



TPU DIAPHRAGMS

Freudenberg Sealing Technologies thermoplastic polyurethane (TPU) diaphragms are manufactured from compounds certified for use in specific applications, helping to ensure that your products will comply with local, national, and international standards. FEM models exist and our diaphragm solutions are absolutely tight, providing very low wear and tear.

Comparison of Material Data

Property	Typical 81 NBR 83358	85 TPU 216320
Hardness in Shore A	81	85
Tensile strength in MPa	> 12.5	> 46
Elongation at break in %	> 110	> 610
Elongation at break in % (DIN 815 24h 100°C)	< 30	< 33

VALUES FOR THE CUSTOMER

- Very high bending fatigue strength
- Highest wear resistance of all elastomeric materials
- Amazing tensile strength and breaking elongation
- Outstanding tear growth resistance
- Very good pressure resistance
- Excellent oxidation resistance
- Possible to optimize design via FEA simulations (limited usability in case of fabric-reinforcement)
- Specific TPU material-models make optimal design layout possible, even in case of higher pressure and stretching strain
- Good binding onto PTFE foils provides high media resistance
- Temperature range from -30°C to $+80^{\circ}\text{C}$ depending on type, hardness, and application

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