

Heat Insulation Sponges

Polyimide Foam

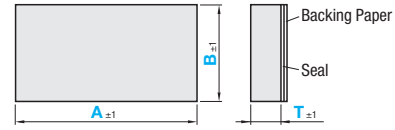
■ Polyimide foam whose heat resistance is up to 400°C. Can be also used as heat-resistant sound insulators.

Heat Insulation Sponges Polyimide Foam



RoHS10

Type	Material	Color	Heat Resistance Temperature
HPRI	Aromatic Polyimide Foam No Adhesive	Light Beige	Main Body: 400°C
HPRIS	Main Body: Aromatic Polyimide Foam Adhesive: Heat Resistant Adhesive	Light Beige	Main Body: 400°C Adhesive: 200°C



■ Adhesive Strength of Heat Resistant Adhesive
900gf/20mm Width (Result of 180° peeling test of the material adhered to SUS304)

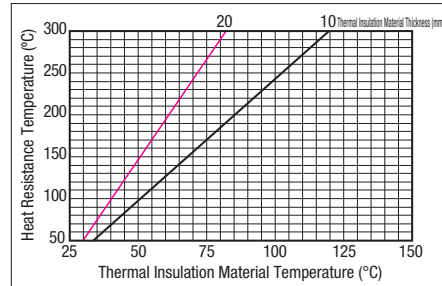
Part Number		A, B Selection (A≥B)	
Type	T Selection	A	B
HPRI HPRIS	10 20	100	100
		200	200
		300	300
		500	500
		800	800
		1000	1000

Ordering Example Part Number - A - B
HPRI10 - 200 - 100

Part Number	Type	T	A(A≥B)	Unit Price					
				B					
HPRI (No Adhesive) (x1.0) HPRIS (Adhesive) (x1.1) () Material Multiplier	10	100	100						
			200						
			300						
			500						
			800						
			1000						
	20	100	100						
			200						
			300						
			500						
			800						
			1000						

⚠ This product is regulated under Foreign Exchange and Foreign Trade Act. Export permit from Minister of Economy, Trade and Industry is needed for exporting.

HPRI Surface Temperature at 20°C Room Temperature



⚠ The above values are not guaranteed values but a calculated ones.

Overview

- Made of polyimide foam, best in heat resistance among engineering plastic.
- Excels in heat, fire, environment resistance and low outgas. Provides high performance as a thermal insulator or a soundproof material under high temperature.
- Polyimide sheets and washers are made by using heat insulation sponge compressed to 2mm.

Main Features

- High heat resistance with glass transition temperature of 400°C. (The maximum continuous operating temperature is 300°C.)
- Excels in heat insulation.
- Flexible workability: easily cut by utility knives.
- Self-extinguishable and flame-resistant.
- Extremely low gas discharge.
- Possesses superior properties of aromatic polyimide, such as resistance to radiation and ultraviolet, electrical isolation and chemical resistance.

Cautions

- As a characteristic of polyimide, rebound from compression is inferior. Avoid using it in compressed state to maintain heat insulating property.
- Allowable temperature limit for adhesive is 200°C. In higher operating temperature, use adhesive as temporary joint. (Apply supplementary attachment method such as nipping.)

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Characteristic Data

Thermal / Electrical Characteristics

Item	Unit	Characteristic Value HPRIS	Testing Method
Expansion Ratio	Times	330~270	-
Apparent Density	kg/m ³	4~5	ASTM D 3574(TestA)
Tg	°C	400	DSC Analysis
Thermal Decomposition Temp. (5%)	°C	540	TGA Analysis
Brittle Temperature	°C	<150	-
Thermal Conductivity	W/m·K	0.045	ASTM C 518
Combustibility	-	-	-
Limited Oxygen Index	%	50	ASTM D 2863
Outgas	TML	1.01	ASTM E 595
	CVCM	0.04	
	WVR	0.72	
Dielectric Constant (1MHz)	-	1	Impedance Analyzer
Dielectric Dissipation Factor (1MHz)	-	0.0001	

Mechanical Characteristics

Item	Unit	Characteristic Value HPRIS	Testing Method
Tensile Strength	MPa	0.05	ASTM D 3574(TestE)
Tensile Modulus	MPa	0.17	ASTM D 3574(TestE)
Elongation	%	28	ASTM D 3574(TestE)
Flexural Modulus	MPa	-	-

Chemical Resistance

Chemical	HPRIS	Testing Method
10% Sulfuric Acid	○	Soaked for 24 hours at room temperature
10% Hydrochloric Acid	○	
Acetone	○	
Methylene Chloride	○	
NMP	○	
DMA	○	

○: No appearance change or swelling

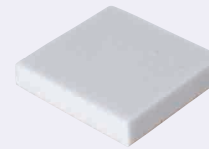
Heat and Sound Insulation Sponges / Heat Insulation Sponges

Melamine Resin Foam

High Heat Resistant Polyimide Foam

■ Heat and Sound Insulation Sponges whose heat resistance is up to 150°C and Heat Insulation Sponges whose allowable temperature limit is 200°C are added.

Heat and Sound Insulation Sponges Melamine Resin Foam



Type	Material	Color	Heat Resistance Temperature
BASO	Melamine Resin Foam, No Adhesive	Light Gray	Main Body: 150°C
BASOS	Main Body: Melamine Resin Foam Adhesive: Heat Resistant Adhesive		Main Body: 150°C Adhesive: 150°C



Part Number		1mm Increment	
Type	T	A	B
BASO (No Adhesive)	5	50~1000	50~1000
	10		
	20		
BASOS (Adhesive)	5		
	10		
	20		

Characteristic Data

Item	Unit	Characteristic Value
Apparent Density	kg/m ³	9.5
Thermal Conductivity	W/m·K	0.034
Combustibility	-	HF-1

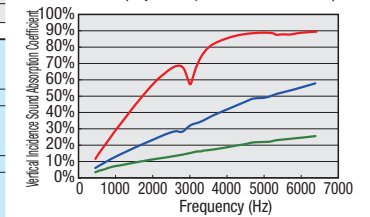
Mechanical Characteristics

Item	Unit	Characteristic Value
Tensile Strength	kPa	148
Elongation	%	18
Compressive Stress 25%	kPa	4.3

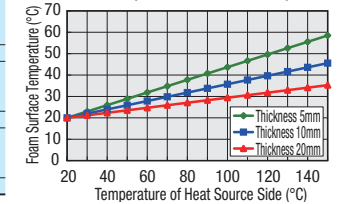
Ordering Example Part Number - A - B
BASO10 - 200 - 100

Part Number	Type	T	A (A≥B)	Unit Price					
				B					
BASO (No Adhesive)	5	100	50~300						
			301~500						
			501~800						
			801~1000						
			10	100	50~300				
					301~500				
	501~800								
	801~1000								
	20	100			50~300				
					301~500				
			501~800						
			801~1000						
BASOS (Adhesive)			5	100	50~300				
					301~500				
	501~800								
	801~1000								
	10	100			50~300				
					301~500				
			501~800						
			801~1000						
			20	100	50~300				
					301~500				
	501~800								
	801~1000								

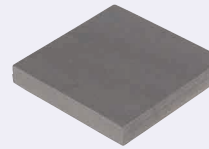
• Sound Insulation Property of BASO (Normal Incident Sound Absorption Coefficient)



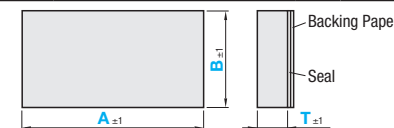
• BASO Surface Temperature at 20°C Room Temperature



Heat Insulation Sponges High Heat Resistant Polyimide Foam



Type	Material	Color	Heat Resistance Temperature
HOPA	High Heat Resistant Polyimide Foam, No Adhesive	Gray	Main Body: 200°C
HOPAS	Main Body: High Heat Resistant Polyimide Foam Adhesive: Heat Resistant Adhesive		Main Body: 200°C Adhesive: 180°C



Part Number		1mm Increment	
Type	T	A	B
HOPA (No Adhesive)	7	50~900	50~900
	14		
	14		
HOPAS (Adhesive)	7		
	14		
	14		

Characteristic Data

Item	Unit	Characteristic Value
Apparent Density	kg/m ³	52
Thermal Conductivity	W/m·K	0.036

Mechanical Characteristics

Item	Unit	Characteristic Value
Tensile Strength	kPa	1300
Elongation	%	70
Compressive Stress 25%	kPa	190

Ordering Example Part Number - A - B
HOPA7 - 200 - 100

Part Number	Type	T	A (A≥B)	Unit Price						
				B						
HOPA (No Adhesive)	7	100	50~300							
			301~500							
			501~800							
			801~900							
			14	100	50~300					
					301~500					
	501~800									
	801~900									
	HOPAS (Adhesive)	7			100	50~300				
						301~500				
			501~800							
			801~900							
14			100	50~300						
				301~500						
		501~800								
		801~900								

• HOPA Surface Temperature at 20°C Room Temperature

