

**Röchling Engineering Plastics KG offers retailers and manufacturers one of the most comprehensive product ranges of semi-finished components made of the engineering plastics PE, PP, PVC and PVDF as well as machine tooled finished components from a single source. In this issue of News'n facts you will find an overview of the largest selection of standard and special types in ultra-high molecular polyethylene (PE-UHMW).**

## Polystone® M – incredibly versatile!

### PE-UHMW PE1000 plastics for engineering applications

Polystone® materials based on PE-UHMW are engineering plastics which are used for solving friction, wear and material flow problems in many industries. The materials of this product family stand out due to their outstanding gliding properties, extreme wear resistance, high impact resistance as well as their excellent resistance to chemicals and have established themselves as the perfect solution for engineering applications.

#### The main properties at a glance:

- High abrasion/wear resistance
- High impact strength/resistance
- High resistance to corrosion and chemicals
- Low sliding friction coefficient
- Self-lubricating properties
- No absorption of water
- Excellent performance in applications at temperatures under -200°C
- Extremely resistant to dynamic stress
- Good resistance to stress cracking

#### The main Polystone® PE-UHMW materials at a glance:

Material	Properties	Typical application areas
<b>Polystone® M</b>	Standard PE-UHMW, Molecular weight = $9,2 \times 10^6$ g/mol, FDA/USDA approved	Chain and curve guides, guide rails and support strips, general conveying technology, chemical engineering, general mechanical engineering, food processing
<b>Polystone® Matrox™</b>	Premium lining material Extremely low sliding friction coefficient, Excellent abrasion resistance, high impact strengths	Lorry beds, linings for hoppers, silos, chutes, excavator shovels, wagon linings
<b>Polystone® M-Ast</b> <b>Polystone® M-EL</b>	PE-UHMW antistatic, approx. $10^6 \Omega$ PE-UHMW electrically conductive, approx. $10^3 \Omega$ For use in explosion-proof zones	Belt guides, sliding and conveying elements, mining, electrical and electronic industry
<b>Polystone® M-Flametech</b>	Flame-retardant PE-UHMW, UL 94: V-0	Vehicle construction, mining (mines), lining technology, rail traffic
<b>Polystone® M-Slide</b>	Very low sliding friction coefficient: $\mu = 0.07$ , self-lubricating	Gear and drive wheels, sliding and bearing elements, curve guides
<b>Polystone® M-Saphir</b>	PE-UHMW highly wear resistant, Sand Slurry = 70	Food industry, lining technology
<b>Polystone® M-Polyblue</b>	Wear-optimised for use with high mechanical load (speed and pressure load) Molecular weight = $10,5 \times 10^6$ g/mol	Drive and conveyor technology, sliding elements and seals, control discs
<b>Polystone® M-Soft</b>	Scratch resistant for sensitive surfaces	PET bottles, conveyor systems, stars, guides, profiles
<b>Polystone® MPG</b>	Wear optimised through addition of glass beads	Sucker linings, strips, control discs
<b>Polystone® MR</b>	PE-UHMW with reclaim content	Drive and conveyor technology, harbour construction (e.g. fenders)
<b>Polystone® M-Microbloc</b>	PE-UHMW with antimicrobial effect against – Aerobic and anaerobic bacteria and viruses – Yeasts and moulds	Food production and packaging, meat and poultry processing, restaurants, creamery and dairy farming, beverage industry, medical technology and furnishing of hospitals and care institutions
<b>Polystone® M-EHS</b>	Special formulation for use in upper temperature range	Chemical industry, ceramics industry, food industry, sliding and conveying elements
<b>Polystone® AIRCON</b>	PE-UHMW wear and sliding optimised, black, antistatic $<10^3 \Omega$	Sliding and drive elements, conveyor technology, bottling industry, air conveyors, use for PET bottles
<b>Polystone® M-Nuclear</b>	PE-UHMW filled with boron (typical version also available as PE-HMW)	Shields in nuclear technology
<b>Polystone® M-UV-stabilised</b>	UV-stabilised for outdoor use	UV-stabilised for outdoor use

#### Contact us:


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**Polystone® M**  
Use in sewage plants



**Polystone® M**  
Conveyor tubs



Curve guide made of  
**Polystone® M black**



**Polystone® M-Flametech**  
Flame retardant



**Polystone® M**  
Extruded profiles

Röchling Engineering Plastics offers a large number of special formulations for your ideas, uses and application areas.

For example we supply tempered versions. Ask us!

## Versatile product range developed with expertise

In addition to our standard formats and dimensions we also offer our **Polystone® Megasheet™**. Sized 6,000 x 2,500 mm and with a thickness of up to 100 mm, it is the largest available pressed polyolefin sheet in the world for unprecedented dimensions and waste minimisation.

We offer extruded standard and special profiles with almost 300 different cross sections for machines and systems used in drive and conveyor technology and other industries. In addition, we can produce nearly any profile with your required cross-section.

Pressed sheets Planned (narrow thickness tolerance) and unplanned (plus tolerance)	Peeled sheets	Extruded profiles, round rods and tubes
2,000 x 1,000 x 8 – 200 mm 3,000 x 1,250 x 8 – 100 mm 4,000 x 1,000 x 8 – 100 mm 4,000 x 2,000 x 8 – 100 mm 6,000 x 1,000 x 8 – 180 mm 6,000 x 2,000 x 8 – 180 mm <b>6,000 x 2,500 x 8 – 100 mm</b> <b>Polystone® MegaSheet™</b>	2,000 x 1,000 x 1 – 8 mm 3,000 x 1,000 x 1 – 8 mm	<b>Profiles</b> According to catalogue or customer's drawings  <b>Round rods</b> 2,000 x Ø 10 – 260 mm  <b>Tubes</b> 50.8 – 238.13 mm Outside diameter

Special formats, colours and dimensions on request

## CNC machined finished components according to customer's drawings

All **Polystone® M** products can be machined excellently.

On request we offer finished components, profiles, curve guides as well as sliding and conveyor elements according to the customer's drawings.



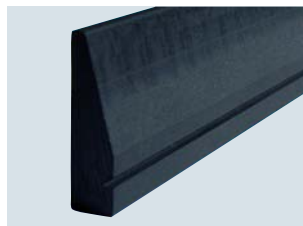
**Polystone® M-Microbloc**  
In the food industry



**Polystone® M-Nuclear**  
For screens in nuclear plants



**Polystone® M-Rohre**  
For abrasive liquids



**Polystone® AIRCON**  
Profiles for PET bottles  
Air conveyors



**Polystone® M**  
For fenders in harbour construction



**Polystone® Matrox™**  
For lining technology

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