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What is PE 1000 regenerate black, finely ground

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Ultra-high molecular weight polyethylene, regenerate (PE-UHMW / PE 1000 regenerate)

PE 1000 regenerate (black, finely ground (mixed)) is a reprocessed material based on PE 1000 (ultra-high molecular weight polyethylene, PE-UHMW). Regenerate is produced by recycling production residues such as milling and sawing chips and other offcuts of virgin material, which are remelted and repressed. This gives the material the basic properties of PE 1000 at a lower price than virgin material.

Material Character

Since PE 1000 regenerate consists of reprocessed production residues of the same base type (PE-UHMW), the characteristic properties such as high wear resistance, permanent self-lubrication and high impact strength, even at low temperatures, are largely retained.

Because the source material originates from different production batches, composition and in particular appearance may vary slightly from batch to batch. A consistent, uniform appearance cannot be guaranteed for regenerate material.

Advantages and Limitations

Advantages

- Significantly cheaper than virgin material
- Same basic properties as PE 1000 (wear resistance, self-lubrication, impact strength)
- Resource-efficient through reuse of production residues

Disadvantages

- No consistent, uniform appearance from batch to batch
- Not suitable for food contact
- Less suitable for applications with high requirements on visual consistency or tight purity specifications

Processing

Like virgin material, PE 1000 regenerate can be milled, turned, drilled and sawn with sharp tools suited to tough plastics. Before machining, the semi-finished product should be at room temperature and/or stored for at least 24 hours under normal ambient conditions.

Typical Applications

PE 1000 regenerate is suitable for wear and slide parts where the basic mechanical properties of PE-UHMW matter but a uniform appearance is not required – such as shim and support plates, simple slide and wear elements in machinery, and components in water/hydraulic engineering.

Typical Properties

- Very high wear and abrasion resistance
- Good sliding properties, permanent self-lubrication
- High impact strength, even at low temperatures
- Cost-effective alternative to virgin material

Product Examples

- Shim and support plates
- Simple slide and wear elements in machinery
- Components in water/hydraulic engineering (e.g. slide rails on locks)
- Cost-optimised replacement parts outside the food sector

Typical Industries

- Construction & auxiliary parts
- General machinery engineering
- Conveyor technology (non-critical appearance)
- Water/hydraulic engineering

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	Test Method	Unit	Value
General Properties			
Density	DIN EN ISO 1183-1	g / cm³	< 0.96
Molecular weight	Light scattering	g / mol	> 5 · 10^6
Mechanical Properties			
Shore hardness D	DIN EN ISO 868	scale D	61
Thermal Properties			
Short-term service temperature	–	°C	-200 ... +90
Long-term service temperature	–	°C	-200 ... +80
Electrical Properties			
Surface resistance	DIN EN 60093	Ω	≥ 10^{12}

The values stated are guideline values based on the properties of virgin material of the same base type (PE 1000). Since regenerate materials are manufactured from reprocessed production residues, composition, appearance and properties may vary slightly from batch to batch. This information serves solely to inform about our products and does not constitute a legally binding guarantee of specific properties.

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