



# TPE (Elastomer)

## Alternative Designations

Thermoplastic Elastomer

## Key Features

Strong • Tear and abrasion resistant • Flexible

## Description

TPE is an elastomer, or rubber-like material, that is thermoplastic, meaning it can be molded and reformed with heat. It is often used in place of traditional rubbers and plastics because it is more flexible, durable, and environmentally friendly. This material exhibits excellent resistance to flexural fatigue. It has high impact strength, excellent chemical resistance, good resistance to tear and abrasion. In addition, it possesses good electrical properties. It is used in grips and handles, seals, plugs, power and hand tool components, wires and cables.

## Mechanical Properties

Tensile strength	10 – 45 MPa
Elongation at break	200 – 375%
Flexural modulus	0.032 – 1.2 GPa

## Thermal Properties

Melting temperature (20°C/min)	150 – 210°C
Softening temperature	75 – 195°C

## Physical Properties

Density	1.15 – 1.25 g/cm <sup>3</sup>
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## Reference

Datasheets provided by Xometry contain materials sourced through trusted OEMs, material distributors, and databases. Please visit [Materialdatacenter.com](https://Materialdatacenter.com) for further information on this material.