



## Product Spotlight: TIVAR® Ultra-high Molecular Weight Polyethylene

**Did you know?** Mitsubishi Chemical Group Engineered Shapes & Solutions (ES&S) is the world's largest supplier of ultra-high molecular weight (UHMW) polyethylene shapes and parts.

With processing facilities in the U.S., Germany, Japan, and South Africa, we deliver high-performance solutions wherever you need them.



### Why UHMW Polyethylene?

First commercialized in 1950s Germany, UHMW polyethylene is now processed into powders for molding by a select group of global resin companies, including Ticona/Celanese, Braskem, Mitsui, and Teijin. A slightly larger group of processors then shapes these resins into durable parts, often serving niche markets.

**T**ough  
**I**ntert  
**V**ery  
**A**brasion  
**R**esistant

#### Featured Product!

#### The Legacy of TIVAR®

Our expertise in UHMW polyethylene comes from acquiring two industry pioneers—PolyHi and Solidur—who set the standard for wear- and abrasion-resistant materials. These innovators developed processes that preserve high molecular weight, ensuring outstanding durability and performance. The result? TIVAR®—a trusted choice across industries.



## The TIVAR® Advantage

TIVAR® outperforms high molecular weight (HMW) polyethylene and high-density polyethylene (HDPE). It even bests pipe-grade polyethylene, which is sometimes presented as comparable to UHMW polyethylene, but lacks the same performance. Molecular weight in the material determines its performance, and TIVAR® is engineered for the toughest applications.

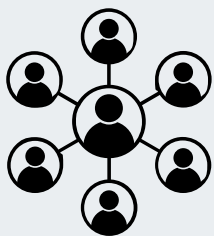
TIVAR® shapes have replaced nylon, wood, bronze, and ceramic parts in demanding environments, offering:

- **Lower friction**—reduces or eliminates external lubrication
- **Improved material flow**—prevents sticking in bulk materials like packaging
- **Quieter operation**—reduces noise in mechanical systems
- **Longer part life**—excels in wet, abrasive environments

## Built Tough

UHMW polyethylene parts are trusted across industries where impact resistance and durability matter most:

Parts	Equipment
Wear pads	Mobile cranes, agricultural equipment with telescoping axles, telehandlers, rollback car carriers
Outrigger pads	Mobile cranes
Track cleats	Subsea trenchers, marsh buggies, soft soil harvesters/excavators
Bushings	Agricultural equipment, telehandlers, excavators
Truck liners	Mining dump trucks
Bulk material liners	Food processing, coal fired power plants
Conveyor guiderails	Food processing and package conveyors
Hip and knee replacements	Orthopedic devices
Dock fenders	Marine structures



### Need More Information?

We're here to support you. Whether you need technical guidance or tailored solutions, our team is ready to help.