Whitepaper

Envalior
Imagine the Future

ARNITEL® VT ENHANCES *HEALTHCARE WORKER* SAFETY

The global impact of recent pandemics emphasize the importance of providing healthcare professionals with high quality personal protective equipment (PPE), including disposable medical gowns.

During a public health crisis, physicians, nurses, and healthcare center staff are at significantly higher risk of infection due an influx of sick patients, and depend on this gear to safely provide first–rate medical care.

Multiple serious outbreaks—such as severe acute respiratory syndrome (SARS), Middle East respiratory syndrome–related coronavirus (MERS), and Ebola—have driven demand for medical gowns with proven barrier properties within the healthcare industry. Yet, many still use microporous gowns, which are vulnerable to strikethrough, where fluids that may contain bacteria and viruses penetrate the material and leave healthcare workers at risk. Medical professionals require gowns designed to fully protect them while remaining breathable, so they can remain comfortable through long shifts while minimizing the risk of staff exposure.

Envalior's Arnitel® VT is a polyester–based block copolymer thermoplastic elastomer (TPE) with more than 20 years' use in medical supply manufacturing. The technology combines hard crystalline polyester (PBT) and soft amorphous links to provide outstanding durability, strength, comfort and design flexibility.

Arnitel VT offers:

- Proven best–in–class resistance to fluid penetration
- Easy processing capabilities due to high melt viscosity
- Excellent breathability
- Elasticity to more than 500%
- High water absorption to 130%
- High melting temperature up to 210°C
- Lightweight, low–density structure
- Superior silky touch and feel
- Reduced carbon footprint for manufacturing
- 100% recyclability

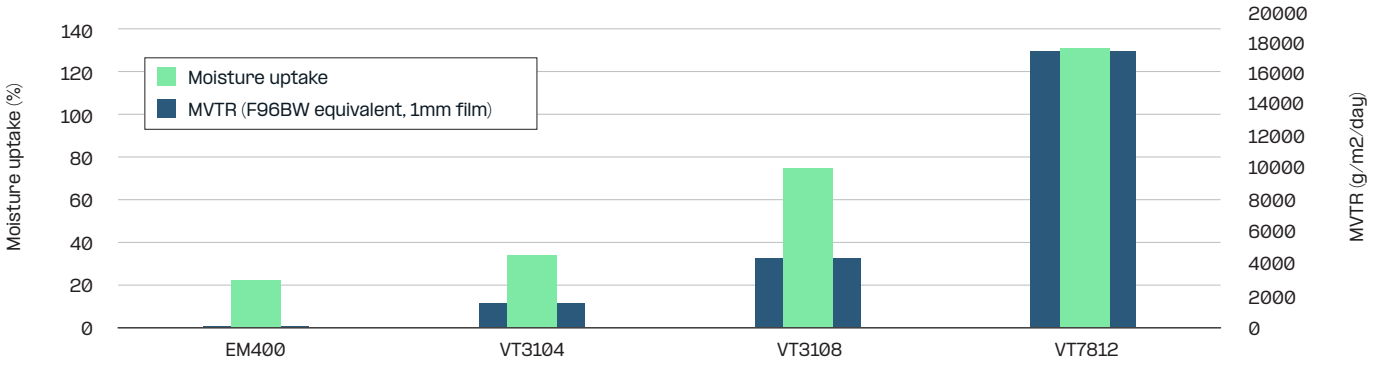
BEST-IN-CLASS PROTECTION TECHNOLOGY

Once manufactured into medical gowns, Arnitel VT forms a monolithic membrane, which provides a 100% effective barrier against bacteria and viruses, in addition to excellent tear resistance. It achieves the highest standards of the Association for the Advancement of Medical Instrumentation (AAMI) and Europe's EM13795, which both address fluid protection in the critical zone of gowns, most likely to cause direct contact between wearers and infectious materials. AAMI's Level 3 standard is required to protect against COVID-19. With its Level 4 performance, Arnitel VT is certified to safeguard against bloodborne pathogens during lengthy, high-fluid surgical procedures.

	ANSI/AAMI PB 70 Barrier Performance	**Test Method**	**Requirement**
AAMI Level 1	**Minimal fluid barrier protection**	Impact penetration AATCC 42	<=4.5g
AAMI Level 2	**Minimal to low fluid barrier protection** For use only for low-fluid, minimally invasive surgical procedures, lumps, and bumps	Impact penetration AATCC 42	<=1.0g
		Hydrostatic Pressure AATCC 1127	>=20cm
AAMI Level 3	**Moderate fluid barrier protection** Used for the widest range of surgical procedures, where moderate fluid protection is indicated	Impact penetration AATCC 42	<=1.0g
		Hydrostatic Pressure AATCC 1127	>=50cm
AAMI Level 4	**Highest fluid and microbial barrier** Protection against bloodbone pathogens in critical zones. Needed for long, fluid-intensive procedures. Also for operating on patients with potential bloodbone pathogen risk.	Blood Penetration ASTM F1670	Pass
		Viral Penetration ASTFM F1671	Pass

Designed for long-lasting comfort

Surgeons and operating room staff often wear personal protective equipment for hours, resulting in high perspiration. Competing microporous surgical gown materials are breathable, but susceptible to fluid penetration—whereas polyolefin gowns provide a strong barrier with little breathability. Envalior's solution encloses Arnitel VT between two spun bond fabrics made of continuous fine polypropylene filaments. In addition to a soft, comfortable feel, this enhances breathability by enabling air and moisture vapour permeability, while preventing fluid penetration. Arnitel® VT7812, the newest portfolio addition, supports thinner membranes to boost Moisture Vapour Transmission Rates (MVTR) and reduces the amount of material needed—without compromising performance.



About the technology

Envalior's Arnitel VT offers an extensive portfolio of speciality grades that meet any blown, film, cast, co-extrusion, coating, lamination or other processing needs. Its monolithic membrane technology is the industry's only solution designed to fully protect healthcare professionals from infection risks, while ensuring their comfort—enhancing their ability to provide outstanding medical care in any situation.

To learn more, contact us via Envalior.com.

Envalior
Imagine the Future