

# Material Properties

## Materials for Sprockets

Material	Code	Description	Food <sup>1)</sup> approv.	Density g/cm <sup>3</sup>	Temperature range
Polypropylene	PP	Thermoplastic material with excellent chemical resistance to acids, alkalines and hot water. Abrasion resistance worse than POM.	EU FDA	0.90	+5 °C to +105 °C <i>+40 °F to +220 °F</i>
Polyoxymethylene (Acetal)	POM (AC)	Lubricated thermoplastic material specially formulated for molded sprockets, with high strength and good abrasion resistance. Good chemical resistance to oil and alkalines, but not suitable for long-term contact with high concentration of acids and chlorine.	EU FDA	1.42	wet conditions: -40 °C to +60 °C <i>-40 °F to +140 °F</i>  dry conditions: -40 °C to +93 °C <i>-40 °F to +200 °F</i>
Polyamide	PA	Thermoplastic material for molded or machined sprockets with high strength and very good abrasion resistance. Suitable for heavy duty applications at dry conditions and elevated temperatures. Material is specially modified to keep its good properties stable over a long time at elevated temperatures.	EU (FDA on request)	1.14	wet conditions: not recommended  dry conditions: -46 °C to +116 °C <i>(short-term +135 °C)</i> <i>-50 °F to +240 °F</i> <i>(short-term +275 °F)</i>
Thermoplastic Polyurethane	TPU	Tough thermoplastic material for molded or machined sprockets with very good abrasion resistance. Suitable for abrasive applications at wet or dry conditions with medium load. Material is specially formulated to reduce the teeth wear to a minimum.		1.24	-20 °C to +50 °C <i>-4 °F to +120 °F</i>
Super High Temperature	ST	Reinforced thermoplastic material with very good heat and hydrolysis resistance. Suitable for light conveying applications at elevated temperatures. Material is specially modified to keep its good properties stable over a long time at elevated temperatures. Flammability UL94 V0	EU FDA	1.65	wet conditions: on request  dry conditions: 0 °C to +200 °C <i>(short-term +240 °C)</i> <i>-32 °F to +392 °F</i> <i>(short-term +464 °F)</i>
Ultra high molecular weight Polyethylene	UHMW PE	Ultra high molecular weight material for machined sprockets. Good abrasion resistance and very good chemical resistance.	EU FDA	0.94	-70 °C to +50 °C <i>-94 °F to +120 °F</i>

<sup>1)</sup> The Food approval statement refers to the HabasitLINK product range.  
For detailed food approval, please contact Habasit.

Application	standard	POM, UHMW PE
	high abrasion, dry	PA, TPU
	high abrasion, wet	TPU
	chemicals (alkaline, acids)	PP
	high temperature	ST