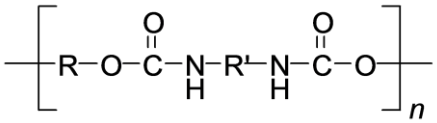
systemseals

MATERIAL SPECIFICATION SHEET

MM05



Thermoplastic Polyurethane (TPU)

SPECIFICATIONS

Property	Spec	Value
Hardness	DIN 53505	95A ±5
Hardness	DIN 53505	48D ±5
Density	DIN 53479	1.22 g/cm³
Tensile Strength	DIN 53504	50 N/mm²
Ultimate Elongation	DIN 53504	450%
20% Modulus	DIN 53504	10 N/mm²
100% Modulus	DIN 53504	14 N/mm²
300% Modulus	DIN 53504	28 N/mm²
Tear Strength	DIN 53515	140 N/mm²
Abrasion	DIN 53516	40mm³
Compression Set 70C @ 24 Hrs	DIN 53517	25%
Compression Set 100C @ 24 Hrs	DIN 53517	35%
Brittle Point	DIN 53513	-40°C
Color		Black

DESCRIPTION

MM05 is a TPU material with hardness 95A and 48D, specially compounded for standard grade applications. The polyurethane polymer industry has enormous categories of products for a wide variety of applications. Polyurethane used in the seal industry is a thermoplastic elastomer (TPU). As the name suggests, it behaves like an elastomer but the chemistry is of a thermoplastic. The elasticity of a TPU is brought about through polymer morphology phase changes as in thermoplastics not through vulcanization as seen in other elastomers. Because of its thermoplastic nature, TPU has excellent tensile strength and abrasion resistance that other elastomers are unable to match. Meanwhile, TPUs also have good flexibility and shock absorbing performance. An additional advantage of TPUs is that they can be molded using conventional thermoplastic processes.