

**Polyurethane (AU/EU)** is notable for its combination of hardness with elasticity, and outstanding abrasion resistance and tear strength. Elastomeric urethane rubber, not to be confused with thermoplastic polyurethane, may be either ether (EU) or ester (AU) base, with the latter being the far more common of the two. It is often referred to as the "millable gum" urethane. The ester based polymer is superior in resistance to abrasion and heat, while the ether based polymer has better flexibility at low temperatures. Polyurethane is a rather expensive material whose use is usually limited to applications that require a combination of its outstanding physical properties. Common end use applications are. Peroxide is the most commonly employed cure system, but sulfur curing is also possible in the extremely complex vulcanization chemistry involved in polyurethanes.

**Limitations:** Not recommended for applications involving exposure to acids and alkalis. Not recommended for temperatures above 140° F.

**Temperature Resistance:** -40°C to 80°C (-40° to 175° F)

**Typical Uses:** Industrial Rolls, O-Rings, Caster Wheels, Gaskets, Shoe Soles.

**Physical Properties:**

	Excellent	Good	Fair	Poor
Tensile strength	•			
Elongation		•		
Low temperature flexibility	•			
Compression Set			•	
Tear resistance	•			
Abrasion resistance	•			
Flame resistance				•
Gas permeability		•		

**Chemical Resistance:**

	Excellent	Good	Fair	Poor
Ozone	•			
Weather	•			
Oxidation	•			
Silicone oils	•			
Sunlight		•		
Air		•		
Alcohols		•		
Mineral oil		•		
Ethers			•	
LP gas			•	
Ketones				•
Steam				•
Aldehydes				•