



### DIFFERENT POLYMER GRADES FOR THE OIL-FREE BEARING FEATURES

POLYMER Types	Description	Main features/Applications Segments
P-2	Glass fibers + polymeric and inorganic additives. Color: yellow	Low friction and wear, limited relative abrasions than conventional glass filled PTFE compounds. Note: applications in wet conditions or contact with water can cause high wear. Good chemical resistance. For O <sub>2</sub> applications. Dry bearing applications for bushings, sliding pads, bearer rings for O <sub>2</sub> compressors, lining of flexible rapiers for textile looms.
P-7	Carbon fibers. Color: black.	Very low coefficient of friction and extremely good wear resistance, especially in wet operating conditions. Suitable also for non-hardened counter-surfaces. High mechanical properties and outstanding flexibility, good chemical inertness, thermal dissipation characteristics. Bearing applications in contact with water or in wet conditions or in presence of chemicals. Guide bearings for pneumatic brake actuators for railway's application, bushings for pumps, sealing elements.
P-8	Glass fibers + inorganic additives. Color: dark red	High wear and abrasion resistance, good compressive properties. Suitable for the majority of dry bearing applications against hard counter-surfaces. Good electrical insulating properties. As for POLYMER P-2, used in wet conditions could cause higher wear rates. General purpose dry bearing material for bushings and sliding pads for mechanical applications in general. Slide ways for machine tools.
P-10	Carbon graphite powder. Color: black.	Very good load-carrying properties combined with low friction and high wear resistance. Good thermal and electrostatic dissipation. Particularly suitable for wet operating conditions and for contact with corrosive media. For medium hard counter-surfaces. It exhibits the best universal chemical resistance among the Oil-Free Polymer grades. For bearing and sliding parts. Piston bearer rings for oil-less reciprocating compressors and for car shock absorbers.
P-14	Bronze powder + MoS <sub>2</sub> Color: dark brown	High load carrying capabilities and wear resistance, combined with a good dimensional stability. It exhibits a long time high temperature withstanding and thermal dissipation. Limited chemical resistance. Not recommended for use in presence of water or aqueous products. For heavy loaded bearing applications also at high temperatures.
P-15	Polymeric reinforcing filler. Color: yellow.	Extremely low coefficient of friction in dry conditions. Good wear and compression resistance, high flexibility and tensile strength, excellent insulating properties. Thanks to its good chemical inertness, it can be used in contact with food products. Suitable for the manufacturing of bearings and other sliding parts for the food industry or for any other use in contact with soft materials such as aluminum, ingot steel, copper alloys, polymeric substrates.
P-17	Long carbon fibers Color: black.	It shows properties superior to any other available PTFE compound, in terms of compressive strength, extremely low creep behavior high stiffness and flexural modulus. Suitable for high loaded bearings and pads, but in particular for piston rings of reciprocating dry compressors, where its high flexural modulus plays a fundamental role in conferring self-energizing characteristics.
P-18	Polymeric reinforcing Filler + carbon graphite + MoS <sub>2</sub> Color: dark gray	Very low coefficient of friction and wear rate, reduced relative abrasion, good stiffness. Good capability of thermal dissipation thanks to the presence of conductive fillers. Suitable for operating in contact with mild surfaces also in wet conditions. For piston rings and cup seals of reciprocating compressors, lip seals, bearings for soft counterparts.
P-23	Graphite Color: glossy black	It shows the lowest coefficient of friction among the Oil-Free Polymer Bearing Grades, but it used dry, in combination with a relatively high wear rate. It is not abrasive even against soft mating materials. Use in water reduces the wear rate. Good thermal dissipation..

For further details contact:

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OIL FREE BEARINGS

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