

Heparin Antithrombogenic Coating



Active Ingredient

Heparin is a widely used clinical antithrombotic agent that functions by indirectly inhibiting thrombin activity. This prevents the conversion of soluble fibrinogen into insoluble fibrin, thereby achieving effective anticoagulation.

How It Works

The coating employs a chemically grafted form of modified heparin, covalently bonded to the surface of medical devices. This stable integration effectively inhibits thrombus formation while maintaining coating integrity and performance over long-term use.

Dimensions

Nanoscale coating layer.

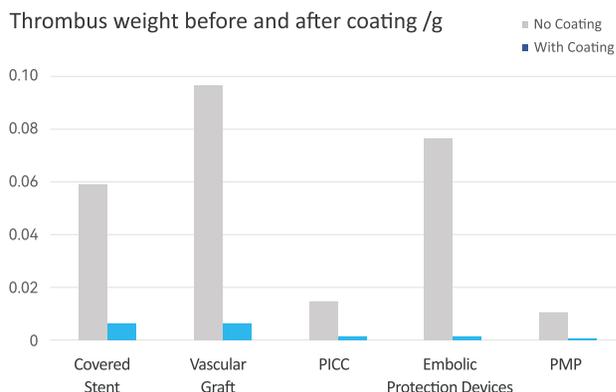
Key Features

- Ultra-thin and uniform coating
- Excellent stability and durability
- Reduces inflammation and platelet adhesion
- Provides long-lasting anticoagulation performance

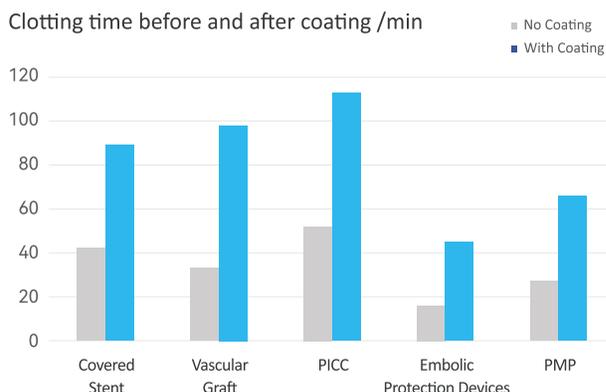
Applications

- Embolic protection devices
- Peripherally inserted central catheters (PICC)
- Vascular grafts
- Covered stents
- PMP oxygenators
- Other blood-contacting medical devices

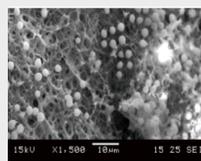
Thrombosis reduced significantly



Clotting time extended significantly

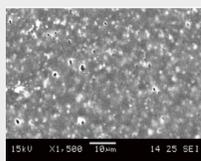


Comparative Observation



Uncoated PU

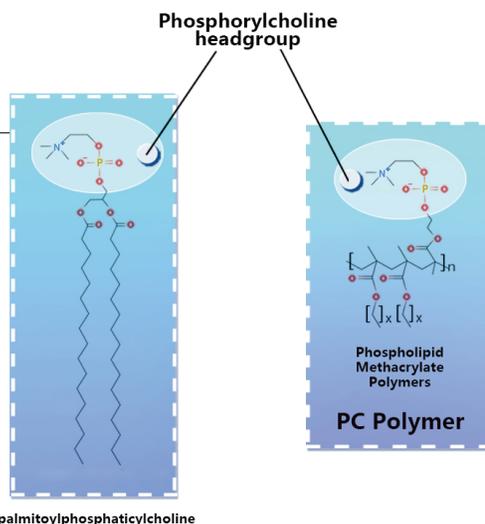
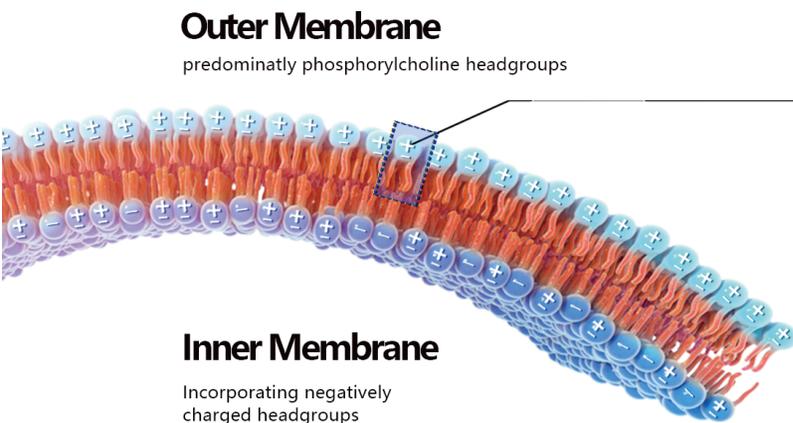
Fully covered with platelets and fibrinogen.



PU with Heparin Coating

Significantly reduces platelet adhesion, demonstrating superior antithrombotic performance.

Phosphorylcholine Hemocompatible Coating



Active Ingredient

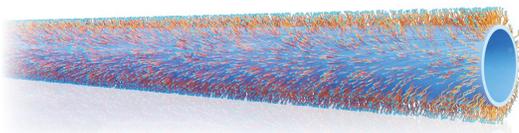
Phosphorylcholine (PC) is the principal phospholipid component found on the outer surface of non-activated cell membranes. As an amphiphilic molecule, PC resists both protein and cellular adhesion, mimicking the natural biocompatibility of cell surfaces.

Mechanism of Action

PC molecules are covalently bonded to the surface of medical devices, forming a stable, biomimetic layer that effectively minimizes protein adsorption and cell adhesion, thereby reducing thrombogenicity and inflammatory response.

Dimensions

Nanoscale coating layer.



Key Features

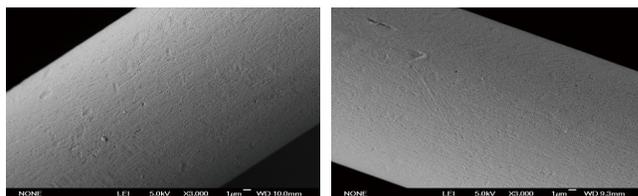
- Drug-free composition
- Excellent anti-adhesion and anti-crystallization properties
- Reduces inflammation and platelet activation
- Simple, robust coating process

Applications

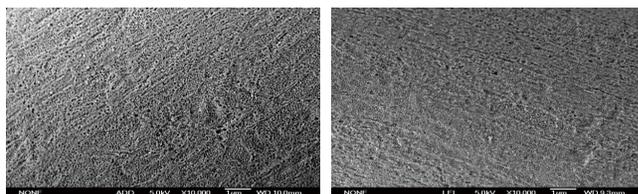
- Braided stents
- Carotid stents
- Vascular grafts
- Extracorporeal circulation catheters
- Other blood-contacting medical devices

Performance Evaluation

[SEM]



• 3000X Magnification



• 10000X Magnification

[Static Thrombosis Test]

