

**APSOplast® PTFE HP 110 black**
**Engineering Plastic Technology  
Technical Data Sheet**
**Application purpose and characteristics**

Suitable for sliding functions in damp, wet, or chemically aggressive environments. Also suitable for use with non-hardened mating partner surfaces. Guide- and seal-rings for oil-free piston compressors and shock absorbers.

Low coefficient of friction and high wear resistance along with high compressive strength, heat-dissipating, anti-static, most universal chemical resistance of all PTFE HP grades.

**Product description**

Material name, long description	Polytetrafluorethylene
Material name, short description	PTFE
Compound	PTFE + carbon powder + graphite
Material Code	PTFE HP110.013-00
Density	2.04 - 2.11 g/cm <sup>3</sup>
Color	black

**Mechanical properties**

Yield stress	Test value: ≥ 11 MPa Test norm: ISO 527-1 Test parameter: Cross Direction, test speed 50 mm/min
Elongation at break	Test value: ≥ 80 % Test norm: ISO 527-1 Test parameter: Cross direction, test speed 50 mm/min
Residual Deformation After 24 h	Test value: ≤ 5 % Test norm: ASTM D 621
Deformation under load	Test value: ≥ 7 % Test norm: ASTM D 621 Test parameter: P=13.7 N/mm <sup>2</sup> , 24 h
Compressive strength	Test value: ≥ 9 N/mm <sup>2</sup> Test norm: ASTM D 695 Test parameter: 1% strain
Shore hardness	Test value: ≥ 60 Shore D Test norm: ISO 868
Ball indentation hardness	Test value: > 30 MPa Test norm: ISO 2039-1 Test parameter: H 132/30
Static friction coefficient	Test value: 0.06 - 0.18 Test norm: ASTM D 3702
Sliding wear	Test value: 0.010 - 0.020 Test norm: ASTM D 3702 Test parameter: PV=0,7 N/mm <sup>2</sup> * m/s
Dynamic friction coefficient	Test value: 0.12 - 0.25 Test norm: ASTM D 3702 Test parameter: PV=0,7 N/mm <sup>2</sup> * m/s

**Thermal properties**

Min. operating temperature	Test value: -260 °C
Max. operating temperature long term	Test value: 280 °C
Coefficient of linear thermal expansion	Test value: 8 - 11 * 10 <sup>-5</sup> /°C Test norm: ASTM D 696 Test parameter: 25 - 95°C