



TIVAR®: Options to Meet Every Need

Mitsubishi Chemical Group (MCG) designed TIVAR[®] ultra-high molecular weight (UHMW) polyethylene to provide the perfect balance of **performance** and **machinability** for your finished parts.

What Matters to Engineers

Engineers prioritize performance to ensure parts last longer and systems run more efficiently. With over 20 enhanced grades, MCG offers the right TIVAR[®] solution for your application.

Grade	Unique Characteristics	Common Applications
TIVAR® ESD	Eliminates static charge build up	Conveyor guides
TIVAR [®] DrySlide	Self-lubricating and antistatic	Package handling chutes/slides and wear pads
TIVAR® UV	UV protection in direct sunlight	Outdoor service, e.g., dock fenders
TIVAR® Oil Filled	Self-lubricating due to an oil additive	Seals and conveyor guides
TIVAR [®] CeramP	Higher surface hardness and stability	Wear pads, valve seats/seals, and parts requiring more wear resistance
TIVAR [®] 88 and 88-2	Higher surface hardness and stability with additives for enhanced release properties	Bulk material handling system liners for hoppers, chutes, and storage bins
TIVAR [®] HPV	Self-lubricating and lowest wear rate/highest limiting PV among UHMW grades	Conveyor curves and guides where line speeds are too great for other UHMW grades
TIVAR [®] VMX	Blue color that provides visual, metal, and X-ray detection	Food industry components that must be detectable should debris enter the process stream
CleanStat	Eliminates static charge and is FDA compliant	Food industry components, especially those near electronics like metal detection systems
TIVAR [®] HOT	Thermally stabilized to extend the continuous operating temperature to 250° F	Conveyor guides and bearings operating within or near a heat source (oven)

Grade Highlight: TIVAR® HPV Helps Equipment Do More

TIVAR[®] HPV is engineered to keep systems running faster and eliminate the need for grease. It's ideal for situations where:

- Increased line speeds create more friction and heat
- Higher wear shortens part life

TIVAR[®] HPV is designed to handle this by:

- Doubling the pressure x velocity (PV) limit for unfilled UHMW (6000 psi-fpm vs. 3000 psi-fpm)
- Reducing wear rate significantly





TIVAR® HPV at 5,000 PV condition after 200 hours. TIVAR[®] 1000 at 5,000 PV condition after one hour.

Bearings, bushings, and conveyor guides benefit from TIVAR® HPV in key ways:

- Self-lubricating for smoother, quieter, and faster operation
- Longer life between system
 shutdowns
- Reduced downtime and replacement costs

TIVAR[®] HPV is available in plates, rods, tubes, and custom profiles.

What Matters to Machinists

We know machinists value:

- 🛇 Tolerances
- 🏈 Surface finish

🛇 Cleanliness and color consistency

That's why we deliver the most options for TIVAR[®] plate so you can deliver what your customers want.

TIVAR [®] Plate Options			
	Process	Advantages	Disadvantages
	Lorien thicknesses (¼" to 2")	 Tight gauge control within a plate, plate to plate, and lot to lot Glossy finish Flat 	 Transverse shot marks may be visible Glossy finish will show scuffs and minor scratches Internal stresses along edges
	Pressed thicknesses (3/8" and greater)	 Appears smooth and even Smooth feel Scratch- resistant surface Flat 	 High gauge variation especially in thinner gauges; variation within a plate, plate to plate, lot to lot Mold release and surface imperfections can be visible on black (blotchy surface)
	Skived thicknesses (less than ¼")	• Tight gauge control within a plate	 Flatness—end curl from skiving process present Blade lines visible and touchable Lighter color
	Planed thicknesses (¼" and greater)	 Tight gauge control within a plate, plate to plate, and lot to lot Flat 	 Blade lines visible (swirl pattern) and touchable



Need More Information?

Our MCG team is ready to help. <u>Contact us</u> today to find the right TIVAR[®] solution for your needs.