BLACK PAW®

PRODUCT DATA SHEET

Virgin Polytetrafluoroethylene (PTFE / Teflon)



TEFLON SHEET ASTM D695, D635, D570

Virgin Teflon polytetrafluoroethylene (PTFE), is a high-performance material known for its extraordinary chemical resistance, thermal stability, and non-stick properties. It is virtually unaffected by even the most aggressive chemicals, including strong acids, alkalis, and organic solvents, making it ideal for use in highly corrosive environments.

With excellent thermal resistance, Teflon® maintains its mechanical and sealing properties across a wide temperature range. Its extremely low surface energy offers superior non-stick characteristics, while its high dielectric strength, low coefficient of friction, and outstanding wear resistance further enhance its utility in specialized applications. Teflon® is also highly aging-resistant and provides excellent air-tightness, making it suitable for demanding sealing and insulation applications.

1. TECHNICAL SPECIFICATION

Product Name: PTFE (Teflon) Sheet
Material: Virgin Polytetrafluoroethylene (PTFE)
Color: White
Standards: ASTM D695 / ASTM D635 / ASTM D570

2. TYPICAL PROPERITIES

Property	Test Method	Typical Value	Unit
Density	ASTM D792	2.13 – 2.20	g/cm³
Operating Temperature (Continuous)	Manufacturer Data	-250 to +260	°C
Water Absorption (24 hr @ 23°C)	ASTM D570	< 0.01	%
Flammability	ASTM D635	Self-extinguishing	—
Chemical Resistance	—	Resistant to all industrial chemicals except molten alkali metals and fluorine	—

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3. MECHANICAL PROPERTIES

Property	Test Method	Typical Value	Unit
Tensile Strength	ASTM D638	20 – 35	MPa
Elongation at Break	ASTM D638	200 – 400	%
Compressive Strength (1% Strain)	ASTM D695	4	MPa (580 psi)
Compressive Strength (5% Strain)	ASTM D695	11.5	MPa (1670 psi)
Compressive Yield Strength (0.2% Offset)	ASTM D695	9	MPa (1300 psi)
Deformation Under Load (14 MPa, 24hr @ 23°C)	ASTM D621a	5.1	%
Deformation Under Load (5 MPa, 1hr @ 150°C)	ASTM D621a	11.1	%
Permanent Deformation	ASTM D621a	7	%
Maximum Pressure – Non-Recessed Design	Manufacturer Data	6.9	MPa
Maximum Pressure – Recessed Design	Manufacturer Data	13.7	MPa
Hardness (Shore D)	ASTM D2240	50 – 60	–

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4. ELECTRICAL PROPERTIES

Property	Test Method	Typical Value	Unit
Dielectric Strength	ASTM D149	19 – 60	kV/mm
Volume Resistivity	ASTM D257	10^{18}	Ω·cm
Dielectric Constant (60 Hz)	ASTM D150	2.1	–

5. ELECTRICAL PROPERTIES

- Applications
- Gaskets and seals
- Slide bearings and wear pads

6. COMPLIANCE STANDARDS

- Valve seats and chemical-resistant linings
- Electrical insulation
- Non-stick surface liners

7. NOTES

- Material is non-aging and exhibits excellent dimensional stability.
- Chemically inert to most industrial chemicals.
- Users should verify suitability for specific service conditions.
- Information is provided as a guide and may vary with temperature and load.