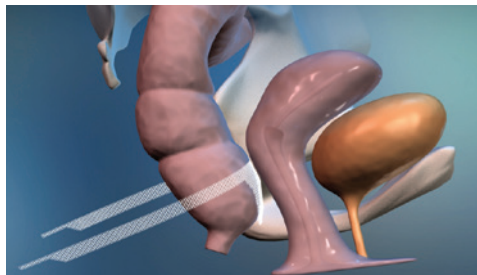
**For the surgical treatment
of rectocele**

Minimised mesh sizes for
transvaginal posterior mesh repair.
Significantly less mesh shrinkage because
of reduced foreign body reaction [20].



DynaMesh®-PR2 soft
DynaMesh®-PR2 visible

Posterior mesh repair



DynaMesh®-PR2 soft 1A 07 cm x 04 cm PV510636F1 Unit = 1 EA / BX

DynaMesh®-PR2 soft 1B 10 cm x 04 cm PV511004F1 Unit = 1 EA / BX

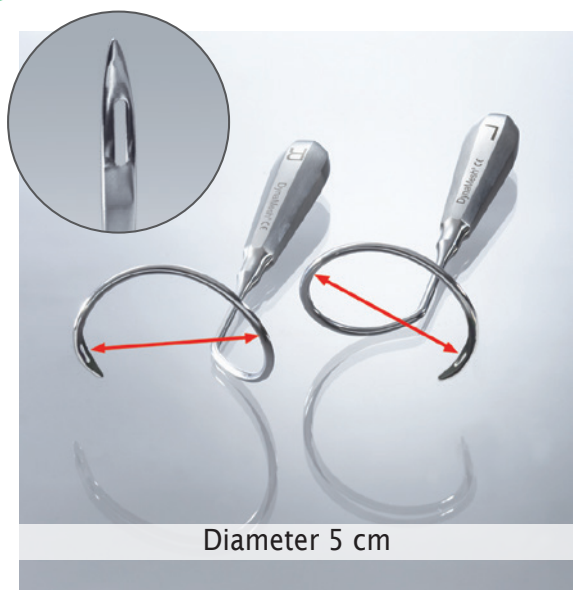
DynaMesh®-PR2 visible 1B 10 cm x 04 cm PV711004F1 Unit = 1 EA / BX

DynaMesh®-PR2 soft 2B 10 cm x 06 cm PV511006F1 Unit = 1 EA / BX

For associated instruments, see page 42

Technical data

	Polymer (monofilament)	Excellent biocompatibility	Minimal foreign body reaction	Reduced bacterial reaction	High ageing resistance	Optimal dynamometry	Reactive surface ^(a) [m ² /m ²] Central part of the mesh	Maximum stability ^(b) [N/cm]	Elasticity ^(b) at 16 N/cm ^(a) [%]	Textile porosity ^(c) [%] Central part of the mesh	Effective porosity ^(d) [%] Central part of the mesh	Effective porosity at 2.5 N/cm ^(e) [%]	Classification ^(a) _{(a)-(d) p. 47}
PVDF	●	●	●	●	●	1.9	58	13	71	68	68	1a	
	p.10	p.10	p.10	p.10	p.11	p.13	p.12	p.13	p.13	p.14	p.15	p.15	



For the **transobturatoric** application of:

- DynaMesh®-SIS
- DynaMesh®-SIS soft
- DynaMesh®-SIS visible
- DynaMesh®-SIS direct
- DynaMesh®-SIS direct soft
- DynaMesh®-SIS direct visible
- DynaMesh®-PR4 soft
- DynaMesh®-PR4 visible

DynaMesh®-IST03

Surgical instrument

d 5 cm

REF IST03F1

Unit= 1 set (l+r)



For the **transobturatoric** application of:

- DynaMesh®-SIS
- DynaMesh®-SIS soft
- DynaMesh®-SIS visible
- DynaMesh®-SIS direct
- DynaMesh®-SIS direct soft
- DynaMesh®-SIS direct visible
- DynaMesh®-PR4 soft
- DynaMesh®-PR4 visible

DynaMesh®-IST01

Surgical instrument

d 6 cm

REF IST01F1

Unit= 1 set (l+r)



For the **transobturatoric** application of:

- DynaMesh®-SIS
- DynaMesh®-SIS soft
- DynaMesh®-SIS visible
- DynaMesh®-SIS direct
- DynaMesh®-SIS direct soft
- DynaMesh®-SIS direct visible
- DynaMesh®-PR4 soft
- DynaMesh®-PR4 visible

DynaMesh®-IST02

Surgical instrument

d 7 cm

REF IST02F1

Unit= 1 set (l+r)

Reusable Instruments

Manufactured from Surgical Steel (resterilisable)



For the **transobturatoric** application of:

- DynaMesh®-SIS
- DynaMesh®-SIS soft
- DynaMesh®-SIS visible
- DynaMesh®-SIS direct
- DynaMesh®-SIS direct soft
- DynaMesh®-SIS direct visible
- DynaMesh®-PR4 soft
- DynaMesh®-PR4 visible

DynaMesh®-IVT01

Surgical instrument

REF IVT01F1

Unit = 1 pc.



For the **retropubic** application of:

- DynaMesh®-SIS
- DynaMesh®-SIS soft
- DynaMesh®-SIS visible

For the **transgluteal** application of:

- DynaMesh®-PR2 soft
- DynaMesh®-PR2 visible

DynaMesh®-ISR01

Surgical instrument

REF ISR01F1

Unit = 1 pc.

1. Klinge U, Klosterhalfen B, Öttinger A P, Junge K, Schumpelick V:
PVDF as a new Polymer for the Construction of Surgical Meshes
Biomaterials 23/16: 3487-3493; ©Elsevier, NL (2002)
2. Klink C D, Junge K, Binnebösel M, Alizai H P, Otto J, Neumann U P, Klinge U:
Comparison of Long-Term Biocompatibility of PVDF and PP Meshes
Journal of Investigative Surgery, 24: 292-299, DOI 10.3109/08941939.2011.589883;
©Informa Healthcare, Inc. USA (2011)
3. Gerullis H, Georgas E, Eimer C, Goretzki P E, Lammers B J, Klosterhalfen B,
Borós M, Wishahi M, Heusch G, Otto T:
**Evaluation of Biocompatibility of Alloplastic Materials:
Development of a Tissue Culture in Vitro Test System**
Surgical Technology International XXI; ©Universal Medical Press, Inc. USA (2012)
4. Gerullis H, Klosterhalfen B, Borós M, Lammers B, Eimer C, Georgas E, Otto T:
IDEAL in Meshes for Prolapse, Urinary Incontinence, and Hernia Repair
Surgical Innovation OnlineFirst XX, pp 1-7, DOI 10.1177/1553350612472987;
©sage publications (2013)
5. Laroche G, Marois Y, Schwarz E, Guigoin R, King M W, Pâris E, Douville Y:
**Polyvinylidene Fluoride Monofilament Sutures:
Can They Be Used Safely for Long-Term Anastomoses in the Thoracic Aorta?**
Artificial Organs 19/11: 1190-1199; ©Blackwell Science, Inc., Boston (12/1995)
6. Mühl T, Binnebösel M, Klinge U, Goedderz T:
New Objective Measurement to Characterize the Porosity of Textile Implants
Journal of Biomedical Materials Research Part B: Applied Biomaterials: 176-183, DOI 10.1002/jbmb;
©Wiley Periodicals, Inc. (5/2007)
7. Hansen N H, Barabasch A, Distelmaier M, Ciritsis A, Kühnert N, Otto J, Conze J, Klinge U,
Hilgers R-D, Kuhl C K, Krämer N A:
First In-human MR-Visualization of Surgical Mesh Implants for Inguinal Hernia Treatment
Investigative Radiology 48/11, DOI 10.1097/RLI.0b013e31829806ce; ©2013 Lippincott Williams & Wilkins
8. Klinge U, Klosterhalfen B:
**Modified Classification of Surgical Meshes for Hernia Repair
Based on the Analyses of 1,000 Explanted Meshes**
Hernia 16: 251-258, DOI 10.1007/s10029-0913-6; ©Springer-Verlag (4/2012)
20. Göretzlehner U, Müllen A:
PVDF as an Implant Material in Urogynaecology
Interdisciplinary Journal of Functional Materials, Biomechanics and Tissue Engineering
BIOMaterialien 8(S1): 28-29., ISSN 1616-0177; ©Neuer Merkur GmbH, Munich (2007)
21. Klinge U, Binnebösel M, Kuschel S, Schüssler B:
Demands and Properties of Alloplastic Implants for the Treatment of Stress Urinary Incontinence
Expert Review of Medical Devices 4/3: 349-359, DOI 10.1586/17434440.4.3.349; ©Future Drugs Ltd., Austria (2007)

22. Noé K, Spüntrup C, Anapolski M:
Laparoscopic Pectopexy: A Randomised Comparative Clinical Trial of Standard Laparoscopic Sacral Colpo-Cervicopexy to the New Laparoscopic Pectopexy.
Short-term Postoperative Results.
Archives of Gynecology and Obstetrics 287: 275–280, DOI 10.1007/s00404-012-2536-7; ©Springer-Verlag (2012)
23. Jäger W, Mirenska O, Brügge S:
Surgical Treatment of Mixed and Urge Urinary Incontinence in Women
Gynecologic and Obstetric Investigation 74/2: 157–64, DOI 10.1159/000339972; ©S.Karger AG, Basel (8/2012)
26. Otto J, Kaldenhoff E, Kirschner-Hermanns R, Mühl T, Klinge U:
Elongation of Textile Pelvic Floor Implants under Load is Related to Complete Loss of Effective Porosity, thereby Favours Incorporation in Scar Plates
Journal of Biomedical Materials Research Part A 102/4: 1079-84, DOI 10.1002/jbm.a.34767; ©Wiley Periodicals, Inc. (2013)
31. Naumann G, Albrich S, Skala C, Laterza R, Kölbl H:
Single-Incision Slings (SIS) - a New Option for the Surgical Treatment of Female Stress Urinary Incontinence
Geburtshilfe und Frauenheilkunde 72/02: 125–31, DOI 10.1055/s-0031-1298275; ©Georg Thieme Verlag KG (2013)
32. Noé K, Schiermeier S, Alkatout I, Anapolski M:
Laparoscopic Pectopexy: A Prospective, Randomized, Comparative Clinical Trial of Standard Laparoscopic Sacral Colpocervicopexy with the New Laparoscopic Pectopexy-Postoperative Results and Intermediate-Term Follow-Up in a Pilot Study - Short-term Postoperative Results.
Journal of Endourology. ahead of print. doi:10.1089/end.2014.0413; ©Mary Ann Liebert, Inc. (2014)
33. Jäger W, Ludwig S, Mallmann P:
Does the Patients Age have an Influence on the Outcome of Cesa (Cervico-Sacropexy) and Vasa (Vagino-Sacropexy) for the Treatment of Urinary Incontinence in Women?
J Gerontol Geriatr Res 5/1 : 277. DOI 10.4172/2167-7182.1000277; © J Gerontol Geriatr (2016)
34. Rajshekhar S, Mukhopadhyay S, Morris E:
Early Safety and Efficacy Outcomes of a Novel Technique of Sacrocolpopexy for the Treatment of Apical Prolapse
International Journal of Gynecology and Obstetrics 0, Nr. 0 (25. Juli 2016)
35. Ludwig S, Stumm M, Mallmann P, Jäger W:
Surgical replacement of the uterosacral-and pubourethral-ligaments as treatment for urgency urinary incontinence
Austin J Womens Health 3, Nr. 1 (2016): 1019
36. Joukhadar R, Meyberg-Solomayer G, Hamza A, Radosa J, Bader W, Barski D, Ismael F, Schneider G, Solomayer E, Baum S:
A Novel Operative Procedure for Pelvic Organ Prolapse Utilizing a MRI-Visible Mesh Implant: Safety and Outcome of Modified Laparoscopic Bilateral Sacropexy
BioMed Research International 2015 (2015): 1–9
38. Kaldenhoff E, Klinge U, Klosterhalfen B, Najjari L, Maass N:
Von der Prolaps- zur Problempatientin: Schenken wir der Qualität von Netzimplantaten genügend Aufmerksamkeit?
Der Gynäkologe 46, Nr. 7 (Juli 2013): 469–76
39. Ludwig S, Stumm M, Mallmann P, Jäger W:
TOT 8/4: A Way to Standardize the Surgical Procedure of a Transobturator Tape
BioMed Research International 2016 (2016): 1–4

40. Najjari L, Hennemann J, Kirschner-Hermanns R, Maass N, Papatthemelis T:
Visualization of Polypropylene and Polyvinylidene Fluoride Slings in Perineal Ultrasound and Correlation with Clinical Outcome
Research article. BioMed Research International, 2014
41. Sabadell J, Larrain F, Gracia-Perez-Bonfils A, Montero-Armengol A, Salicrú S, Gil-Moreno A, Poza J L:
Comparative Study of Polyvinylidene Fluoride and Polypropylene Suburethral Slings in the Treatment of Female Stress Urinary Incontinence: PVDF/Polypropylene in Suburethral Slings
Journal of Obstetrics and Gynaecology Research 42, Nr. 3 (März 2016): 291-96
42. Balsamo R, Illiano E, Zucchi A, Natale F, Carbone A, De Sio M, Costantini E:
Sacrocolpopexy with Polyvinylidene Fluoride Mesh for Pelvic Organ Prolapse: Mid Term Comparative Outcomes with Polypropylene Mesh
European Journal of Obstetrics & Gynecology and Reproductive Biology 220 (Januar 2018): 74-78
43. Barski D, Arndt C, Gerullis H, Yang J, Boros M, Otto T, Kolberg H C:
Transvaginal PVDF-Mesh for Cystocele Repair: A Cohort Study
International Journal of Surgery 39 (März 2017): 249-54
44. Ludwig S, Stumm M:
Surgical Treatment of Urgency Urinary Incontinence, OAB (Wet), Mixed Urinary Incontinence, and Total Incontinence by Cervicosacropexy or Vaginosacropexy
Gynecology & Obstetrics 6, Nr. 9 (2016)
45. Kale A, Biler A, Terzi H, Usta T, Kale E:
Laparoscopic pectopexy: initial experience of single center with a new technique for apical prolapse surgery
International braz j urol 43, Nr. 5 (Oktober 2017): 903-9
46. Urbankova I, Sindhvani N, Callewaert G, Turri A, Rita R, Hympanova L, Feola A, Deprest J:
In Vivo Documentation of Shape and Position Changes of MRI-Visible Mesh Placed in Rectovaginal Septum
Journal of the Mechanical Behavior of Biomedical Materials 75 (November 2017): 379-89
47. Sindhvani N, Liaquat Z, Urbankova I, Vande Velde G, Feola A, Deprest J:
Immediate Postoperative Changes in Synthetic Meshes – In Vivo Measurements
Journal of the Mechanical Behavior of Biomedical Materials 55 (März 2016): 228-35













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48. Sindhvani N, Feola A, De Keyzer F, Claus F, Callewaert G, Urbankova I, Ourselin S, D'hooge J, Deprest J:
Three-Dimensional Analysis of Implanted Magnetic-Resonance-Visible Meshes
International Urogynecology Journal 26, Nr. 10 (Oktober 2015): 1459-65
49. Najjari L, Gräf C M, Kupec T, Stickeler E, Goecke T W, Meinhold-Heerlein I:
Tomographic Ultrasound Imaging to Control the Placement of Tension-Free Transobturator Tape in Female Urinary Stress Incontinence
BioMed Research International 2016 (2016): 1-6
50. Roman S, Urbánková I, Callewaert G, Lesage F, Hillary C, Osman N I, Chapple C R, Deprest J, MacNeil S:
Evaluating Alternative Materials for the Treatment of Stress Urinary Incontinence and Pelvic Organ Prolapse: A Comparison of the In Vivo Response to Meshes Implanted in Rabbits
The Journal of Urology 196, Nr. 1 (Juli 2016): 261-69

Legends for the technical data

- (a) Ratio of implant reactive surface area (thread surface) to implant surface area (see p. 12)
- (b) Measured in the strip tensile test
- (c) Mühl method [6]
- (d) Klinge's classification [8]

Product group	¹⁾ SIS / ²⁾ SIS soft p. 20	¹⁾ SIS direct / ²⁾ SIS direct soft p. 22	PR p. 26	PRR p. 27	PRS p. 28 / 29	PRP p. 30 / 33	¹⁾ CESA / ²⁾ VASA p. 34 / 35	¹⁾ CERESA / ²⁾ VARESA p. 34 / 35	PR4 p. 40	PR2 p. 41
DynaMesh®										
Pelvic floor reconstruction Indications										
Stress urinary incontinence / SUI	•	•						•		
Urinary urge incontinence / UUI							•	•		
Mixed urinary incontinence / MUI	•	•					•	•		
Uterus prolapse			•	•	•	•	•	•		
Vaginal prolapse			•	•	•	•	•	•		
Cystocele									•	
Rectocele			•	•						•
Surgical access										
Laparotomy (open)			•	•	•	•	•	•		
Laparotomy (endoscopic)			•	•	•	•	•	•		•
Transvaginal	•	•							•	•
Incontinence surgical techniques:										
"Tension free Vaginal Tape" - retropubic	•									
"Tension free Vaginal Tape" - transobturatoric	•	•								
Surgical techniques for pelvic floor prolapse – apical:										
Cervicosacropexy - unilateral			•	•	•					
Vaginosacropexy - unilateral			•	•	•					
Hysterosacropexy - unilateral			•	•						
Cervicosacropexy - bilateral							1) •	1) •		
Vaginosacropexy - bilateral							2) •	2) •		
Cervicopectoepoxy - bilateral				1) 3) •						
Vaginopectoepoxy - bilateral				1) 3) •						
Hysteropectoepoxy - bilateral				1) 2) •						
Surgical techniques for pelvic floor prolapse – anterior:										
Anterior wall repair with implant				3) •	•				•	
Surgical techniques for pelvic floor prolapse – posterior:										
Posterior wall repair with implant			•	•	•					•

Product group	¹⁾ SIS / ²⁾ SIS soft p. 20	¹⁾ SIS direct / ²⁾ SIS direct soft p. 22	PR p. 26	PRR p. 27	PRS p. 28 / 29	PRP p. 30 / 33	¹⁾ CESA / ²⁾ VASA p. 34 / 35	¹⁾ CERESA / ²⁾ VARESA p. 34 / 35	PR4 p. 40	PR2 p. 41
DynaMesh®										
Mesh position										
Extraperitoneal			●	●	●		●	●		
Fixation										
None	●	●								●
Suture (cervix/vagina/uterus/ligament)			●	●	●		●	●	●	
Stapler / Tacker			●	●	●		●	●		
Instrument										
Sterile/reusable/stainless steel	IVT01 (transobturator) ISR01 (retropubic) ISTO1 / -02 / -03 (transobturator)	IVT01 (transobturator) ISTO1 / -02 / -03 (transobturator)							IVT01 (transobturator) ISTO1 / -02 / -03 (transobturator)	ISR01 (transgluteal)
Properties										
Optimal handling	●	●	●	●	●	●	●	●	●	●
Optimal patient safety	●	●	●	●	●	●	●	●	●	●
Optimal patient comfort	●	●	●	●	●	●	●	●	●	●
Atraumatic selvedges	●	●	●	●	●	●	●	●	●	●
Green line marker	2) ●	2) ●	●	●	●	●	●	●	●	●
Minimal use of material	2) ●	2) ●	●	●	●	●	●	●	●	●
Shape stability	●	●	●	●	●	●	●	●	●	●
Defined elasticity	●	●	●	●	●	●	●	●	●	●
Soft structure (little material + large pore)	1) ● 2) ●	1) ● 2) ●	●	●	●	●	●	●	●	●
Visible technology	1) ● 2) ●	1) ● 2) ●	●	●	1+3) ● 2) ● 4+5) ●	●	●	●	●	●

● Applies to all product sizes
● Only applies to selected product sizes
● Does not apply

Product group	¹⁾ SIS / ²⁾ SIS soft p. 20	¹⁾ SIS direct / ²⁾ SIS direct soft p. 22	PR p. 26	PRR p. 27	PRS p. 28 / 29	PRP p. 30 / 33	¹⁾ CESA / ²⁾ VASA p. 34 / 35	¹⁾ CERESA / ²⁾ VARESA p. 34 / 35	PR4 p. 40	PR2 p. 41
DynaMesh®										
Technical data										
PVDF - Polymer - monofilament	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Excellent biocompatibility	●	●	●	●	●	●	●	●	●	●
Minimal foreign body reaction	●	●	●	●	●	●	●	●	●	●
Reduced bacterial adherence	●	●	●	●	●	●	●	●	●	●
High ageing resistance	●	●	●	●	●	●	●	●	●	●
Optimal dynamometry	●	●	●	●	●	●	●	●	●	●
Reactive surface ^(a) [m ² /m ²]	¹⁾ 2,8 / ²⁾ 2,2	¹⁾ 2,8 / ²⁾ 2,2	1,9	1,9	¹⁻³⁾ 2,2 / ^{1,9} * ⁴⁾ 1,9 / ^{2,2} * ⁵⁾ vaginal/dorsal	1,9	1,9	1,9	1,9*	1,9*
Maximum stability ^(b) [N/cm]	¹⁾ 117 / ²⁾ 76	¹⁾ 117 / ²⁾ 76	58	58	¹⁻³⁾ 44/58* ⁴⁾ 50/52* ⁵⁾ 52/87* ⁶⁾ vaginal/dorsal	71	61	61	58	58
Elasticity (b) bei 16 N/cm [%]	¹⁾ 6 / ²⁾ 9	¹⁾ 6 / ²⁾ 9	13	13	¹⁻³⁾ 14/13* ⁴⁾ 16/18* ⁵⁾ 18/6* ⁶⁾ vaginal/dorsal	9	11	11	13	13
Textile porosity ^(c) [%]	¹⁾ 63 / ²⁾ 70	¹⁾ 63 / ²⁾ 70	71	71	¹⁻³⁾ 68/71* ⁴⁾ 69/64* ⁵⁾ 64/69* ⁶⁾ vaginal/dorsal	68*	71	71	71*	71*
Effective porosity ^(c) [%]	¹⁾ 57 / ²⁾ 67	¹⁾ 57 / ²⁾ 67	68	68	¹⁻³⁾ 62/68* ⁴⁾ 64/58* ⁵⁾ 58/64* ⁶⁾ vaginal/dorsal	63	68	68	68*	68*
Effective porosity at 2.5 N/cm ^(c) [%]	-	-	68	68	¹⁻³⁾ 62/68* ⁴⁾ 64/58* ⁵⁾ 58/64* ⁶⁾ vaginal/dorsal	63*	68	68	68*	68*
Effective porosity at 2.5/16 N/cm ^(c) [%]	¹⁾ 57/59/ ²⁾ 67/68	¹⁾ 57/59/ ²⁾ 67/68	-	-	-	-	-	-	-	-
Classification ^(d)	1a	1a	1a	1a	1a	1a	1a	1a	1a	1a




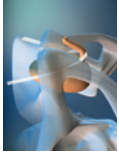




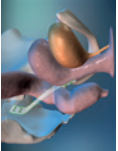
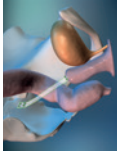

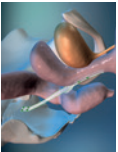
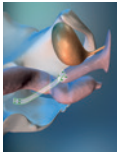

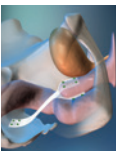



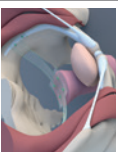
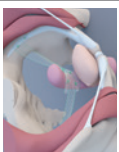
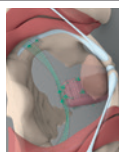
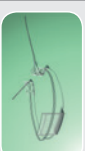
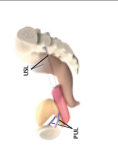

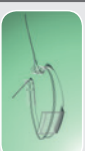



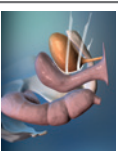

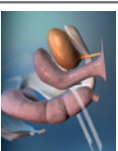
^(a) Ratio of implant reactive surface area (thread surface) to implant surface area

^(b) Measured in the strip tensile test

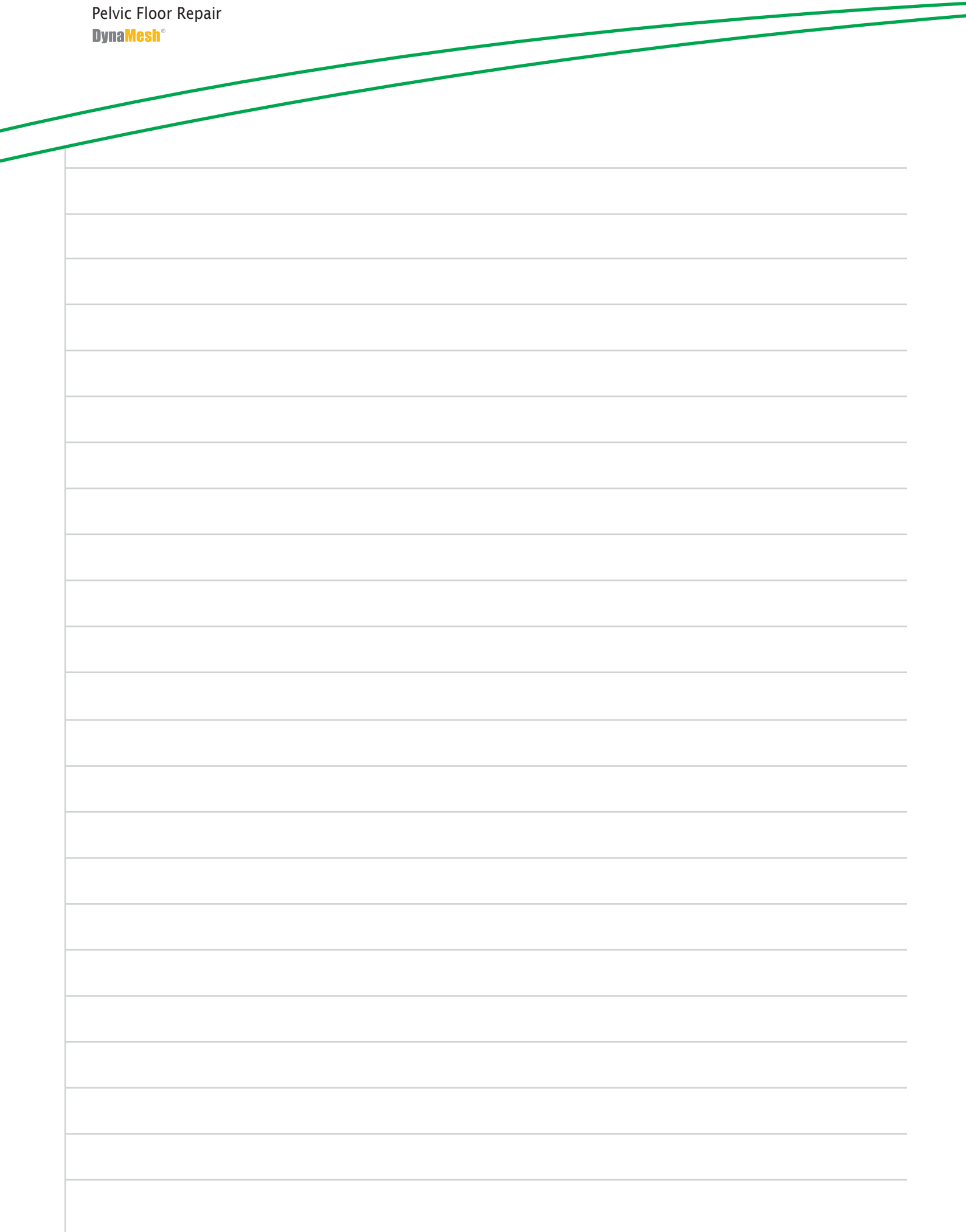
^(c) Muhl method [6]

^(d) Klinge's classification [8]

● Applies to all product sizes

Product group 	¹⁾ SIS / ²⁾ SIS soft p. 20	 	Transobturator 	¹⁾ SIS direct / ²⁾ SIS direct soft p. 22	 	Transobturator 	PR p. 26	 	Apical mesh repair for uterus preservation 	PRR p. 27	 	Apical mesh repair for uterus preservation 	PRS p. 28 / 29	 	Apical mesh repair - Vaginal stump / cervical stump 1) 2a) 3) PRS soft (02 cm x 16 cm) (03 cm x 23 cm) (05 cm x 27 cm) 2a) PRS visible (03 cm x 23 cm)		Apical mesh repair for uterus preservation (with small uterus) 1a) PRP soft 1b) PRP visible (03 cm x 15 cm)		Apical mesh repair for uterus preservation 5) PRS visible (04 cm x 20 cm)	PRP p. 30 / 33	 	Apical mesh repair - Vaginal stump / cervical stump 1a) PRP soft 1b) PRP visible (03 cm x 15 cm)		Apical mesh repair for uterus preservation 2) PRP visible (03 cm x 18 cm)		Apical mesh repair - Vaginal stump / cervical stump 3) PRP visible (17 cm x 15 cm)	¹⁾ CESA / ²⁾ VASA p. 34 / 35	 	CErvico-SACropexy		VAGino-SACropexy	¹⁾ CERESA / ²⁾ VARESA p. 34 / 35	 	CErvico-REcto-SACropexy		VAGino-REcto-SACropexy	PR4 p. 40	 	Anterior mesh repair	PR2 p. 41	 	Posterior mesh repair
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Product	RSUS	RSUS soft	TSUS	TSUS soft	IST03	IST01	IST02	IVT01	ISR01
DynaMesh®									
Reusable/stainless steel/unsterile Single Use System/sterile (Disposable instruments + Implantat)	●	●	●	●	●	●	●	●	●
Pelvic Floor Repair									
Urinary incontinence	●	●	●	●					
MUI / Mixed Urinary Incontinence	●	●	●	●					
PUL-Defect (pubourethral ligaments)	●	●	●	●					
Surgical procedure									
retrosymphyseal / retropubic with	SIS	SIS soft	SIS direct	SIS direct soft	SIS / SIS soft / SIS visible / SIS direct / SIS direct soft / SIS direct visible / PR4 soft / PR4 visible	SIS / SIS soft / SIS visible / SIS direct / SIS direct soft / SIS direct visible / PR4 soft / PR4 visible	SIS / SIS soft / SIS visible / SIS direct / SIS direct soft / SIS direct visible / PR4 soft / PR4 visible	SIS / SIS soft / SIS visible	
transobturatoric with									
transgluteal with									
Product	DynaMesh®- RSUS	DynaMesh®- TSUS	DynaMesh®- TSUS	DynaMesh®- TSUS soft	DynaMesh®- IST03	DynaMesh®- IST01	DynaMesh®- IST02	DynaMesh®- IVT01	DynaMesh®- ISR01
Size	Disposable instrument + Implant S211056R1 F1 VE = 1 Satz	Disposable instrument + Implant S211050U1 F1 d 5 cm VE = 1 Satz	Disposable instrument + Implant S211050U1 F1 d 5 cm VE = 1 Satz	Disposable instrument + Implant S411050U1 F1 d 5 cm VE = 1 Satz	Surgical instrument S411050U1 F1 d 5 cm Unit= 1 set (+r)	Surgical instrument S411050U1 F1 d 6 cm Unit= 1 set (+r)	Surgical instrument S411050U1 F1 d 7 cm Unit= 1 set (+r)	Surgical instrument S411050U1 F1 Unit= 1 pc.	Surgical instrument S411050U1 F1 Unit= 1 pc.
Produkt soft	DynaMesh®- RSUS soft	DynaMesh®- TSUS soft	DynaMesh®- TSUS soft	DynaMesh®- TSUS soft	DynaMesh®- TSUS soft	DynaMesh®- TSUS soft	DynaMesh®- TSUS soft	DynaMesh®- TSUS soft	DynaMesh®- TSUS soft
Size	Disposable instrument + Implant S411056R1 F1 VE = 1 Satz	Disposable instrument + Implant S411050U1 F1 d 5 cm VE = 1 Satz	Disposable instrument + Implant S411050U1 F1 d 5 cm VE = 1 Satz	Disposable instrument + Implant S411050U1 F1 d 5 cm VE = 1 Satz	Disposable instrument + Implant S411050U1 F1 d 5 cm VE = 1 Satz	Disposable instrument + Implant S411050U1 F1 d 6 cm VE = 1 Satz	Disposable instrument + Implant S411050U1 F1 d 7 cm VE = 1 Satz	Disposable instrument + Implant S411050U1 F1 Unit= 1 pc.	Disposable instrument + Implant S411050U1 F1 Unit= 1 pc.
Size Article number / Packaging unit	Implant see: SIS	Implant see: SIS soft	Implant see: SIS direct	Implant see: SIS direct soft					



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