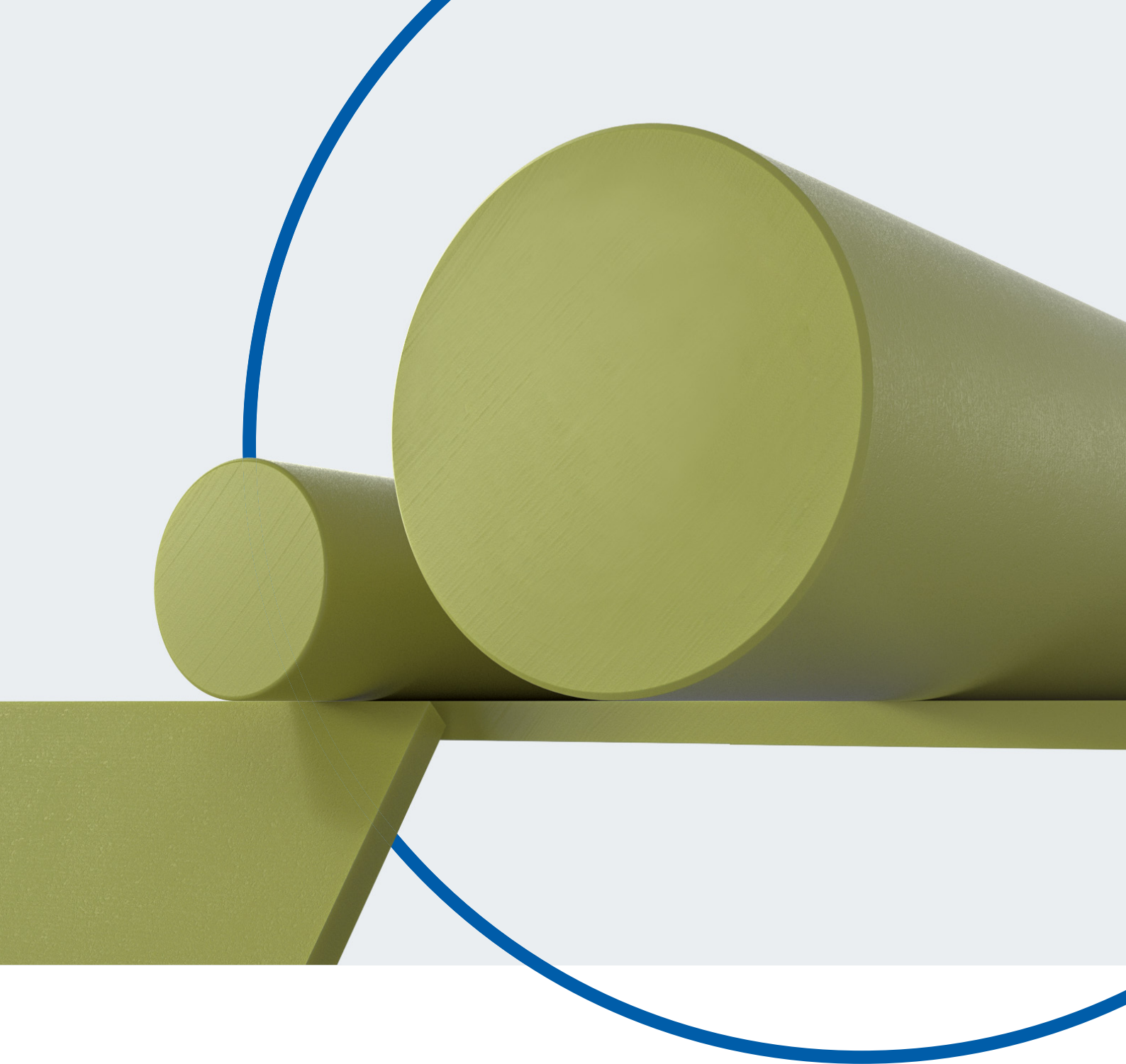




Polyethylene (UHMW-PE) plastics stock shapes

**Material allrounder for
multiple applications fields**



A unique combination of outstanding properties

Polyethylene

Polyethylene in its natural state is a colorless, semi-crystalline resin. Based on how it is processed, Polyethylene can be semi-rigid to rigid, and it is very lightweight. It makes a good gas and fair moisture barrier, as well as a good barrier to alcohol and solvents. The material is strong and impact resistant.

Polyethylene stock shapes manufactured by extrusion and compression molding are available in grades High Density Polyethylene (HDPE), High (HMW-PE), and Ultra-High Molecular Weight Polyethylene (UHMW-PE). All grades exhibit a combination of wear and abrasion resistance.

The High-Density quality can easily be welded whereas the ultra-high density material has excellent impact strength even at temperatures below -200°C. HDPE is mainly used in the food industry and also in chemical and electrical applications. Typically, the high-density material is more linear and consequently more crystalline.

As might be expected, this higher crystallinity permits use at temperatures up to 130°C with somewhat better creep resistance below that temperature.

Key material properties and benefits

- Low coefficient of friction
- Very low water absorption
- Physiologically inert (food grade)
- Very good electrical insulating
- Excellent release properties
- Excellent machinability
- High impact strength
- Chemical and corrosion resistance
- Long life sliding abrasion applications.

TIVAR™ UHMW-PE

TIVAR™ UHMW-PE sets the standard for engineered polymers with a unique combination of wear and corrosion resistance, low friction surface and impact strength. The material is resistant to chemical corrosion and moisture absorption, and retains key physical properties to -200°C.

The TIVAR™ UHMW-PE range comprises a number of grades, all of which have been designed to meet the requirements of specific applications and are classified as premium grades however, standard TIVAR™ 1000 UHMW-PE is the “workhorse” grade and the basis for all other TIVAR™ grades. For the majority of applications, the quality of TIVAR™ UHMW-PE and the performance levels of the standard grades will satisfy most requirements however, for increased performance, please refer to the premium grades of TIVAR™ UHMW-PE.

An excellent general-purpose material, TIVAR™ UHMW-PE is a cost-effective solution for food handling problems. Its natural formulation, but also many of its color variations, meet FDA guidelines for food processing and handling. From food processing to packaging, bulk material handling to pharmaceutical processing TIVAR™ UHMW-PE can improve your business performance. If your process machinery has problems with noise, premature wear, stretched chains, unscheduled downtime or expensive replacements, TIVAR™ UHMW-PE solves those problems and your machinery runs longer and smoother.



Mitsubishi Chemical Advanced Materials South Africa (Pty) Ltd

Our branches in all the major centres throughout the country:

Contact us:

Tel: 011 397 4150/1/2/3/4/5/6.

www.mcam.com

Head Office: Johannesburg

No. 2 Covora Street •
Corner Jet Park Road & Covora
Jet Park Ext. 15 • Boksburg • 1459
PO Box 8273 • Elandsfontein • Germiston
Johannesburg • 1406

Branch: Durban

Unit 9 Willow Park •
7 Willowfield Crescent
Springfield Park • Durban • 4051
PO Box 22258 • Glenashley •
Durban • 4022

Branch: Cape Town

Unit 6 Peter Park • Corner Marconi
Road & Montague Drive
Montague Gardens • Cape Town • 7441
PO Box 36605 • Chempet •
Cape Town • 7442

All statements, technical information and recommendations contained in this publication are presented in good faith and are, as a rule, based upon tests and such tests are believed to be reliable and practical field experience. The reader, however, is cautioned, that Mitsubishi Chemical Advanced Materials does not guarantee

the accuracy or completeness of this information. It is the customer's responsibility to determine the suitability of Mitsubishi Chemical Advanced Materials' products in any given application.

TIVAR™ is a registered trademarks of Mitsubishi Chemical Advanced Materials.

Design and content created by Mitsubishi Chemical Advanced Materials and protected by copyright law. Copyright © 2026 Mitsubishi Chemical Advanced Materials. All rights reserved.