

Estane® R190A TPU

TPU

Lubrizol Advanced Materials Spain S.L.

Processing/Physical Characteristics	Value	Unit	Test Standard
ASTM Data			
Mold Shrinkage, MD	0.007	mm/mm	ASTM D 955

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Abrasion resistance	25	mm ³	ISO 4649
ASTM Data			
Modulus at 100% Elongation	9.81	MPa	ASTM D 412
Modulus at 300% Elongation	5.56	MPa	ASTM D 412
Shore A Hardness	93	-	ASTM D 2240
Shore D Hardness	47	-	ASTM D 2240
Tear Strength	108	kN/m	ASTM D 624
Compression Set , 22 hr @ 73 °F	15	%	ASTM D 395
Compression Set , 22 hr @ 158 °F	45	%	ASTM D 395

Thermal properties	Value	Unit	Test Standard
ASTM Data			
Vicat Temperature	125	°C	ASTM D 1525

Other properties	Value	Unit	Test Standard
Density	1110	kg/m ³	ASTM D 792

Characteristics**Processing**

Injection Molding, Other Extrusion

Regional Availability

North America, Europe, Asia Pacific

Certifications

Food contact, Food approval FDA 21 CFR