

# GUR® 2105 ECO-B

Low bulk density HMW-PE powder grade  
Low bulk density HMW-PE powder grade for carbon block

ECO-B: GUR ECO-B is a (U)HMW-PE with the same properties and performance as standard grades but produced with sustainability in mind. Using a mass-balance approach, biogenic feedstocks are used to offset the use of fossil-based raw materials and decrease greenhouse gas emissions. The process is audited and certified according to the ISCC Plus mass balance approach.

## Product information

|                            |              |                     |
|----------------------------|--------------|---------------------|
| Average molecular weight   | 400000 g/mol | Margolies' equation |
| Average particle size, D50 | 110 µm       | laser scattering    |

## Rheological properties

|                                  |             |                     |
|----------------------------------|-------------|---------------------|
| Melt mass-flow rate              | 3.6 g/10min | ISO 1133            |
| Melt mass-flow rate, Temperature | 190 °C      |                     |
| Melt mass-flow rate, Load        | 21.6 kg     |                     |
| Viscosity number                 | 400 cm³/g   | ISO 307, 1157, 1628 |
| Intrinsic viscosity              | 400         | ISO 307, 1157, 1628 |

## Typical mechanical properties

|                                             |          |                    |
|---------------------------------------------|----------|--------------------|
| Tensile Modulus                             | 1200 MPa | ISO 527-1/-2       |
| Yield stress, 50mm/min                      | 27 MPa   | ISO 527-1/-2       |
| Yield strain, 50mm/min                      | 10 %     | ISO 527-1/-2       |
| Stress at 50% strain                        | 18 MPa   | ISO 527-1/-2       |
| Stress at break, 50mm/min                   | 34 MPa   | ISO 527-1/-2       |
| Nominal strain at break                     | 770 %    | ISO 527-1/-2       |
| Elongational stress, 150/10                 | 0.01 MPa | ISO 21304-2        |
| Charpy double notched impact strength, 23°C | 30 kJ/m² | ISO 21304-2        |
| Shore D hardness, 15s                       | 63       | ISO 48-4 / ISO 868 |

## Tribological properties

|                                                             |     |          |
|-------------------------------------------------------------|-----|----------|
| Relative Wear<br>(based on GUR 4120=100), sandslurry method | 320 | Internal |
|-------------------------------------------------------------|-----|----------|

## Thermal properties

|                                           |       |             |
|-------------------------------------------|-------|-------------|
| Temp. of deflection under load, 1.8 MPa   | 44 °C | ISO 75-1/-2 |
| Vicat softening temperature, 50 °C/h, 50N | 80 °C | ISO 306     |

## Electrical properties

|                     |             |               |
|---------------------|-------------|---------------|
| Volume resistivity  | >1E12 Ohm.m | IEC 62631-3-1 |
| Surface resistivity | >1E12 Ohm   | IEC 62631-3-2 |

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## Other properties

|              |                       |          |
|--------------|-----------------------|----------|
| Density      | 950 kg/m <sup>3</sup> | ISO 1183 |
| Bulk density | 240 kg/m <sup>3</sup> | ISO 60   |

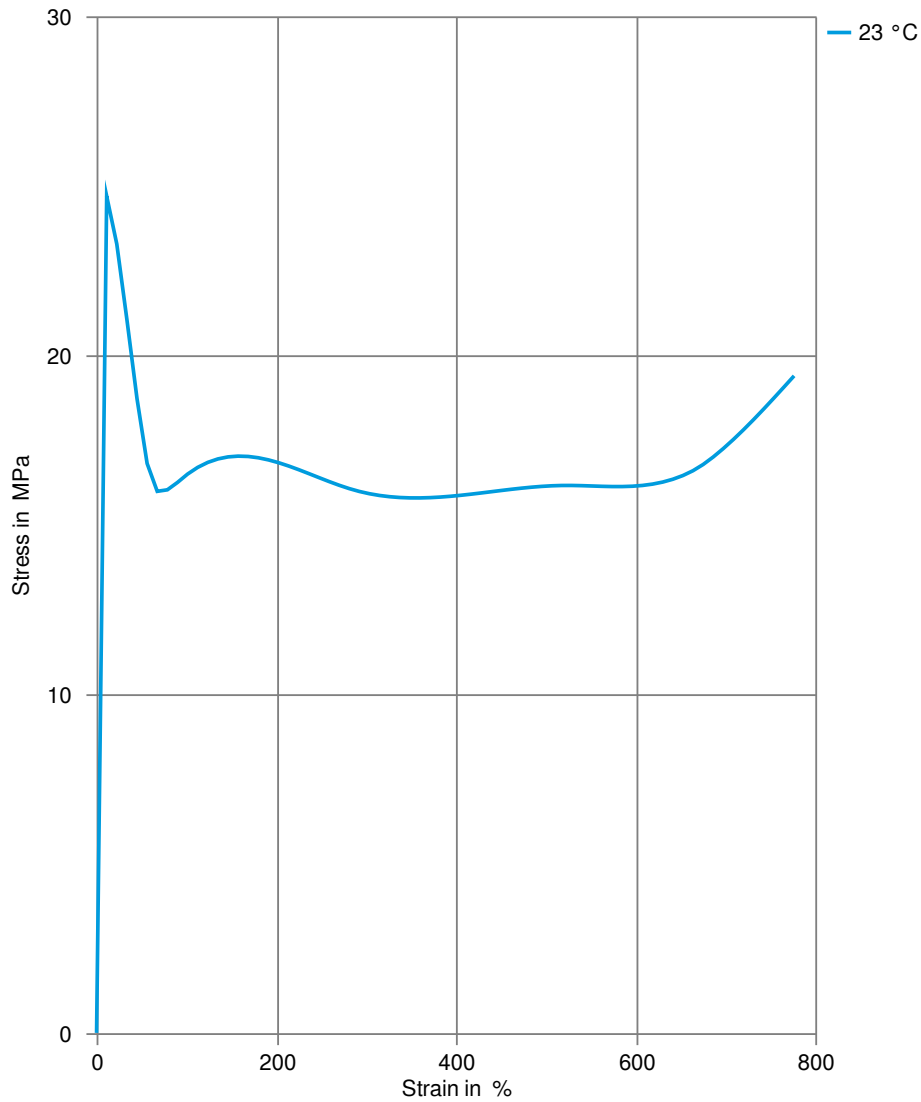
## Characteristics

|              |            |
|--------------|------------|
| Additives    | Biobased   |
| Food contact | FDA 21 CFR |

## Stress-strain

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## Secant modulus-strain

