

Mannington Commercial has a long history of putting our customers' needs first. To do so, we research not only new technologies, but also the existing environments where our flooring is installed. Our resilient sheet flooring is used more frequently in healthcare than most other type of flooring because it is extremely durable and very easily cleaned. It also has the benefit of being a suitable flooring for infection control areas because it can be heat welded and flash covered. In addition, disinfection of a resilient floor covering is generally easier and more effective than disinfecting a soft surface floor covering. But the greatest advantage that Mannington's resilient flooring provides for healthcare installations is our finish coat: Quantum Guard HP.

## What is Quantum Guard HP?

Quantum Guard HP is the highest performing commercial urethane finish in the industry. The patented wear layer has a urethane aluminum oxide topcoat cured by an ultraviolet process. In our extensive research, we have found that this aluminum oxide additive provides unparalleled appearance retention, durability, and slip retardant properties. Aluminum oxide is an extremely hard mineral found on the MOH (Hardness Scale) at a 9; the hardest mineral on that same scale is a Diamond at 10. Aluminum oxide was first used to add slip-resistance to coating systems and to protect the surface of hardwood flooring. Today, Mannington has engineered this same technology to be used in coating systems for our resilient products. The suspension of this very hard mineral protects the appearance of the product, allows for a no-polish maintenance option, and provides superior scratch, scuff and stain resistance. In addition, Mannington provides a 10-year wear warranty on our Quantum Guard HP products.

## Specific Advantages for Healthcare

Because the aluminum oxide is suspended throughout the wear surface, the coating allows healthcare facilities:

- ✓ Reduces the amount of glare created by high gloss and highly buffed acrylic finishes
- ✓ The freedom to operate with a uniform maintenance procedure throughout their facilities
- ✓ Decreases the time it takes to clean critical care spaces - eliminates the need for repeatedly stripping and re-applying polish
- ✓ Decreases the chemicals, time and disturbance that stripping and re-coating can create
- ✓ Resistance to hand sanitizers, which are primarily alcohol based and can stain and discolor products without this coating or with site-applied polishes
- ✓ Helps facilities comply with the recommendations from the FGI *Guidelines for Design & Construction of Healthcare Facilities*, specifically as relates to glare reduction and ease of maintenance
- ✓ Protects the visual aesthetic of the product over time, traffic, and cleaning
- ✓ The appearance is generally low- to mid-luster; but if a glossy finish is desired, floors with Quantum Guard HP can be polished
- ✓ Provides an enhanced level of traction and protection against slip compared to standard resilient floors while still maintaining excellent mobility for wheeled traffic; see the table below for a comparison of two Mannington products: BioSpec MD with Quantum Guard HP and Magna without Quantum Guard HP

	BioSpec MD - Quantum Guard HP	Magna - Standard Resilient Sheet
Average Dry Coefficient of Friction	0.8857	0.6900
Average Wet Coefficient of Friction	1.0220	0.7400

## Why Quantum Guard HP?

### Available Types of Finish Coating Systems

Mannington isn't the only manufacturer that adds a finish coat to our resilient products. There are three main types of coating systems available:

1. Vinyl (first generation)
2. Urethane and UV-Cured Urethane (second generation)
3. UV-Cured Urethane with suspended aluminum oxide additive (third generation -- Quantum Guard HP)

**Vinyl Coatings**

Vinyl coatings prove to be durable, scuff resistant and less expensive, but fall short as it relates to scratching from normal wear and tear, performance in heavy traffic areas, ease of maintenance, and staining from asphalt drive walk-off and the many dyes and staining agents found in the healthcare environment. For this coating system to perform at optimal levels, an acrylic floor finish or polish must be applied to enhance the characteristics needed to withstand the rigorous requirements of a healthcare environment.

**Urethane UV Cured Coatings**

This coating system showed significant improvement over standard vinyl coatings with its improved performance characteristics, especially in the area of stain and scratch resistance, but significant abrasion resistance or durability was not enhanced. These products can be maintained without polish, however, to meet the stringent requirements of a healthcare facility, applying floor polish is still recommended for optimal performance in the areas of scratch and abrasion resistance in high traffic areas.

**Disadvantages to Site-Applied Polishes Needed With Both Vinyl & Urethane UV Cured Coatings:**

- ✓ A complete shut-down of the area is necessary during the re-finishing procedure
- ✓ Chemical strippers used in this process tend to have noxious odors and require a long time to remove the finish
- ✓ Buffing the floor to restore the shine of the finish coat can create airborne dust particles that are spread throughout the building through the HVAC systems; in effect, all of the dirt and chemicals that were once on the floor are now spread into the air of the entire building
- ✓ The high gloss of polish can create glare, resulting in increased accidents:
  - Shiny floors can appear slippery or disturb depth perception, making walking on these surfaces unsteady
  - Natural light from a window can cause glare on the shiny surface, making it difficult to see and navigate
- ✓ Lower levels of slip resistance than resilient goods with factory applied finishes with aluminum oxide or carpet
- ✓ The finish can be removed by hand sanitizers that drip onto the floor or other high pH cleaners that may be spilled

**UV-Cured Urethane with Suspended Aluminum Oxide – Quantum Guard HP**

In order to fully understand the significance of this additive to UV-cured coating systems first one must understand the properties of aluminum oxide. Suspension of this mineral in an inherent finish coating not only protects the appearance of the product by enhancing abrasion resistance, it also allows for a no-polish maintenance option. In healthcare settings, products with the Quantum Guard HP inherent finish are much more desirable because they do not require the time and traffic restrictions necessary for stripping and re-finishing. See the table below for a comparison of maintenance methods for each type of flooring.

	Standard Resilient - Polish Method	Quantum Guard HP - No Polish Method
<b>Upon Installation:</b>		
Sweep or vacuum	Yes	Yes
Damp mop	Yes	Yes
Apply multiple coats of floor finish	Yes	No
<b>Regular Maintenance:</b>		
Sweep or vacuum	Yes	Yes
Damp mop	Yes	Yes
Wet scrub	Yes	Yes
Spray buff or burnish	Yes	No
Apply finish restorer	Yes	No
<b>Restorative Maintenance:</b>		
Apply stripping solution	Yes	No
Scrub with nylon pad/brush to remove finish	Yes	No
Squeegee and wet vac stripping solution	Yes	No
Apply multiple coats of floor finish	Yes	No

**No polish option = Lower life-cycle costs**

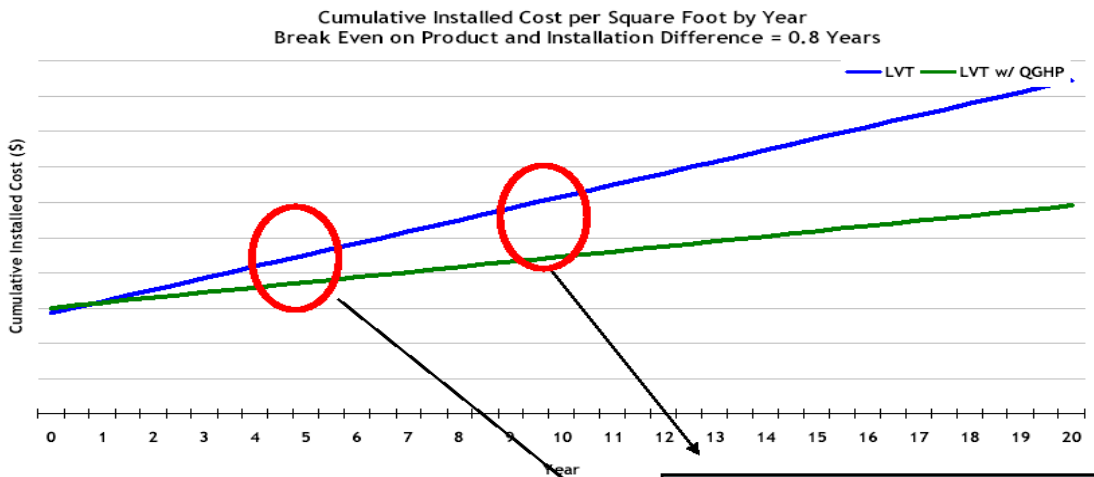
Annual Maintenance Cost Savings Example for 50,000 SF Facility		
	Standard LVT	LVT w/ QGHP
Frequency:	26	13
Touch-Up Maintenance Material Cost	\$13,000	\$6,500
Touch-Up Maintenance Labor Cost	\$6,500	\$3,250
Touch-Up Maintenance Annual Total	\$19,500	\$9,750
Frequency:	6	2
Refinish Material	\$9,000	\$3,000
Refinish Labor	\$4,500	\$1,500
Refinish Maintenance Annual Total	\$13,500	\$4,500
Total Annual Cost:	\$33,000	\$14,250
Total Annual Cost Per SF:	\$0.66	\$0.29
<b>Annual Maintenance Savings - Mannington QGHP™:</b>	<b>\$18,750.00</b>	<b>57%</b>

Touch-Up Maintenance: Spray polish and buff  
Material: \$0.01/ sf for polish  
Labor: 20 mins/ 1000 feet

Refinish Maintenance: Strip, apply polish, buff  
Material Cost: \$0.03/ sf  
Labor: (60 mins/ 1000 sf)

Labor rate: \$15/ hr  
Labor spread rate source: International Sanitary Supply Association Standards

**Mannington LifeCycle Calculator**



Yr 10: 28% Savings  
Yr 5: 17% Savings;

Assumptions  
LVT w/QGHP cost plus \$0.30 per sf  
LVT annual maintenance = \$0.66 per sf  
LVT w/ QGHP annual maintenance = \$0.29 per sf

Mannington offers a complete line of products with Quantum Guard HP for every area imaginable – from emergency rooms to waiting areas, from procedure rooms to hallways, and from operating rooms to patient rooms – Mannington has the perfect flooring. Our resilient sheet goods include the utilitarian yet beautiful BioSpec MD, LifeLines II, Assurance II, Fine Fields, and even Relay RE with 35% recycled content. Or you can choose from products like Primus, Realities, and Vivendi for a more decorative flooring. Mannington’s luxury vinyl products, Nature’s Paths and Walkway, also have the Quantum Guard HP finish. Please visit our website at [www.mannington.com/commercial](http://www.mannington.com/commercial) for more information including photos, specifications, and environmental data on our many products designed specifically for the healthcare industry.