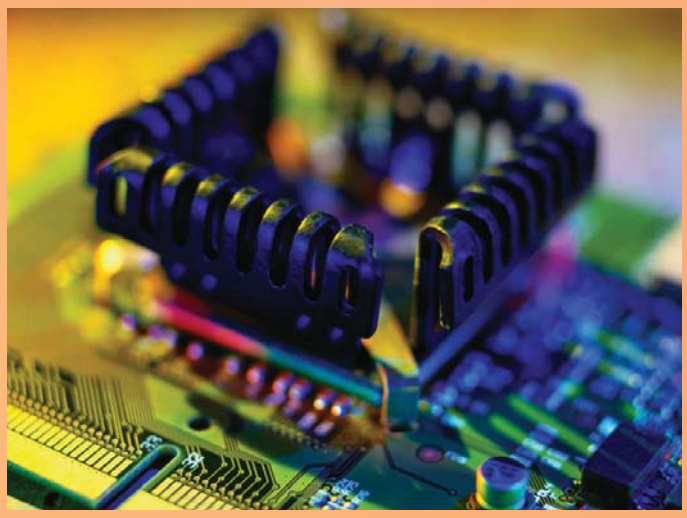
HIGH HEAT RESISTANCE



Microcellular Polymer Sheets

PORON®

PORON®, a micro-cell polymer sheet material, is a high-performance, high-density micro-cell polyurethane foam possessing an extremely fine and uniform cell structure. It experiences little deterioration even after long periods of use, and it can play an important role in all aspects of manufacturing applications, such as sealing, cushioning, gap-filling, and foot pad.

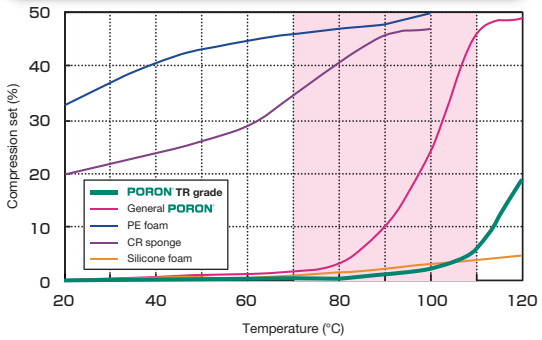
TR grade
TR-24/32

Heat-Resistant Series

*** Foam Materials of INOAC CORPORATION JAPAN**

The **PORON**® TR-Grade heat-resistant series boasts overwhelming resistance to set-in fatigue (deformation) at high temperature ranges (70°C –110°C) as a polyurethane foam.

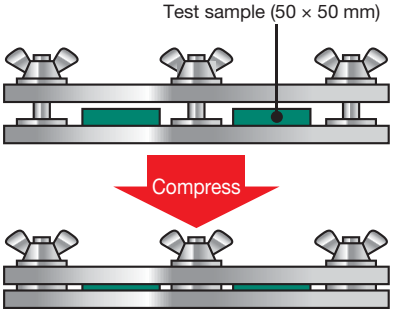
Compression set (temperature dependence)



Test method

Samples were compressed 50% and left at each temperature for 22 hours. Afterward, the pressure was released, and the thicknesses of the samples were measured after 30 minutes had passed to calculate compression set.

Compression set (%) = (T_0 - T_1) / T_0 × 100
T_0: Pre-test thickness T_1: Post-test thickness



PORON® for High Heat Resistance

NEW TRgrade TR-24/32

The high-performance characteristics of **PORON**, includes material high heat resistance, in addition to high sealability, vibration absorption, and dimensional stability.

Characteristics

Polyurethane with performance that withstands temperatures up to 110°C!

High Heat Resistance (vs. General Polyurethane Foam)

The anti-distortion quality of **PORON**®, one of its great characteristics, holds up even at high temperatures. It can be used around heat sources, which has been a concern with previous **PORON**® materials.

Lower cost (vs. Silicone Foam)

Cheaper than silicone foam. The double-sided adhesive tape can be used with acrylic adhesive tape.

Non-Polluting and Low Out-Gassing

Minimizes concerns of defective contact because it doesn't use plasticizers or sulfur.

Thinness

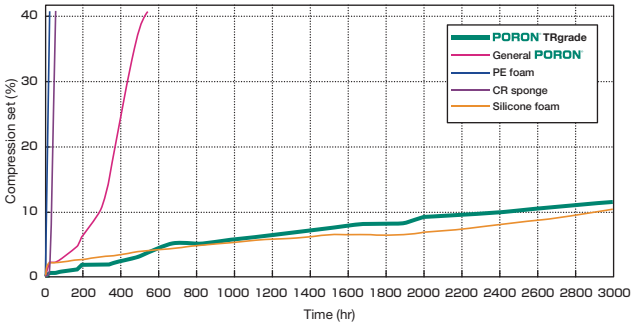
Able to make thinner products, which were not able to make with silicone foam.

High Sealability, Excellent Energy Absorption, and High Dimensional Stability

Retains the same basic properties as previous **PORON**® materials.

Product Data

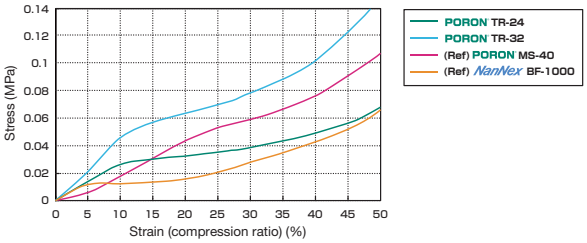
■ Compression set (continuous long-duration compression)



Samples were compressed 50% and kept at 80°C. After the prescribed time had passed, the pressure was released. Then the thicknesses of the samples were measured after 30 minutes had passed to calculate compression set.

Compression set (%) = (T_0 - T_1) / T_0 × 100	T_0: Pre-test thickness T_1: Post-test thickness

■ Stress-strain curve



Test conditions:
Compression was applied at a speed of 1 mm/min, and the stress-strain curve (S-S curve) was measured.

Physical Properties and Availability

■ Physical Properties

Item/unit		Product grade	TR-24	TR-32
Density		kg/m³	240	320
Tensile strength		MPa	0.29	0.41
25% CLD		MPa	0.03	0.07
Stiffness (Asker type C)		–	15-25	20-30
Compression set	70℃	%	0.5	0.5
	110℃		3.9	4.0

*All values are representative values.

■ Product Availability

Thickness (mm)	Width (mm)	Length (m)	TR-24	TR-32
1.0	500	50		◎
1.5	〃	〃		◎
2.0	〃	〃	◎	◎
3.0	〃	〃	◎	◎
4.0	〃	40	◎	△
5.0	〃	30	◎	△
6.0	〃	25	△	
8.0	〃	20	△	
10.0	〃	15	△	

◎··· Standerd Products △··· Available Product (250m² lots)

Comparison of Material Characteristics

Foam type \ Item	Heat resistance	Residual strain from compression	Variations (thickness, flexibility)	Product cost
High heat resistance **PORON** (TR grade)	◎	◎	◎	○
Polyurethane foam (PORON)	○	◎	◎	○
Polyurethane foam (other companies' products)	○	△	◎	
Polyolefin foam	△	×	△	◎
Acrylic foam	△	×	△	○
Rubber sponge	△	×	△	◎
Silicone foam	◎	◎	○	×