



# Neoprene explained, what is it?

## by Monmouth Rubber & Plastics

Website version: <http://monmouthrubber.com/neoprene-explained/>



**MONMOUTH RUBBER & PLASTICS**  
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## Neoprene explained...

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Neoprene was the world's first fully commercial synthetic elastomer and was introduced by DuPont in 1931. The term neoprene is now generic but was originally the trade name from DuPont's chemical name Polychloroprene.

Neoprene was originally used as an oil resistant replacement for natural rubber.



### Basic Characteristics of Neoprene

Neoprene Polychloroprene is a multipurpose elastomer that has a balanced combination of properties. These are the inherent characteristics of neoprene.

- Resists degradation from sun, ozone, and weather.
- Performs well in contact with oils and many chemicals.
- Remains useful over a wide temperature range.
- Displays outstanding physical toughness.
- Is more resistant to burning than many other types of rubber.

### Neoprene is made from one of two processes

1. The oil derived process which is most popular.
2. The limestone process which is considered to be more environmentally friendly.

Neoprene is a particularly versatile elastomer however to maximize its inherent attributes the proper compounding must be done for the intended application. The following are some of the outstanding characteristics of the neoprene polymer when properly compounded.

- Tear resistance
- Vibration dampening
- Water resistance
- Weather resistance
- Compression set resistance, stress relaxation, compression recovery
- Chemical resistance
- Flame resistance
- Heat resistance
- High resilience
- Low gas permeability
- Ozone resistance
- Water resistance
- Weather resistance

### Some typical solid neoprene product applications.

- Bridge bearing pads.
- High tensile bands for athletic stretch.
- High-pressure gaskets.

### Some typical “neoprene sponge rubber sheet” product applications.

- Skin diving wet suits.
- Water sports wear.
- Nylon laminated for all sorts of consumer items.
- Industrial gaskets to seal water, air, dust and other environmental items.
- Automotive gaskets.
- Athletic equipment.

### Conclusion

Neoprene has a 90 year track record of proven performance. When a rubber as tough as natural rubber is required with resistance to a variety of ingredients that natural rubber does not have, neoprene is a likely place to look.

Remember for the neoprene product to perform as required the supplier must properly compound a formula to meet your specific performance requirements.

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