Assist™ Durable Hydrophilic Surface-Active Material

Assist™ Durable Hydrophilic Surface-Active Material is a flexible single-step coating that is highly durable in totuous environments, and provides superior lubricity that minimises friction (when wet), enhances biocompatibility and improves the laminar flow of fluids.

Clinical Features

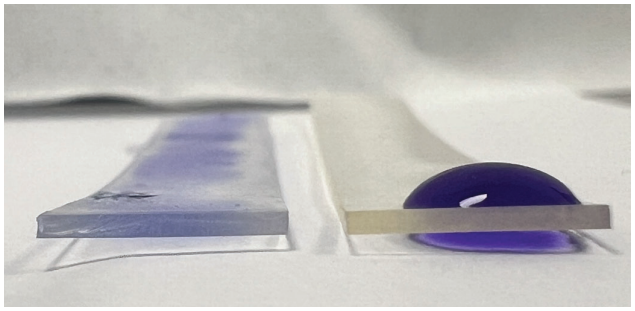
- **Reduces Friction**
- **Instantly Active**
- **Highly Durable Under High Stress**
- **Thin Layer**
- **No Particulates**
- **UV or Heat Cured**

"Hospitals around the world are facing increasingly complex challenges. One example is the rapid growth of miniaturised, minimally invasive procedures that rely on smaller devices to navigate tortuous pathways and deliver therapy safely. To enable these procedures, I see a growing need for hydrophilic coatings that combine superior lubricity with high durability — ensuring delivery systems perform reliably in high-stress, high-movement environments without particulation or delamination. This will be essential to support the next generation of minimally invasive therapies."

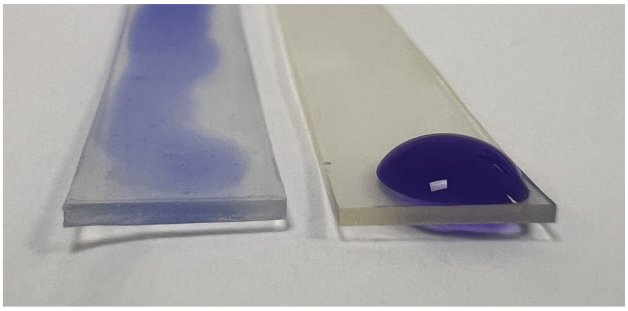
Joe Rowan, Founder and CEO of Growth Vectors Consulting

Contact Angle - Uncoated and Coated with Assist™

Extremely low contact angle with Assist™ Durable Hydrophilic coating.



Coated Uncoated



Coated Uncoated

BioInteractions

What is Assist™?

Assist™, a Durable Hydrophilic Surface-Active Material, has been designed specifically to reduce friction and minimise unwanted interactions on medical device surfaces. This legacy technology has been successfully applied to a wide range of substrates and geometries without particulate shedding or delamination during use.

Engineered for durability, Assist™ is a single-step coating that has been applied to various medical devices with moving parts or that experience high mechanical stress such as large balloon catheters, joint devices, and delivery systems. The coating's inherent stability drastically reduces the coefficient of friction on the surface whilst withstanding demanding, tortuous anatomical pathways. This low-friction surface leads to decreased tissue damage and improved patient comfort during device operation or removal.

Assist™ improves biocompatibility and optimises the performance of moving device surfaces, ensuring consistent function throughout the implant's life. Available in both UV and heat curing options, Assist™ can be applied across a wide range of shapes and materials including complex geometries and challenging dimensions. Assist™ technology improves patient safety, enhances device performance and improves implantation procedures.

Legacy Evaluation

Assist™ Durable Hydrophilic Surface-Active Material has been derived from our proven technology platform and used for over 25 years on FDA-approved and CE-approved medical devices without any rejection or recall. It has been tested to ISO biocompatibility standards, including:

Hydrophilic Coating Technologies: Comparison

Technology Type	Coefficient of Friction	Durability	Safety (Particulation)	Activation
Assist™	<0.003 (wet); stable	No friction creep	Very low/no particulation	Instant activation
PVP-based Hydrogels	Low initially, rises with creep	Degrades with repeated use	Moderate particulation risk	Pre-soak often required
HEMA-based Hydrogels	Low initially, rises with creep	Swells significantly; prone to sloughing	High particulation risk	Pre-soak often required
PEG-modified Hydrogels	Low initially, moderate creep	More stable than PVP/HEMA but still degrades	Particulation risk remains	Pre-soak often required
Hybrid / Multi-polymer Hydrogels	Low initially, creep develops	Marketed as durable, but evidence of degradation	Particulation risk under stress	Pre-soak often required

Clear Strength Partial / Mixed Limitation

BioInteractions

Assist
Durable Hydrophillic

BioInteractions Surface Active System

Clinical Applications

Assist™ Durable Hydrophilic Surface-Active Material can be safely applied on to a wide range of medical device substrates, including polymers (e.g. polycarbonate and polyurethane), metals (e.g. nitinol and stainless steel), and woven & non-woven fabrics. It is compatible with diverse geometries and dimensions, from small implants with tight tolerances (less than 5 microns in diameter) to large systems exceeding 20 metres in length.

Clinical Areas

- Orthopaedic use
- Vascular Access
- Urology
- Neurovascular
- Ophthalmic
- Ablation & Mapping

Various Substrates We Coat

Hardest → Easiest

- **PTFE or Teflon** (Polytetrafluoroethylen Polytetrafluoroethylene). Polymer used for sheaths.
- **PEEK** (Polyether Ether Ketone). Polymer
- **Titanium.** Polished Metal
- **Nitinol** (nickel-titanium). Polished Metal alloy
- **Silicone** (polydimethylsiloxane). Polymer
- **PP** (Polypropylene). Polymer used for catheters, thin films
- **PET** (polyethylene terephthalate). Polymer sheets
- **SEBS** poly(styrene-block-ethylene /butylene-blockstyrene). Polymer
- **ePTFE** (expanded polytetrafluoroethylene). Used for stent coverings, vascular grafts, heart valves, surgical meshes
- **UHMWPE** (Ultra High Molecular Weight Polyethylene). Polymer.
- **Stainless Steel** (chromium, nickel, and molybdenum). Polished Metal alloy
- **Silicone** rubber. Elastomer
- **PVC** (Polyvinyl chloride). Polymer
- **PP** (polypropylene), **PET** (polyester), and **PE** (polyethylene). **Non-woven fabric** (sutures, face masks, textiles)
- **SEPS** poly(styrene-block-ethylene /propylene-blockstyrene). Polymer
- **Pebax®** (thermoplastic elastomer (TPE). Elastomer
- **Nylon** (Polyamide). Polymer
- **TPU** (thermoplastic polyurethane). Elastomer
- **Latex** (natural rubber). Elastomer
- **PET** (polyethylene terephthalate). Fibres are spun and then woven Polyester fabric. **Woven fabric**
- **Wood** (biopolymer)
- **PE** (Polyethylene). Polymer.
- **Cellulose Fibres** (biopolymer)
- **PC** (Polycarbonate). Polymer
- **Cotton** (biopolymer)
- **PMP** (Polymethylpentene). Hollow polymer fibres

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