



GUR® 4022 ECO-B

GUR®

UHMW-PE powder grade

GUR® 4022 ECO-B incorporates >99% of bio-circular ethylene by weight in the finished product through mass balance allocation. The product is a drop-in replacement to the standard grade with the same performance and processing properties and contributes to the displacement of virgin fossil fuel resources. The biobased source and allocated content in the product are certified according to ISCC PLUS mass balance approach.

Product information

Resin Identification Part Marking Code Average molecular weight Average particle size, d50	(PE-UHMW) >(PE-UHMW)< 5E6 155	g/mol μm	ISO 1043 ISO 11469 Margolies' equation laser scattering
Rheological properties			
Viscosity number Intrinsic viscosity	2400 2100	cm ³ /g	ISO 307, 1628 ISO 307, 1628
Typical mechanical properties			
Tensile modulus Tensile stress at yield, 50mm/min Tensile strain at yield, 50mm/min Tensile stress at 50% strain Tensile stress at break, 50mm/min Nominal strain at break Elongational stress F, 150/10 Charpy double notched impact strength, 23°C Poisson's ratio Shore D hardness, 15s [C]: Calculated	21 13 21 44 410 0.27	MPa MPa	ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 21304-2 ISO 21304-2
Tribological properties Wear by sandslurry method (based on GUR 4120=100) Thermal properties	100		
Temperature of deflection under load, 1.8 MPa Vicat softening temperature, 50°C/h 50N		°C °C	ISO 75-1/-2 ISO 306
Electrical properties			
Volume resistivity Surface resistivity		Ohm.m Ohm	IEC 62631-3-1 IEC 62631-3-2
Physical/Other properties			
Density Bulk density		kg/m³ kg/m³	ISO 1183 ISO 60

Printed: 2025-05-30 Page: 1 of 2

Revised: 2024-08-13 Source: Celanese Materials Database





GUR® 4022 ECO-B

GUR®

Characteristics

Processing Fibre spinning / Gel spinning, Gel Extrusion, Porous Sintering

Delivery form Powder

Special characteristics High impact or impact modified, Hydrolysis resistant, Low wear / Low friction,

Chemical resistant

Sustainability Bio-Content

Printed: 2025-05-30 Page: 2 of 2

Revised: 2024-08-13 Source: Celanese Materials Database

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colourants or other additives may processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users

© 2025 Celanese or its affiliates. All rights reserved. Celanese®, registered C-ball design and all other trademarks identified herein with ®, TM, SM, unless otherwise noted, are trademarks of Celanese or its affiliates. Fortron is a registered trademark of Fortron Industries LLC.