

PMUC-approved, high-performance thermoplastic material solutions

for applications in nuclear power plants



PMUC-approved portfolio of Mitsubishi Chemical Group

Mitsubishi Chemical Group (MCG) is a globally leading manufacturer of high-performance materials used in the most challenging industrial engineering environments. MCG offers a range of engineering stock shape products that hold PMUC approval from third party certified laboratories in France. The portfolio meets the standards and requirements for products and materials used in electric, nuclear and thermal power plants.

PMUCs – What are the requirements for materials used in the nuclear industry?

PMUC stands for Produits et Matériaux Utilisables en Centrales and is a brand of the EDF Group in France, which is the only company authorized to sell PMUC products.

PMUCs are non-metallic products and materials used for various maintenance, control and operational activities in nuclear power plants.

The use of PMUCs is required when there is direct contact with metallic materials or circuits that are classified as safetyrelevant. PMUC-certified materials are therefore tested for their corrosive effect and certified not to pose a toxicological hazard. PMUCs meet the specific requirements of materials used in nuclear power plants.

MCG's portfolio of PMUC-qualified products

- Ketron[™] 1000 NU PEEK
- Ertalyte[™] NU PET
- Ertacetal[™] C NU POM-C
- Ertalon[™] 6 PLA NU PA6
- Ertalon[™] 6SA NU PA6
- PE 500 NU HMW-PE
- TIVAR[™] 1000 NU UHMW-PE
- TIVAR[™] Cestidur NU UHMW-PE

Each shipment is accompanied with a Certificate of compliance with the order EN-10204-2.1.





Applications in nuclear power plants

MCG's high-performance engineering plastic products perform as numerous components in nuclear power plants, including:

- Seals
- Pump and fuel handling components
- Gears
- Valves
- Bearings
- Components of condensers, turbines and sensors
- Connectors

Portfolio in detail

Ketron[™] 1000 NU PEEK

Ketron[™] 1000 NU PEEK is an unfilled, polyetheretherketone grade that offers the highest elongation and toughness of all PEEK materials.

Ketron[™] 1000 NU PEEK is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites.

Ertalyte[™] NU PET

Ertalyte[™] NU PET is an unreinforced, semicrystalline grade produced from our proprietary resins and characterized by its excellent wear resistance, low coefficient of friction, high strength and resistance to moderately acidic solutions. This grade is capable of sustaining high loads and retains more of its original strength up to 85°C (180°F) than nylons or acetals.

Ertalyte[™] NU PET is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites.

Ertacetal[™] C NU POM-C

Ertacetal[™] C NU POM-C is a polyoxymethylene, copolymer acetal grade that is often favored for its porosity-free nature. These POM-C shapes also offer low moisture absorption and excellent machinability capabilities.

Ertacetal[™] C NU POM-C is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites.



Ertalon™ 6 PLA NU PA6

Ertalon[™] 6 PLA NU PA6 is an unmodified cast nylon 6 grade and combines high mechanical strength, stiffness and hardness with good resistance to creep, wear, fatigue and heat aging properties. Additionally, this material displays good sliding properties and machinability, as well as electrical insulation and resistance to gamma and x-ray radiation.

Ertalon[™] 6 PLA NU PA6 is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites.

Ertalon™ 6 SA NU PA6

Ertalon™ 6 SA NU PA6 exhibits a great combination of mechanical strength, stiffness, toughness, mechanical damping properties, as well as creep and wear resistance. In addition to these characteristics, this particular grade possesses excellent electrical insulating properties and outstanding chemical resistance capabilities.

Ertalon[™] 6 SA NU PA6 is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites.

PE 500 NU HMW-PE

PE 500 NU HMW-PE is a versatile grade of high molecular weight polyethylene that offers a unique combination of stiffness, toughness, mechanical damping capabilities, great machinability and moderate wear and abrasion resistance.

PE 500 NU HMW-PE is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites.





TIVAR[™] 1000 NU UHMW-PE

TIVAR[™] 1000 NU UHMW-PE sets the standard for ultra high molecular weight polyethylene shapes, offering a well-balanced property profile that includes a unique combination of wear and corrosion resistance, a low friction surface and excellent impact strength.

TIVAR[™] 1000 NU UHMW-PE is PMUC-certified and has passed stringent tests by an EDFapproved laboratory to meet PMUC requirements for use on nuclear sites.

TIVAR™ Cestidur NU UHMW-PE

TIVAR[™] Cestidur NU UHMW-PE is a modified material with extremely high molecular weight (average 9E6 g/mol). This, in combination with a particular manufacturing process, results in a PE grade with superior wear and abrasion resistance over TIVAR[™] 1000 NU UHMW-PE.

TIVAR[™] Cestidur NU UHMW-PE is PMUC-certified and has passed stringent tests by an EDFapproved laboratory to meet PMUC requirements for use on nuclear sites.

Get in touch

Contact.

contact.mcam@mcgc.com

Europe

Mitsubishi Chemical Advanced Materials NV Galgenveldstraat 12 8700 Tielt, Belgium

Tel: +32 51 42 35 11

www.mcam.com

North America

Visit.

Mitsubishi Chemical Advanced Materials Inc. 2120 Fairmont Avenue PO Box 14235 — Reading, PA 19612-4235, U.S.A.

www.mcam.com/en/contact

Tel: +1 610 320 6600

Asia-Pacific

Mitsubishi Chemical Advanced Materials Asia Pacific Ltd. Unit 7B, 35/F, Cable TV Tower, 9 Hoi Shing Road, Tsuen Wan, Hong Kong

Tel: +852 2470 26 83

All statements, technical information, recommendations, and advice are for informational purposes only and are not intended and should not be construed as a warranty of any type or term of sale. The reader, however, is cautioned that Mitsubishi Chemical Advanced Materials does not guarantee the accuracy or completeness of this information andit is the customer's responsibility to testand assess the suitability of the products of Mitsubishi Chemical Advanced Materials in any given application or for use in a finished device.

Ertacetal[™], Ertalon[™], Ertalyte[™], Ketron[™], and TIVAR[™] are protected trademarks of the Mitsubishi Chemical Advanced Materials group of companies. Design and content created by Mitsubishi Chemical Advanced Materials and protected by copyright law. Copyright © 2024 by Mitsubishi Chemical Advanced Materials. All rights reserved.