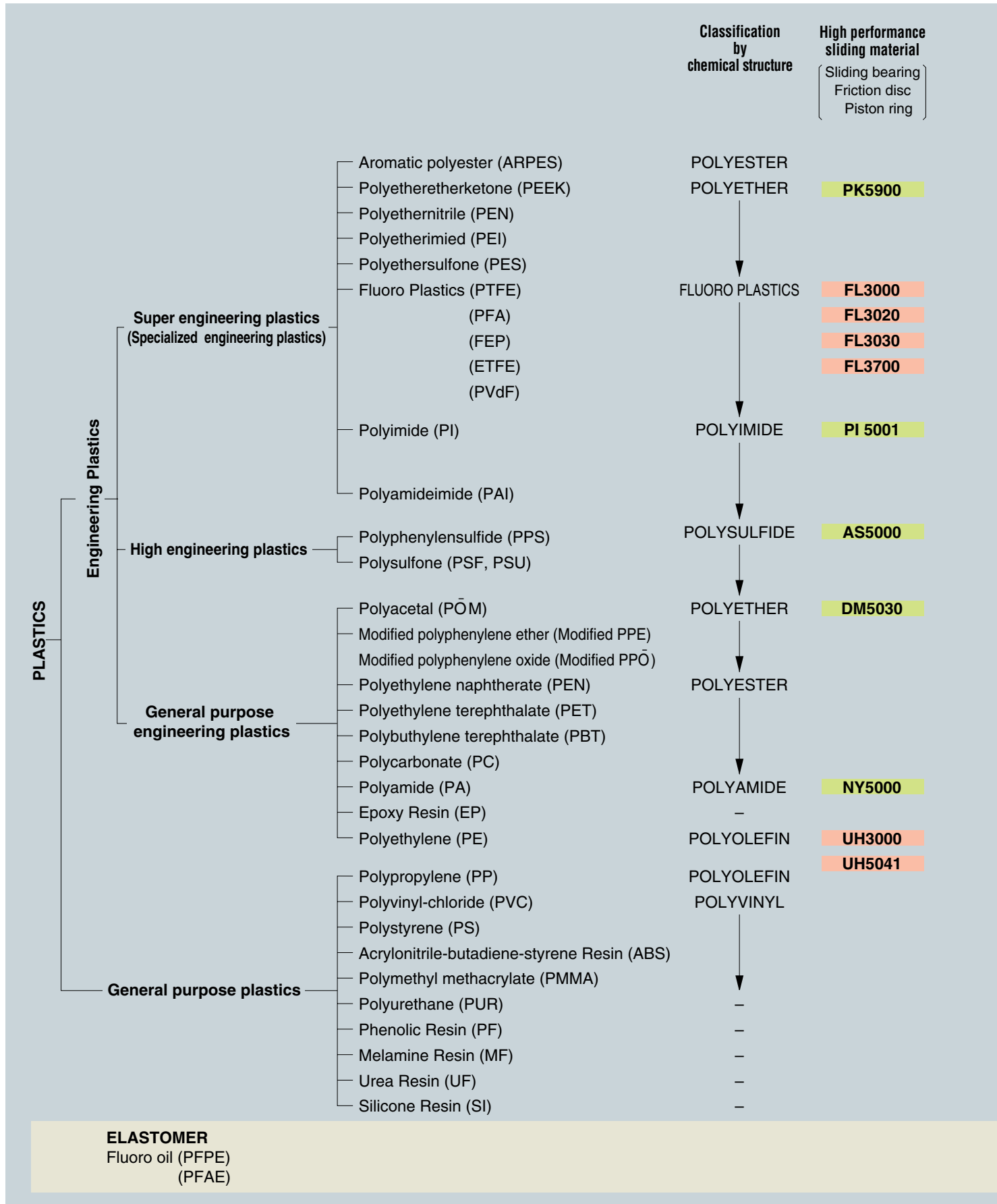


Low friction and lubrication free materials provide longer life, lighter weight and other benefits for

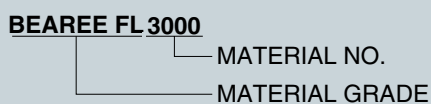


a variety of high technology uses

- Materials for machining
- Injection molding materials
- Coating materials

For soft mating material (Aluminum etc.) (Sliding bearing Seal ring)	For sliding under water and chemical liquid (Sliding bearing Hot water pump bearing)	For specialized application (Electric conductivity Reinforced with bronze mesh Food contact machinery)	For seal ring (Compressor)	Gear materials (Heat insulating sleeve Bearing Bearing cage Lens holder)	For picker finger	Coating materials (Picker finger Roots pump rotor)
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					LC5020	
PK5300		PK5030	PK5300			
						FL7060
FL3030	FL3700	FL3060	FL3000			FL7075
FL3040		FL3305	FL3030			FE7010
FL3050		FL3642	FL3050			FE7030
		FL3900	FL3070			FE7080
		FL9000	FL3900			FE7092
		PI 5001		PI 5030	PI 5022	PI 7000
PI 5010		PI 5040		PI 5033		
				AI 5003	AI 5003	
AS5000	AS5700	AS5910	AS5001	AS5040	AS5021	
AS5005		AS5950	AS5700	AS5044	AS5025	
AS5053		AS5961		AS5045		
DM5030						
		NY5910		NY5010		
		NY5911		NY5910		
		UH3000				
		UH3954				
		UH5000				
		UH5043				



ER3000, ER3600

**Table 1 Base Resins and Characteristics of Major Grades**

[ ]: Molding method

Grade	Base Resin	Characteristics
BEAREE FL	Fluoro Plastics (Tetrafluoroethylene)	The base resin of BEAREE FL is a Fluoro plastic with excellent characteristics such as low friction, non-stick quality, and resistance to wear, heat, chemicals, and weather. Special additives are used in BEAREE FL to ensure the best performance in sliding applications. (Compression molding, extrusion, and coating)
BEAREE FE	Fluoro Plastics (other than Tetrafluoroethylene) Fluoro oil	The performance of BEAREE FE is slightly lower than that of BEAREE FL, but it has better productivity. It is excellent for low friction and wear resistance, and is suitable for an antistick coating material. (Injection molding, extrusion, and coating)
BEAREE PI	Polyimide	BEAREE PI has excellent heat resistance and mechanical strength. This material has special fillers to improve the properties of polyimide, which is known as the highest heat-resistant plastic. Thermosetting and thermoplastic types are available, and selected by the application. The high water absorption of this type should be taken into consideration in product design. (Injection molding, extrusion, compression molding and coating)
BEAREE AI	Polyamideimide	Heat resistance of BEAREE AI is slightly lower than BEAREE PI, however it has excellent mechanical properties such as shock and fatigue resistance. The high water absorption of this type should be taken into consideration in product design. (Injection molding, extrusion, compression molding and coating)
BEAREE UH	Polyethylene	This material has lower performance than the “super” engineering plastics; however, this material takes advantage of the excellent properties of polyethylene, such as low friction, high resistance to wear, chemicals, and shocks, non-stick quality, and good electrical properties. The shrinkage factor during molding and coefficient of thermal expansion are high, and the material is difficult to bond. (Injection molding, extrusion, and compression molding)
BEAREE AS	Polyphenylsulfide	BEAREE AS is widely applicable because its base resin of polyphenylsulfide has excellent heat and wear resistance, mechanical properties and moldability. Also, this material is suited for cost effective mass production. (Injection molding)
BEAREE LC	Aromatic polyester	This material has excellent heat resistance and mechanical strength, especially rigidity. When used with materials based on liquid crystal polymer designers should consider the anisotropy of the material at product design. (Injection molding)
BEAREE PK	Polyetheretherketone	BEAREE PK is based on polyetheretherketone, which has excellent properties close to polyimide in heat, chemical, shock and fatigue resistance, and self lubrication. Therefore, the characteristics of this material is similar to BEAREE PI and AI, however water absorption is less. It should be noted at product design that the shrinkage factor at molding is high. (Injection molding and extrusion)
BEAREE NY	Polyamide	This material is based on polyamide, one of the most popular general purpose engineering plastics, and is superior in shock and wear resistance. The heat resistance of this material is lower than “super” engineering plastics, however, it is much more economical. It should be noted at product design that the shrinkage factor at molding is high. (Injection molding)
BEAREE DM	Polyoxymethylene (Polyacetal)	This material is based on polyoxymethylene that is superior in fatigue, creep and wear resistance and dimensional stability; however, because of the high levels of oxygen in the molecular structure, fire retardance is difficult. Like BEAREE NY, this material is much more economical than “super” engineering plastic based materials. (Injection molding)
BEAREE ER	Elastomer (“Sliding Rubber”)	BEAREE ER is based on an elastomer. This “Sliding Rubber” is a fluoro plastic with elasticity and is superior in elasticity, non stick quality, low friction and resistance to heat, wear and creep.

Products using materials such as BEAREE PI, BEAREE AI, BEAREE LC and BEAREE PK are considered strategic products as defined by the "Foreign Exchange and Trade Control Law" in specified use and figure. When exporting a product that comes under the regulation, an export license by the Japanese government is requested. Contact us for details.