



Cardiovascular Surgery

On the frontline
of technology
and experience

san
tec

Atramat
Innovation Through Experience

Cardiovascular Surgery

To achieve ideal results in cardiac surgery the cardiovascular surgeon needs not only outstanding manual ability but also high quality surgical sutures that offer maximum precision and an optimum geometric design resulting in a needle that penetrates into hard tissues (calcified and/or atheromatous plaques) with reduced risk of filtration.

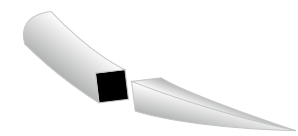
Surgical procedures

- Coronary bypass or coronary bridges
- Valve replacement and repair
- Large vessels (aorta and pulmonary arteries)
- Endocarditis
- Minimally invasive
- Arrhythmias
- Cardiac transplant and ventricular assist implantation



	Silk	Polyester	PVDF	Polypropylene	Stainless Steel
Coronary bypass or coronary bridges		✓	✓	✓	
Valve replacement and repair		✓	✓	✓	
Large vessels (aorta and pulmonary arteries)		✓	✓	✓	
Endocarditis		✓	✓	✓	
Minimally invasive		✓	✓	✓	
Arrhythmias		✓	✓	✓	
Cardiac transplant and ventricular assist implantation		✓	✓	✓	
Ligatures	✓				
Sternal Closure		✓			✓

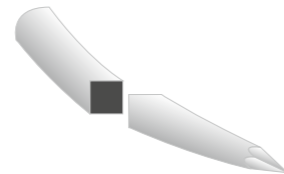
Needles



- Point
- Cutting pattern

Taper Point SupraGlyde "SB"

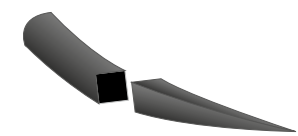
- Grade 300 steel, optimal geometric design.
- Taper point and a cylindrical body which is especially flattened in the middle to give greater control in the needle holder as well as a superior physical strength. The tip of the needle is conical in shape, gradually thinning until it ends in a point.
- Its outstanding performance facilitates penetration and smooth passage through tissue.



- Point
- Cutting pattern

Taper Cutting SupraGlyde "YB"

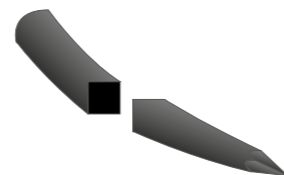
- Grade 300 steel, optimal geometric design.
- Taper point needle with a sharp, high precision micro cutting tip with a cylindrical body which is especially flattened in the middle to give greater control in the needle holder as well as a superior physical strength.
- Its outstanding performance facilitates penetration into hard tissues (calcified and/or atheromatous plaques, reduces filtration) and smooth passage through tissue in cardiovascular surgery.



- Point
- Cutting pattern

Taper Point Non Reflective SupraGlyde "SV"

- Grade 300 steel, optimal geometric design.
- Taper point needle with a cylindrical body which is especially flattened in the middle to give a greater control in the needle holder as well as a superior physical strength. The tip of the needle is conical in shape, gradually thinning to end in a point.
- Its outstanding performance facilitates penetration into hard tissues (calcified and/or atheromatous plaques, reduces filtration) and smooth passage through tissue in cardiovascular surgery.
- This black anti-reflective needle allows easy visualization in the surgical field, preventing inconvenient reflections in microvascular surgery.

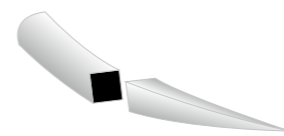


- Point
- Cutting pattern

Taper Cutting Non Reflective SupraGlyde "YV"

- Grade 300 steel, optimal geometric design.
- Taper point needle with a sharp, high precision micro cutting tip and a cylindrical body which is especially flattened in the middle for greater control in the needle holder as well as a superior physical strength.
- Its outstanding performance facilitates penetration into hard tissues (calcified and/or atheromatous plaques, reduces the filtration) and smooth passage through tissue in cardiovascular surgery.
- This black anti-reflective needle allows easy visualization in the surgical field, preventing inconvenient reflections in microvascular surgery.

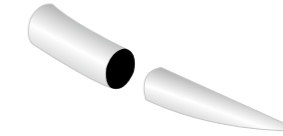
Needles



- Point
- Cutting pattern

Taper Point Cutting "W"

A needle widely used in hard tissues but in particular where a circular cutting pattern is required in order to avoid tearing in procedures where the tissue and the sutures will be subjected to tension.
Uses: Sternal closure.



- Point
- Cutting pattern

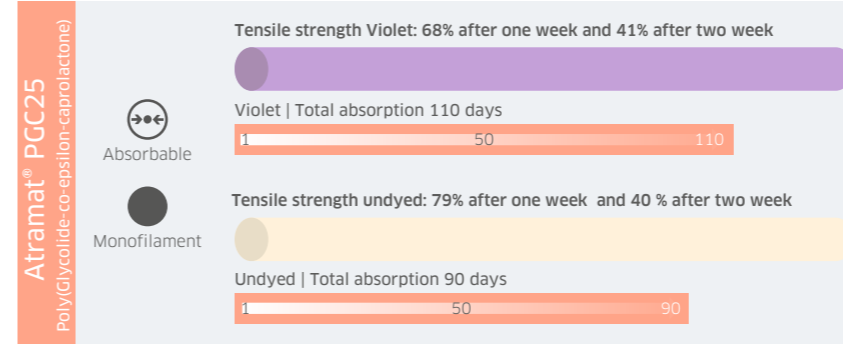
Taper Point Premium "S"

A taper point needle designed for minimal tissue trauma and to allow easy penetration into soft tissue. The cylindrical body is especially flattened to allow for greater control in the needle holder.
Uses: soft tissue surgery, cardiovascular surgery.

Atramat® allows specialists in cardiovascular surgery achieve the best results for their patients; our broad portfolio of products for this specialty includes:

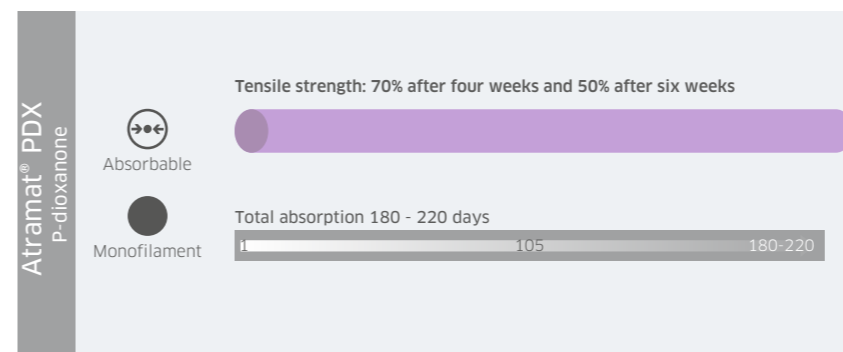
- Absorbable sutures and non absorbable with and without pledget.
- Atramat® Temporary Epicardic Pacing Wire
- Atramat® Bone Wax

Absorbable Sutures



Material: composed of copolymer of glycolide and caprolactone [poly(glycolide-co-epsilon-caprolactone)]
Absorption: Hydrolysis
Thread color: Violet or undyed

- Characteristics:**
- Minimal inflammatory reaction in tissue.
 - Excellent knot safety.
 - Superior handling.



Material: composed of P-dioxanone monomer
Absorption: Hydrolysis
Thread color: Violet or undyed

- Characteristics:**
- Minimal inflammatory reaction in tissue.
 - Excellent knot safety.
 - Superior handling.
 - The violet color provides excellent visibility in the surgical field.

Cardiovascular Surgery Absorbable Sutures

Atramat® PGA
Polyglycolic acid

Absorbable
Braided

Tensile strength: 70% after two weeks and 50% after three weeks

Total absorption: 60 - 90 days

Material: composed of Homopolymer filaments of glycolic acid
Coating: Polycaprolactone and calcium stearate
Absorption: Hydrolysis
Thread color: Violet or undyed

- Characteristics:**
- Minimal inflammatory reaction in tissue.
 - Excellent knot safety.
 - Superior handling.
 - The violet color provides excellent visibility in the surgical field.

Atramat® PGLA90
Poly(glycolide-co-L-lactide)

Absorbable
Braided

Tensile strength: 75% after two weeks

Total absorption: 60 - 80 days

Material: composed of Copolymer of glycolic acid and L-lactide [poly(glycolide-co-L-lactide)]
Coating: Poly(glycolide-co-L-lactide) and calcium stearate
Absorption: Hydrolysis
Thread color: Violet or Beige (undyed)

- Characteristics:**
- Minimal inflammatory reaction in tissue.
 - Excellent knot safety.
 - Superior handling.
 - The violet color provides excellent visibility in the surgical field.

Cardiovascular Surgery Non-absorbable Sutures

Atramat® Polypropylene

Non-absorbable
Monofilament

Material: Isotactic stereoisomer of polypropylene homopolymer.
Thread color: Blue

- Characteristics:**
- Minimal tissue reaction.
 - Computer controlled extrusion process ensures a uniform diameter that provides smooth passage through tissue and minimizes tissue drag.
 - Ideal as a permanent support without loss of tensile strength.
 - Biocompatibility, softness and plastic deformation.
 - Excellent knot coupling and knot security.
 - Resistance to reaction with infected tissue means it can be used in contaminated or infected wounds.

Atramat® PVDF

Non-absorbable
Monofilament

Material: Polyvinylidene fluoride
Thread color: Blue, yellow.

- Characteristics:**
- Minimal tissue reaction.
 - Computer controlled uniform diameter provides smooth passage through tissue, minimizing tissue drag.
 - Ideal as a permanent support without loss of tensile strength.
 - Biocompatibility, softness, plastic deformation.
 - Excellent knot coupling and knot security.
 - Resistance to repeated flexion makes it ideal for cardiovascular procedures that require being able to withstand continual heart contractions in cardiac prosthesis or vascular anastomosis.
 - Resistance to reaction with infected tissue means it can be used in contaminated or infected wounds.

Non-absorbable Sutures

Atramat® Silk

Non-absorbable
Braided

Material: Fibroin protein derived from the bombyx mori silkworm
Coating: Silicone
Thread color: Blue, black, white

- Characteristics:**
- State-of-the-art manufacturing process ensures compact braiding and high tensile strength.
 - Superior handling.
 - Excellent knot security.

Atramat® Polyester

Non-absorbable
Braided

Material: Polyester fibers prepared from terephthalic acid or its esters and ethylene glycol
Coating: Silicone, Teflon
Thread color: White, green

- Characteristics:**
- Ideal as a permanent support without loss of tensile strength.
 - Excellent knot coupling knot security.
 - Biocompatibility, softness, and minimal tissue drag.

Atramat® Stainless steel

Non-absorbable
Monofilament

- Excellent support for bone structures.
- There is no significant loss of tensile strength in vivo.
- Minimal reaction, inert, tissue compatible.

Cardiovascular Surgery



PTFE Pledget

Origin: Synthetic
 Color: White
 Non-absorbable
 Composition: PTFE (Polytetrafluoroethylene) Teflon
 Measures: 6 mm x 3 mm*
 Applications: Vascular Surgery, Cardiovascular

Atramat® Polypropylene and Polyester surgical sutures are available with Teflon pledgets, ideal in cardiovascular surgery (valve rings). They do not release any particles thus avoiding the introduction of foreign bodies into the cardiothoracic cavity.

They give the surgeon options of material thickness and permeability.

There are various applications in cardiac surgery: patches, support for sutures, and as material to replace ventricular myocardial segments after resection.

- As reinforcement for sutures.
- As reinforcement for friable tissue.
- As tissue support.

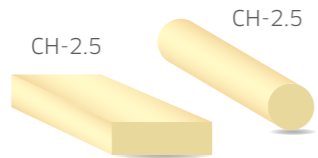
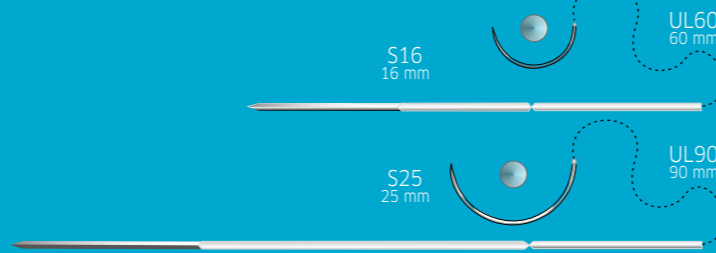


Atramat® Temporary Epicardic Pacing Wire

Consisting of an electrode (a multifilament conductor cable insulated with a PTFE coating) with a tapered 1/2 circle needle at one end and at the other end a straight cutting needle that allows the conductive wire to be inserted through the chest wall. It provides direct electrical communication to the myocardium.

Atramat® Temporary Epicardic Pacing Wire is designed for temporary atrial and ventricular stimulation and detection during a planned implantation period of no more than 7 days.

Pediatric: UL60
 Adult: UL90



Atramat® Bone wax

- ✓ Used to control bleeding at bone surfaces.
- ✓ Acts by physically blocking the bone channels.
- ✓ Smooth and easy to apply.
- ✓ Softened using an aseptic technique until the desired consistency is achieved.

Code	Product	Pieces
CH-2.5	Bone wax	12
CH-2.5		

Cardiovascular surgery

Needle-thread combinations

Material	Type	Needle		Gauge	Thread	
		Length mm	Curvature		Color	Length cm
Polypropylene	Taper Point Premium	8-30 mm	3/8, 1/2	8-0 to 2-0	Blue	60 - 90
		13-16 mm	1/2	5-0 *P	Blue	75
Polyester	Taper Point Premium	16-25 mm	1/2	5-0 to 2-0	Green White	75 - 90
		16-25 mm	1/2	2-0 *P	Green White	75
		16 mm	1/2	2-0 **KP6	Green White	75
PVDF	Taper Point Premium	8-30 mm	3/8, 1/2	8-0 to 2-0	Blue	60 - 90
Polydioxanone	Taper Point Premium	10-16 mm	3/8, 1/2	7-0 to 4-0	Violet	60 - 90

*P=suture with pledget
 ** KP6= 5 threads white / 5 threads green with pledget

Material	Type	Needle		Gauge	Thread	
		Length mm	Curvature		Color	Length cm
Polypropylene	Taper Cutting Premium	8-25 mm	3/8, 1/2	7-0 to 2-0	Blue	60 - 90
		13-16 mm	1/2	5-0 *P	Blue	75
Polyester	Taper Cutting Premium	16-25 mm	1/2	5-0 to 2-0	Green White	75 - 90
		16-25 mm	1/2	2-0 *P	Green White	75
PVDF	Taper Cutting Premium	8-30 mm	3/8, 1/2	8-0 to 2-0	Blue	60 - 90

*P=suture with pledget

Material	Type	Needle		Gauge	Thread	
		Length mm	Curvature		Color	Length cm
Polypropylene	Taper Point SupraGlyde	8-25 mm	3/8, 1/2	7-0 to 2-0	Blue	60 - 90
		13-16 mm	1/2	5-0 *P	Blue	75
Polyester	Taper Point SupraGlyde	16-25 mm	1/2	5-0 to 2-0	Green White	75 - 90
		16-25 mm	1/2	2-0 *P	Green White	75
PVDF	Taper Point SupraGlyde	8-30 mm	3/8, 1/2	8-0 to 2-0	Blue	60 - 90

*P=suture with pledget

Material	Type	Needle		Gauge	Thread	
		Length mm	Curvature		Color	Length cm
Polyester	Taper Point Cutting	48 mm	1/2	5	Green	75*, **
Stainless Steel	Taper Point Cutting	48-57 mm	1/2	5	Steel	45*, **

* 4 threads per pack
 ** 2 threads per pack

Cardiovascular Surgery

Needle-thread combinations

Material	Type	Needle		Thread		
		Length mm	Curvature	Gauge	Color	Length cm
Polypropylene	Taper Point Non Reflective SupraGlyde	8-25 mm	3/8, 1/2	7-0 to 2-0	Blue	60 - 90
		13-16 mm	1/2	5-0 *P	Blue	75
Polyester	Taper Point Non Reflective SupraGlyde	16-25 mm	1/2	5-0 to 2-0	Green White	75 - 90
		16-25 mm	1/2	2-0 *P	Green White	75
PVDF	Taper Point Non Reflective SupraGlyde	8-30 mm	3/8, 1/2	8-0 to 2-0	Blue	60 - 90

*P=suture with pledget

Material	Type	Needle		Thread		
		Length mm	Curvature	Gauge	Color	Length cm
Polyester	Reverse Cutting Premium	30-48 mm	1/2	5, 2	Green	75*, **
PGA	Reverse Cutting Premium	19-24 mm	3/8	4-0 to 2-0	Violet Undyed	45-75
PGLA90	Reverse Cutting Premium	19-24 mm	3/8	4-0 to 2-0	Violet Undyed	45-75
PGC25	Reverse Cutting Premium	19-24 mm	3/8	4-0 to 2-0	Violet Undyed	45-75

*P=suture with pledget

Material	Type	Needle		Thread		
		Length mm	Curvature	Gauge	Color	Length cm
Stainless Steel	Reverse Cutting spin needle	57 mm	1/2	5	Steel	75**

** 2 threads per pack

Material	Type	Needle		Thread		
		Length mm	Curvature	Gauge	Color	Length cm
PGA	Heavy Taper Point Premium	26-40 mm	1/2	3-0 to 1	Violet	75-90
PGLA90	Heavy Taper Point Premium	26-40 mm	1/2	3-0 to 1	Violet	75-90
PGC25	Heavy Taper Point Premium	26-40 mm	1/2	3-0 to 1	Violet	75-90
PDX	Heavy Taper Point Premium	26-40 mm	1/2	3-0 to 1	Violet	75-90
Silk	Heavy Taper Point Premium	26-40 mm	1/2	3-0 to 1	Black	75

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