

5.2 Anti-extrusion ring materials

Table 5.3 shows a selection of Parker's preferred anti-extrusion ring materials.

Please start by making an initial, possibly multiple, selection of all materials with appropriate application descriptions and service

temperature ranges. The final selection may then be made using the performance rating values for a material with the best combination of characteristics for the intended service.

For guidance on selecting a material other than the ones listed (i.e. filled PEEK, polyimide, filled PTFE, ...) please contact our consultancy service.

Compound code	Elastomer base	Colour	Temperature range ¹⁾ (°C)	Pressure / extrusion resistance ²⁾	Chemical compatibility ²⁾	FDA-compliant	NORSOK M-710 compliant	Min. recommended dyn. surface hardness (HRC)	Remarks
Polon® PS001	Virgin PTFE	white	-260 +260	1	5	•		25	- low-strength material - only used in combination with elastomeric O-Rings
Polon® PS004	PTFE + bronze	bronze	-260 +300	5	2			45	limitations in use because of chemical compatibility
Polon® PS007	PTFE + carbon/graphite	black	-260 +300	4	4			50	- particularly suited for highly corrosive service - widely used in dynamic steam and water applications - performs well in non-lubricated dynamic systems
Polon® PS013	PTFE + glass fibre	white	-260 +300	3	4			60	- only to be used against hard dynamic mating surfaces - do not use with strong bases or hydrofluoric acid
Polon® PS015	Virgin PEEK	tan	-200 +315	9	4	•	•	50	- very strong material with high temperature resistance - static use or slow, intermittently dynamic
Polon® PS025	PTFE + glass fibre	dark green	-260 +300	3	4			60	- only use on very hard mating surfaces in case of dynamic service - do not use with strong bases or hydrofluoric acid
Polon® PS031	modified PTFE + glass fibre	ivory	-260 +300	5	4		•	60	- only to be used against hard dynamic mating surfaces - do not use with strong bases or hydrofluoric acid
Polon® PS045	PTFE + carbon fibre	black	-260 +280	4	4		•	50	excellent wear behaviour in aqueous environment
Polon® PS0K2	Reinforced lubricated PEEK	black	-200 +315	10	4		•	50	- very strong material with high temperature resistance - intended for dynamic service

Note

¹⁾ High temperature end is subjected to extrusion gap guidelines.

²⁾ 1 is lowest, 10 is highest rating

Tab. 5.3 Anti-extrusion ring materials