

Medical Grade UHMW-PE for Long-term Implantation



Shapes for the
Orthopaedic Implant Industry

Quadrant's MediTECH® division is dedicated to serving the global orthopaedic implant market.

PRODUCTS WITH PROVEN SUCCESS

For more than 30 years, Quadrant MediTECH has supplied leading orthopaedic implant manufacturers with premium grade UHMW-PE under the Chirulen® and Extrulen™ brand names. Due to their superior physical and mechanical properties, cleanliness and consistency, Chirulen and Extrulen have become the materials of choice for articulating surfaces, helping restore a higher quality of life to millions of patients worldwide.

QUALITY FROM START TO FINISH

Superior products begin with superior raw materials. MediTECH uses GUR® Premium resins from Ticona, specified for use in surgical orthopaedic implant applications. This highly pure resin complies with standards ASTM F648, ISO 5834-1 and ISO 5834-2, and exhibits excellent bio-compatibility with skin, blood and tissue. We have instituted a series of tests and implemented quality control measures to produce materials that far exceed ASTM F648 and ISO 5834 requirements.

TECHNOLOGY FOR TODAY AND TOMORROW

MediTECH invests heavily in advanced technology research, as well as new process and product development. Our focus on incremental improvement and break-through innovation helps bring continuously improving products and services to you.

Our state-of-the-art polymer research, analysis and testing lab – one of only a handful worldwide – provides you immediate access to testing equipment and lab staff who have more than 30 years of expertise to work closely with your R&D team.

The first to adapt inert annealing techniques for UHMW-PE in this market, MediTECH's expertise in thermal stress relieving and other post-sintering processes make Chirulen and Extrulen easier to machine to exacting tolerances.

GLOBAL FACILITIES, SERVICE & SUPPORT

With manufacturing, distribution and sales facilities in the U.S., Germany, U.K., France, Japan and China, MediTECH is uniquely positioned to meet your implant material needs. Our dedicated team enables worldwide coordination while our multinational locations allow us to be responsive on a local level: local contacts, local supply, local language, local time zones and local service, all of which make it easier for you to do business with us.



QUADRANT

You inspire ... we materialize®

Long-term record in orthopaedic joint replacement



- Hip
- Knee
- Elbow
- Shoulder
- Spine



Medical grade UHMW-PE

Compression moulded:

Chirulen® 1020
Chirulen® 1050

Sheets: 1000 x 500 mm
T = 20 – 80 mm

Rods: L = 1000 mm
Dia. 20 – 80 mm

Customised preforms

Extruded:

Extrulen™ 1020
Extrulen™ 1050

Rods: L = 1000 mm
Dia. 12,7 – 80 mm



Chirulen® UHMW-PE Premium Grade with Vitamin E

Sterilization and cross-linking by irradiation bear the risk of free radicals formed in the UHMW-PE which can result in in vivo oxidation and material degradation. Vitamin E known as an antioxidant has positive influence on this process and is used as a stabilizer for orthopaedic implants made from UHMW-PE.

Quadrant EPP provides Chirulen and Extrulen shapes with Vitamin E as per customers' requirements. Tests have proven unaffected biocompatibility of medical grade UHMW-PE blended with Vitamin E as well as shown mechanical properties to remain practically unchanged.

Expertise in Cross-Linking

Chirulen and Extrulen are the market leading products for use in today's highly cross-linked Polyethylenes (XL-PEs) – with more than 10 years of clinical history and follow-up. Recent clinical results and studies demonstrate significant improvements achieved in wear reduction and further improvements are in constant development. Quadrant EPP dedicates a considerable portion of their R&D efforts and know-how to the development of customized XL-PEs, also in combination with Vitamin E and other antioxidants.

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Any illustration of the possible fields of application of the Products shall merely demonstrate the potential of these Products, but any such description does not constitute any kind of covenant whatsoever. Irrespective of any tests that Quadrant may have carried out with respect to any Product, Quadrant does not possess expertise in evaluating the suitability of its materials or Products for use in specific applications or products manufactured or offered by the customer respectively. The choice of the most suitable plastics material depends on available chemical resistance data and practical experience, but often preliminary testing of the finished plastics part under actual service conditions (right chemical, concentration, temperature and contact time, as well as other conditions) is required to assess its final suitability for the given application. It thus remains the customer's sole responsibility to test and assess the suitability and compatibility of Quadrant's Products for its intended applications, processes and uses, and to choose those Products which according to its assessment meet the requirements applicable to the specific use of the finished product. The customer undertakes all liability in respect of the application, processing or use of the aforementioned information or product, or any consequence thereof, and shall verify its quality and other properties.

Quadrant makes no warranties or representations whatsoever that its materials are manufactured in accordance with the quality standards appropriate and necessary for materials intended for use in implantable medical device applications and in applications that are essential to the restoration or continuation of a bodily function important to the continuation of human life.

Quadrant's Products should not be used for applications involving medical devices that are intended to remain implanted in the human body continuously for a period exceeding 24 hours (30 days*), or are intended to remain in contact with internal human tissue or bodily fluids for more than 24 hours (30 days*), or as critical components of medical devices that are essential to the continuation of human life.

*: «30 days» applies to Ketron® PEEK-Classix™ LSG white only.

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Learn more online at
www.quadrantplastics.com

Quadrant has extensive product and machining resources available online. Our website is a portal to a wealth of technical data and the easiest way to engage our application specialists. Our team stands ready to help offer solutions to your toughest problems.



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