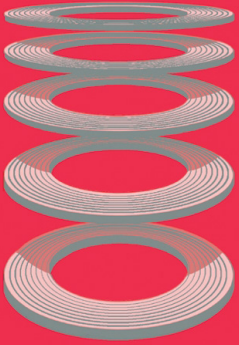


hi-bond tapes Ltd



www.hi-bondtapes.com

Hi-Porseal™

Nano-Cell Polyurethane
Foams For Electronics
& Automotive
Industries



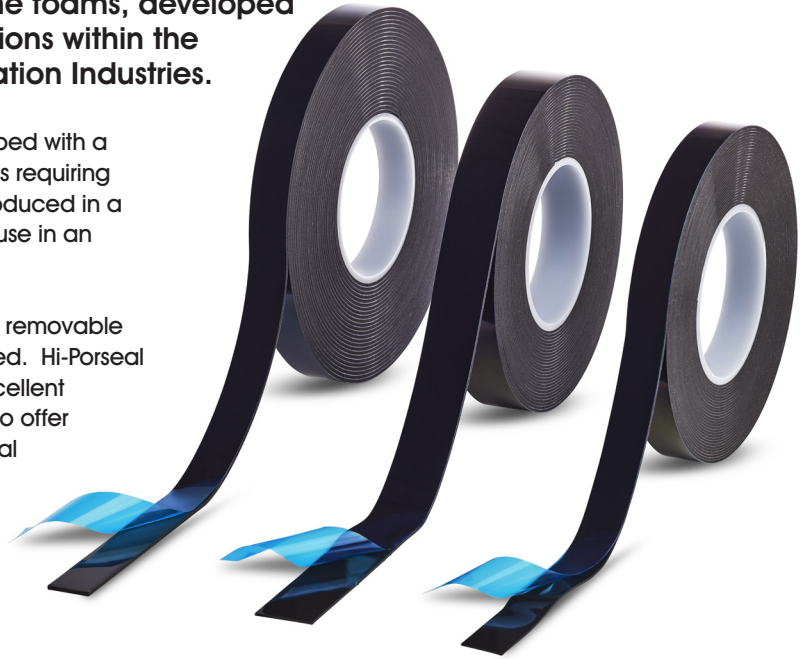


Hi-Porseal™ Nano-Cell Polyurethane Foams

Specially formulated high-grade polyurethane foams, developed to give outstanding performance in applications within the Telecoms, Electronics, Display and Transportation Industries.

Hi-Porseal foams have a closed Nano-cell structure, developed with a wide range of properties and characteristics for applications requiring seals, cushioning and shock absorbency. The foams are produced in a wide variety of thickness and density from 100μ to 7mm for use in an extensive number of applications.

The foams have a PET base film and can be supplied with a removable polyester liner on the other side and can be adhesive coated. Hi-Porseal foams have a smooth and uniformed surface, providing excellent contact on compression. A selection of these foams can also offer superior anti-rattle and vibration dampening properties, ideal for applications in transportation.



Applications

Range for Displays

TVs & Monitors

HPS-SSK
HPS-SKIN



Range for EV Batteries

Electronic cars
ESS

HPS-OF
HPS-OFT
HPS-OFV
HPS-OFVT



Range for Electronic Devices

Tablets, Laptops
Sat-Nav, Games
Console, Audio, PDA

HPS-R
HPS-M
HPS-S
HPS-SSR
HPS-SSSR
HPS-MH
HPS-HH



Range for OLEDs

Mobiles & TVs

HPS-THT
HPS-SST
HPS-PSA
HPS-EM





EV Battery Foams

Produced for application in battery packs and modules providing cushioning, battery cell protection also prolonging the efficiency and working life of the battery packs.

EV foams cushion against the expansion and contraction of the cells as they heat up and expand during use and contract with reductions in temperature.

The foams have a high compression ratio and excellent recovery, coupled with vibration suppression and prevention with the correct density and softness to protect the battery cells.

Hi-Porseal foams have great durability and do not harden or crack and maintain dimensional stability. The integrity of the foams are maintained over long periods of time. Electric vehicle battery foams must be flame retardant, all of the foams are compliant with fire retardant standards and are UL94 VO or OFT standard.

Features and Benefits

- ROHS: Halogen free
- Harmless, eco-friendly Urethane foam
- Suitable for the requirements of various electronic devices with differentiated microporous cell structure.
- Ultra-thin film cushion foam with the feature of precise thickness control.
- Absorbs shock and vibration, excellent in preventing light leakage.
- Excellent resilience even after being compressed for a long time.

Absorbs shock

Minimizes damages by absorbing external shocks

Airtightness

Improves airtightness and acts as a gap filler.

Prevents Moiré pattern.

Prevents moiré pattern caused by squashed screen

High Efficiency

Increased productivity and cost reduction from shorter processing times.

Hi-Porseal™ Polyurethane Foams for Electronics and Automotive Industries

HPS R range

Low rebound foams with excellent vibration dampening characteristics, superior energy and shock absorption. Applications in electronic devices and household appliances, gaskets for LCD displays, gap filling, prevention of crackling and buzzing sounds when applied to speakers and ringers. Absorbs vibration from motors.

Product Code	Thickness mm	Density g/cm ³	Compression Ratio (MAX) %	Compression Force Deflection 25% kgf/cm ²	Compression Force Deflection 50% kgf/cm ²	Compression Set %	Dimensional Stability % 24hrs 50C	Hardness	Surface Resistivity Ω/sq
HPS 020 R	0.2	0.6	40	0.34	–	<5~10	<1	45	1x10 ¹²
HPS 030 R	0.3	0.5	50	0.24	–	<5~10	<1	45	1x10 ¹²
HPS 050 R	0.5	0.44	56	0.17	–	<5~10	<1	45	1x10 ¹²
HPS 100 R	1.0	0.4	60	0.16	–	<5~10	<1	45	1x10 ¹²
HPS 200 R	2.0	0.35	65	0.13	–	<5~10	<1	35	1x10 ¹²

HPS M range

The M range has the ideal combination of density and hardness, giving excellent vibration and shock absorption. Prevention of crackling when applied to microphones, ringers, speakers and buzzers. Superior external shock absorption for portable electronics, laptops, and household appliances. Effective shading when used for gaskets for illuminated displays.

Product Code	Thickness mm	Density g/cm ³	Compression Ratio (MAX) %	Compression Force Deflection 25% kgf/cm ²	Compression Force Deflection 50% kgf/cm ²	Compression Set %	Dimensional Stability % 24hrs 50C	Hardness	Surface Resistivity Ω/sq
HPS 030 M	0.3	0.32	68	0.12	0.30	<5~10	<1	45	1x10 ¹²
HPS 050 M	0.5	0.32	68	0.12	0.30	<5~10	<1	45	1x10 ¹²
HPS 100 M	1.0	0.32	68	0.12	0.30	<5~10	<1	45	1x10 ¹²
HPS 150 M	1.5	0.32	68	0.12	0.30	<5~10	<1	45	1x10 ¹²
HPS 200 M	2.0	0.32	68	0.12	0.30	<5~10	<1	45	1x10 ¹²



HPS S range

These products have low density, low modulus and are soft giving an air-tight seal. The foams have a low compression strain with superior shock absorption, excellent elastic restoration and tightness, giving very good shading and dust proofing.

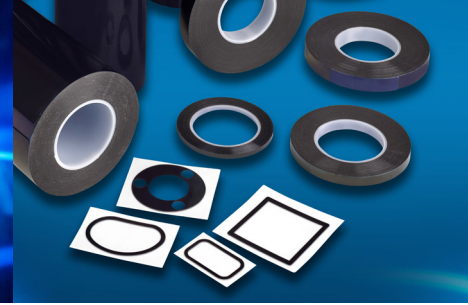
Product Code	Thickness mm	Density g/cm ³	Compression Ratio (MAX) %	Compression Force Deflection 25% kgf/cm ²	Compression Force Deflection 50% kgf/cm ²	Compression Set %	Dimensional Stability % 24hrs 50C	Hardness	Surface Resistivity Ω/sq
HPS 050 S	0.5	0.23	77	0.08	0.16	<5~10	<1	40	1x10 ¹²
HPS 070 S	0.7	0.23	77	0.08	0.16	<5~10	<1	40	1x10 ¹²
HPS 100 S	1.0	0.23	77	0.08	0.16	<5~10	<1	40	1x10 ¹²
HPS 150 S	1.5	0.23	77	0.08	0.16	<5~10	<1	40	1x10 ¹²
HPS 200 S	2.0	0.23	77	0.08	0.16	<5~10	<1	40	1x10 ¹²

HPS SSR, SSSR range

These grades are very soft with low density and low modulus ideal for gap filling and air tight applications, the foams have low permanent compression strain. Applications in house-hold appliances and portable electronic devices. Ideal for Bezel free gaskets.

Product Code	Thickness mm	Density g/cm ³	Compression Ratio (MAX) %	Compression Force Deflection 25% kgf/cm ²	Compression Force Deflection 50% kgf/cm ²	Compression Set %	Dimensional Stability % 24hrs 50C	Hardness	Surface Resistivity Ω/sq
HPS 150 SSR	1.5	0.15	85	0.05	0.08	<5~10	<1	n/a	1x10 ¹²
HPS 200 SSR	2.0	0.15	85	0.05	0.08	<5~10	<1	n/a	1x10 ¹²
HPS 300 SSR	3.0	0.15	85	0.05	0.08	<5~10	<1	n/a	1x10 ¹²
HPS 200 SSSR	2.0	0.11	89	0.03	0.06	<5~10	<1	n/a	1x10 ¹²
HPS 300 SSSR	3.0	0.11	89	0.03	0.06	<5~10	<1	n/a	1x10 ¹²





HPS T range

The T range has a removable PET film liner, the foams give high compression with low load. Applications in telecommunication equipment and computers giving shading, shock Absorption and dustproofing.

Product Code	Thickness mm	Density g/cm ³	Compression Ratio (MAX) %	Compression Force Deflection 25% kgf/cm ²	Compression Force Deflection 50% kgf/cm ²	Compression Set %	Dimensional Stability % 24hrs 50C	Hardness	Surface Resistivity Ω/sq
HPS 020 T	0.2	0.66	34	0.34	–	<5~10	<1	45	1x10 ¹²
HPS 030 T	0.3	0.52	48	0.24	–	<5~10	<1	45	1x10 ¹²
HPS 050 T	0.5	0.44	56	0.16	–	<5~10	<1	45	1x10 ¹²
HPS 100 T	1.0	0.4	60	0.17	–	<5~10	<1	45	1x10 ¹²
HPS 200 T	2.0	0.36	64	0.14	–	<5~10	<1	35	1x10 ¹²

HPS UT range

This range is adhesive coated and has a permanent PET film on one side and a removable film on the adhesive side. Excellent dust proofing, shock absorption, gap filling and shading for mobile phones, and spacing correction for LCD surrounds.

Product Code	Thickness mm	Density g/cm ³	Compression Ratio (MAX) %	Compression Force Deflection 25% kgf/cm ²	Compression Force Deflection 50% kgf/cm ²	Compression Set %	Dimensional Stability % 24hrs 50C	Hardness	Surface Resistivity Ω/sq
HPS 020 UT	0.2	0.66	34	0.34	–	<5~10	<1	45	1x10 ¹²
HPS 030 UT	0.3	0.52	48	0.24	–	<5~10	<1	45	1x10 ¹²
HPS 050 UT	0.5	0.44	56	0.17	–	<5~10	<1	45	1x10 ¹²
HPS 100 UT	1.0	0.4	60	0.16	–	<5~10	<1	45	1x10 ¹²
HPS 200 UT	2.0	0.36	64	0.14	–	<5~10	<1	35	1x10 ¹²

HPS MH HH range

These grades are a hard formula of foams with strong physical properties giving very good vibration absorption and superior elastic recovery force. Ideal application as anti-slip bases for electrical products such as laptops.

Product Code	Thickness mm	Density g/cm ³	Compression Ratio (MAX) %	Compression Force Deflection 25% kgf/cm ²	Compression Force Deflection 50% kgf/cm ²	Compression Set %	Dimensional Stability % 24hrs 50C	Hardness	Surface Resistivity Ω/sq
HPS 050 MH	0.5	0.32	68	1.5	–	<5~10	<1	45	1x10 ¹²
HPS 100 MH	1.0	0.32	68	1.5	–	<5~10	<1	45	1x10 ¹²
HPS 200 MH	2.0	0.32	68	1.5	–	<5~10	<1	50	1x10 ¹²
HPS 100 HH	1.0	0.42	58	2.5	–	<5~10	<1	55	1x10 ¹²
HPS 200 HH	2.0	0.42	58	2.5	–	<5~10	<1	60	1x10 ¹²

HPS O OM range

Produced only in sheet form these grades ensure superior expandability, tightness and elastic resilience. With a removable top PET film.

Product Code	Thickness mm	Density g/cm ³	Compression Ratio (MAX) %	Compression Force Deflection 25% kgf/cm ²	Compression Force Deflection 50% kgf/cm ²	Compression Set %	Dimensional Stability % 24hrs 50C	Hardness	Surface Resistivity Ω/sq
HPS 050 O	0.5	0.23	77	0.25	0.50	<5~10	<1	30	1x10 ¹²
HPS 100 O	1.0	0.23	77	0.25	0.50	<5~10	<1	30	1x10 ¹²
HPS200 O	2.0	0.23	77	0.25	0.50	<5~10	<1	30	1x10 ¹²
HPS100 OM	1.0	0.32	68	0.35	0.65	<5~10	<1	35	1x10 ¹²
HPS200 OM	2.0	0.32	68	0.35	0.65	<5~10	<1	35	1x10 ¹²



Electronic Vehicle Battery Foams

HPS OF range

The foams are Halogen free, formulated to give a high compression ratio, excellent shock absorption, long term durability with the added advantage of flame resistance. These foams are UL 94 HBF rated. Designed to have ideal compressible ratio and very good recovery properties after long term compression.

Product Code	Thickness mm	Density g/cm ³	Compression Ratio (MAX) %	Compression Force Deflection 25% kgf/cm ²	Compression Force Deflection 50% kgf/cm ²	Compression Set %	Dimensional Stability % 24hrs 50C
HPS150 OF	1.5	0.35	65	0.23	0.44	<5~10	<1
HPS300 OF	3.0	0.35	65	0.23	0.44	<5~10	<1

HPS OFV range

This range is also Halogen free, formulates to have very good flame retardant characteristics, with a UL 94 VO rating. These foams have a higher compression force deflection that the OF range. Ideal for EV battery cushioning applications.

Product Code	Thickness mm	Density g/cm ³	Compression Ratio (MAX) %	Compression Force Deflection 25% kgf/cm ²	Compression Force Deflection 50% kgf/cm ²	Compression Set %	Dimensional Stability % 24hrs 50C
HPS150 OFV	1.5	0.35	65	0.55	1.30	<5~10	<1

HPS OFT range

This is the same as the OF range with a removable 50 micron PET liner.

Product Code	Thickness mm	Density g/cm ³	Compression Ratio (MAX) %	Compression Force Deflection 25% kgf/cm ²	Compression Force Deflection 50% kgf/cm ²	Compression Set %	Dimensional Stability % 24hrs 50C
HPS150 OFT	1.5	0.35	65	0.23	0.44	<5~10	<1
HPS300 OFT	3.0	0.35	65	0.23	0.44	<5~10	<1

HPS OFVT range

This is the same as the OFV range with a removable 50 micron PET liner.

Product Code	Thickness mm	Density g/cm ³	Compression Ratio (MAX) %	Compression Force Deflection 25% kgf/cm ²	Compression Force Deflection 50% kgf/cm ²	Compression Set %	Dimensional Stability % 24hrs 50C
HPS150 OFVT	1.5	0.35	65	0.55	1.30	<5~10	<1





Foams for Displays, Televisions and OLED Screens

HPS SST range

These are very thin foams 0.1mm – 0.2mm thick low density foams, giving good impact absorption, easily compressed with light loads. Coated with embossed adhesive to reduce the risk of bubbles these foams have low permanent compression strain. Designed for use with OLED screens both flexible and rigid.

Product Code	Thickness mm	Density g/cm ³	Compression Ratio (MAX) %	Compression Force Deflection 25% kgf/cm ²	Compression Force Deflection 50% kgf/cm ²	Compression Set %	Dimensional Stability % 24hrs 50C
HPS 010SST	0.1	0.4~0.5	50~60	0.50~0.80	1.7~2.0	<5~25	<1
HPS 030SST	0.1	0.4~0.5	50~60	0.50~0.80	1.7~2.0	<5~25	<1
HPS 050SST	0.1	0.4~0.5	50~60	0.50~0.80	1.7~2.0	<5~25	<1

HPS – PSA / HPS – EM range

The THT ultra-thin foam range are available in 0.1mm – 0.5mm thick. They have excellent shock absorption and are high density.

Product Code	Thickness mm	Density g/cm ³	Compression Ratio (MAX) %	Compression Force Deflection 25% kgf/cm ²	Compression Force Deflection 50% kgf/cm ²	Compression Set %	Dimensional Stability % 24hrs 50C
HPS 010THT, THT(4.5B/PSA)	0.1	0.55	45	0.57	1.98	<5~25	<1
HPS 030THT, THT(4.5B/PSA)	0.3	0.55	45	0.57	1.98	<5~25	<1
HPS 050THT, THT(4.5B/PSA)	0.5	0.55	45	0.57	1.98	<5~25	<1
HPS 010THT (4.5B/EM)	0.1	0.55	45	0.57	1.98	<5~25	<1
HPS 030THT (4.5B/EM)	0.3	0.55	45	0.57	1.98	<5~25	<1
HPS 050THT (4.5B/EM)	0.5	0.55	45	0.57	1.98	<5~25	<1

HPS SSK range

Foams are low density and low modulus with low compression strain. These products have a smooth skin, foams are integrated with a PET Film and have superior shock absorption.

Product Code	Thickness mm	Density g/cm ³	Compression Ratio (MAX) %	Compression Force Deflection 25% kgf/cm ²	Compression Force Deflection 50% kgf/cm ²	Compression Set %	Dimensional Stability % 24hrs 50C
HPS 030SSK35P (B20/B50)	0.3	0.35	65	0.43	1.0	<5~10	<1
HPS 040SSK30P (B20/B50)	0.4	0.30	70	0.27	0.59	<5~10	<1
HPS 070SSK25P (B20/B50)	0.7	0.25	75	0.20	0.4	<5~10	<1
HPS 090SSK20P (B20/B50)	0.9	0.20	80	0.15	0.35	<5~10	<1
HPS 120SSK20P (B20/B50)	1.2	0.20	80	0.15	0.35	<5~10	<1



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