

KING
HY-PACT[®] VH
Very High Molecular Weight PE



- King Hy-Pact[®] VH is environmentally stabilized, making it ideal for indoor or outdoor applications.
- FDA and USDA approved, with an opaque, white color for a sanitary look.
- Standard sheet sizes from 1/8" to 1" in thickness – with some of the tightest tolerances in the industry.
- Available standard in 48" x 120" sheets or in custom sizes up to 72" wide and up to 120 feet long, which often saves on installation costs and eliminates the need for splices.
- Smooth, non-skived finish has a low friction coefficient for better material flow.
- Not affected by most aqueous acids, alkalis or salt solutions.
- Extremely flat, low-strain sheet made with King Plastic Corporation's proprietary K-Stran[®] process.
- Resistant to caking and bridging (build-up).
- Suitable for deep-freeze or electrical insulation operations.

Unique Options for Competitive Markets

Distributors, manufacturers and engineers have long known that King Plastic Corporation's King Hy-Pact[®] UH is a high-quality UHMW polymer sheet. King's founder Tom King, along with son Jeff, now the company's president, noticed that there were many cases in which UHMW was being specified in installations where the abrasion and impact-resistance of UHMW was not necessary. In many cases, the customer's only alternative was to use standard HD polyethylene, which lacks the durability to complement UHMW in most applications. So the King team created King Hy-Pact[®] VH (very high molecular weight polyethylene), a unique product designed to be a perfect complement to UHMW and to bridge the wide performance gap between HDPE and UHMW.

When used properly, King Hy-Pact VH allows distributors and manufacturers to reduce costs while suffering no performance loss. Naturally, good design practices dictate that new applications should always be tested before full-scale operations begin.



Thermal and Mechanical Properties

Density (g/cm^3)		
ASTM	D792	0.95
Tensile Properties		
Maximum Strength (PSI)		
ASTM	D638	3800 psi
Elongation at Break (%)		>800
Impact Brittleness Temperature (degrees F)		
ASTM	D746	<- 36.4°
Impact Strength (ft-lbs/in ²)		
ASTM	D256	No Break
Hardness, shore D		
ASTM	D2240	65
Coefficient of Kinetic Friction		
Carbon Steel vs. Hy-Pact VH		
ASTM	D1894	.18 vs. .24
Heat Deflection Temperature at 66 psi (degrees F)		
ASTM	D648	160
Vicat Softening Point (degrees F)		
ASTM	D1525	255
Coefficient of Linear Thermal Expansion (in/in/degrees F)		
ASTM	D696	7.0×10^{-5}

Abrasion Resistance

King Plasic Corp. Sand Slurry Test		Taber Industries Abrasion Test
Sand-slurry test vs. carbon steel, with carbon steel assigned the value of 100. Lower values indicate lower weight loss/greater abrasion resistance.		Average weight loss in grams after 5,000 cycles.
Material	Relative Value	Weight Loss
Steel	100	.57
King Hy-Pact® UH	4	.0115
King Hy-Pact® VH	15	.038
HMW PE	21	.046
HDPE	36	.056

Since 1968, King Plastic Corporation has been known for offering innovative and unique ideas for customers who use polymer sheets, slabs and massive shapes. King manufactures its products with pride and precision in a 150,000-square-foot plant in North Port, FL, and delivers them worldwide through a network of top distributors.

Imagine the Possibilities

Here are just a few of the applications in which King Hy-Pact® VH may be used alone or in tandem with King Hy-Pact® UH for significant cost savings:

Conveyors and Chutes; Cargo Hold Linings for Trucks, Rail Cars, Aircraft and Marine Vessels; Lubricating Disks; Rail-car Pedestals; Side Plates for Trailer-trucks; Washers, Gaskets and Split Bushings; Any Moving Parts requiring Sound Dampening; Air Boat Bottoms; Punching Operations; Beverage, Mining, Lime and Cement Industries; Deep-freeze Applications; Electrical Insulation; Snow Plows; Meat and Poultry Packing.

Expansion and Contraction

Installers must leave space around fasteners in order for the product to expand and contract during temperature changes. High-molecular-weight polyethylenes will buckle or crack if fasteners do not allow the plastic to move.



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