

Products made from PSI urethanes are stronger, tougher and more durable than products made from conventional elastomers and plastics. They also offer the engineer a remarkable range of physical properties to choose from.

PROPERTIES OF PSI URETHANES

- Stable in harsh environments
- Hard as a bowling ball or as soft as a marshmallow
- Resistant to abrasion
- High load-bearing capacity
- Highly resistant to impact
- Ideal for high flex applications
- A wide resilience range
- Available in high and low friction formulations
- Bonds to metal, wood and most plastics



Stable in harsh environments

PSI urethanes remain stable performers in a broad range of adverse conditions:

Flexible at low temperatures. Depending upon the formulation, PSI urethanes remain quite flexible even in Arctic-like temperatures. In addition, they have proven to be remarkably resistant to thermal shock, and withstand sudden and drastic temperature drops without cracking.

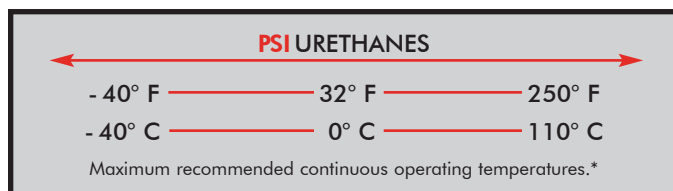
Stable up to 250° F. PSI urethanes can be formulated to withstand continuous use at maximum temperatures of 200° to 250° F.

Won't swell or deteriorate in water. PSI urethanes remain stable even when immersed in water as warm as 120° F for very long periods. (Not recommended for continuous use in water hotter than 160° F). They absorb practically no water: approximately 0.3 to 1.0 percent by weight, and show negligible swell in volume even after prolonged immersion.

Electrical properties. PSI urethanes are frequently specified because of their excellent insulating properties. However, if desirable, certain fillers can be added to increase their conductivity.

Resistant to ozone and oxygen. PSI urethanes are virtually immune to attack from ozone and oxygen. This makes them the ideal performer around electrical equipment without the cracking and hardening associated with conventional elastomers and plastics.

Wide resistance to oil, grease and chemicals. PSI urethanes are resistant to a wider range of chemicals and substances than many rubbers and plastics. Often they are more suitable when contacting certain solvents, oils and chemicals.



*Dependent upon formulation, application and other operating environments.

Hard as a bowling ball or as soft as a marshmallow

PSI urethanes can be formulated in hardnesses ranging from 10 Shore 00 durometer, which is as soft as a marshmallow to 75 Shore D durometer — harder than a golf ball.

Resistant to abrasion

PSI urethanes are extremely tough. PSI urethane products outwear other materials such as rubbers, plastics and metals by margins of 5 to 1 or as high as 50 to 1, when severe abrasion is a factor. PSI urethane parts are ideal in critical wear applications where their high performance keeps them on the job.

High load-bearing capacity

PSI formulated urethanes have higher load-bearing capacity than any conventional rubber. Urethane is ideal for high load-bearing wheels, heavy-duty couplings, metal forming pads, shock pads and machine mounts.

Highly resistant to impact

While conventional plastic materials tend to become brittle as they become harder, PSI urethanes remain elastic. They resist fracture even in the hardest formulations. This toughness makes PSI urethanes ideal for parts subject to high impact or repeated impingement.

Ideal for high flex applications

Under repeated flexing, PSI urethanes resist cracking. When designing for high flex applications it is important to have as thin a cross-section as possible. Since PSI urethanes are extremely strong and tough — they are able to be used in designs with extremely thin cross-sections and therefore provide longer life for the product.

A wide resiliency range

Unlike rubbers, PSI urethanes don't have to be made soft to make them resilient. PSI urethanes can be as resilient as much softer materials. For shock absorbing applications, PSI urethanes can be formulated with rebound

values as low as 10% to 25%. For quicker recovery, or where high-frequency vibrations are a factor, rebound values of up to 40% to 70% can be formulated.

Available in high or low friction formulations

PSI urethanes resemble most plastics and other elastomers where friction against non-lubricated surfaces generally decreases with harder formulations. PSI urethanes can be formulated with a low co-efficient of friction for products like bushings, bearings and wear strips. The wear of shafts and mating surfaces is minimal with PSI urethanes.

Bonds to metal, wood and most plastics

During the molding process, and under controlled conditions, PSI urethanes can be bonded to a wide variety of materials. Bond strengths on metal, wood and plastic substrates are often stronger than the urethane itself, and are usually several times stronger than a similar rubber-to-substrate bond.

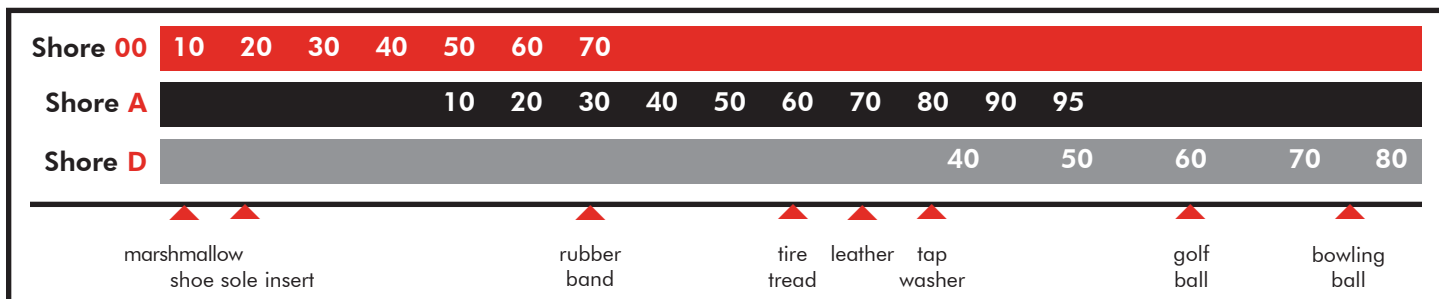
A wide range of applications

For over 40 years, **PSI Urethanes Inc.** has provided cast urethane for applications such as;

Metal forming pads ■ Wear strips ■ Scraper blades
■ Cutting surfaces ■ Mounts ■ Gaskets and seals
■ Bumpers ■ Flexible couplings ■ Chute and hopper liners
■ Drive and pinch rolls ■ Capper rings
■ Slitter rings ■ Star wheels ■ Gears ■ Stripper springs
■ Bushings, cams, and bearings.

Urethanes by PSI: The engineering material of choice

When considering all the options on your next project, consider urethane and call PSI. We've provided innovative time and cost saving options in cast urethane for over 40 years. Let's discuss what can we do for you!



PSIURETHANES, INC.

10503 Metropolitan Dr.
Austin, Texas 78758
1.800.888.5156
FAX 512.837.8733
www.psiurethanes.com

PS-101

