



TONG HIN POLYSTYRENE INDUSTRIES SDN BHD
 (Company No: 673981-D)

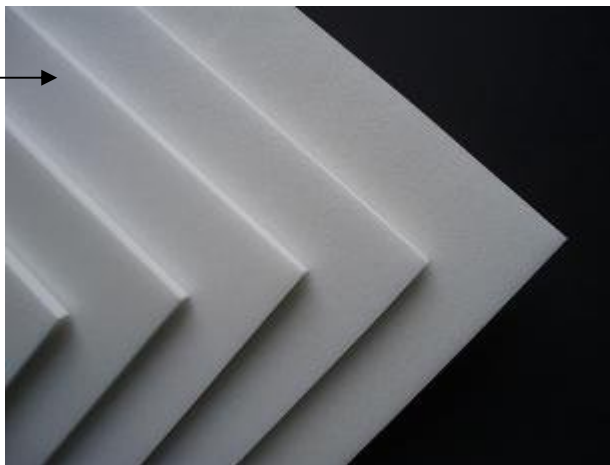
MTSD NO: THP/MTSD-V100627080
 MATERIAL NAME: POLYSTYRENE COMPRESSED FOAM BOARD

CERTIFICATE OF MATERIAL

PART'S NAME : POLYSTYRENE COMPRESSED FOAM BOARD
 RESIN MATERIAL MFG : PETROLCHEMICAL (MALAYSIA) SDN BHD
 SPECIAL QUALITY OF MATERIAL : RESIN HH30 @ LACQRENE

THP® PLAIN

An extruded white Polystyrene Compressed Foam Core Board w/o any laminated on both sides of the boards. It's naturally plain in white color with the material grade of RESIN HH30 @ LACQRENE.
 PS Foam Core Density:
 Density – 55kgs/m³ -110kgs/m³



PROPERTY	RESIN HH30		LACQRENE	
	TEST METHOD ASTM	UNIT	TEST METHOD ASTM	UNIT
Melt Flow Rate	D1238	2.5g/10min	D1238	5.0g/10min
Special Gravity	D792	1.04	D792	1.05
Flammability	UL-94	1.5mmHB	UL-94 File. E72824	Class HB
Flexural Strength	D790	890kg/cm ²	D790	900kg/cm ²
Heat Distortion Temp	D648	86 C	D648	86 C (18.6kg/cm ²)
Izod Impact Strength	D256	1.2kg.cm/cm	D256	2.5kg.cm/cm
Tensile Strength	D638	480kg/cm ²	D638	450kg/cm ²
Rockwell Hardness	D785	M 60	D785	M 84 (ML scale)
Tensile Elongation	D638	3%	D638	3%

GENERAL INFORMATION

The figures given in this technical data sheet are the results in accordance with standard test procedures. They are given as an indication to enable us to make the best use of our products.

FLAME RETARDANT PS & SPECIALITIES

A full range of flame retardant PS, master batches, UV light stabilized and anti-static grade is available.

STANDARD PROPERTIES

All test carried out at 23 deg C unless otherwise stated.
 Mechanical properties are measured on injection moulded test specimens.

The composition of RESIN HH30 @ LACQRENE (with exception of flame retardant grades and certain color compounds) conforms to present regulations in the various European countries, as well as the USA and Japan for packaging destined for use in contact with foodstuffs. Its remains the responsibility of the user to verify that the finished product also conforms to these regulations.

THP® Polystyrene Compressed Foam

Polystyrene Overall Technical Specification



TONG HIN POLYSTYRENE INDUSTRIES SDN BHD
(Company No: 673981-D)

MTSD NO: THP/MTSD-V100627080
MATERIAL NAME: POLYSTYRENE COMPRESSED FOAM BOARD

OVERVIEW – POLYSTYRENE

The property data has been taken from proprietary materials in the THP® Material Technical Specification database. Each property value reported is the average of appropriate THP® entries and the comments report the maximum, minimum, and the number of data points used to calculate the value. The values are not necessarily typical of any specific grade, especially less common values and those that can be most affected by additives or processing methods.

Physical Properties	Metric	English	Average	Grade Count
Density	1.04-1.07 g/cc	0.0376-0.0387 lb/in ³	1.05 g/cc	46
Water Absorption	0-0.1%	0-0.1%	0.088%	18
Moisture Absorption at Equilibrium	0.04-0.1%	0.04-0.1%	0.089%	10
Linear Mold Shrinkage	0.1%	0.1%	-	1
Melt Flow	1.2-28 g/10 min	1.2-28 g/10 min	9	44
Mechanical Properties				
Hardness, Rockwell M	70-74	70-74	72.7	3
Hardness, Rockwell R	104-120	104-120	120	9
Tensile Strength, Ultimate	17.9-70 MPa	2600-10200 psi	44.9 MPa	39
Tensile Strength, Yield	25-69 MPa	3630-10000 psi	43.9 MPa	23
Elongation at Break	1-45%	1-45%	6.9%	48
Elongation at Yield	1.5-2.2%	1.5-2.2%	1.8%	5
Tensile Modulus	1.79-3.38 GPa	260-490 ksi	3 GPa	36
Flexural Modulus	2-3.3 Gpa	290-479 ksi	2.8 Ppa	15
Flexural Yield Strength	54-103.1 MPa	7830-15000 psi	84.2 MPa	10
Compressive Yield	90 MPa	13100 psi	-	10
Poisson's Ratio	0.33	0.33	-	1
Izod Impact, Notched	0.107-1.27 J/cm	0.2-2.38 ft-lb/in	0.35 J/cm	31
Izod Impact, Unnotched	1.1 J/cm	2.06 ft-lb/in	-	1
Izod Impact, Notched, Low Temp	0.7 J/cm	1.31 ft-lb/in	-	1
Charpy Impact Unnotched	0.8-2.8 J/cm ²	3.81-13.3 ft-ib/in ²	1.4 J/cm ²	21
Charpy Impact, Notched, Low Temp	0.1-0.2 J/cm ²	0.476-0.952 ft-lb/in ²	0.15 J/cm ²	6
Charpy Impact, Notched	0.2-0.4 J/cm ²	0.952-1.9 ft-lb/in ²	0.29 J/cm ²	14
Gardner Impact	6 J	4.43 ft-lb	-	1
Tensile Creep Modulus, 1 hour	2300-3300 MPa	334000-479000 psi	3000 MPa	12
Tensile Creep Modulus, 1000 hours	2200-2600 MPa	319000-377000 psi	2400 MPa	7
Electrical Properties				
Electrical Resistivity	1e+015-1e+017 ohm-cm	1e+015-1e+017 ohm-cm	1E+16 ohm-cm	12
Surface Resistance	1e+013-1e+015 ohm	1e+013-1e+015 ohm	2E+14 ohm-cm	18
Dielectric Constant	2-2.8	2-2.8	2.5	10
Dielectric Constant, Low Frequency	2-2.8	2-2.8	2.5	7
Dielectric Strength	19.7-135 kV/mm	500-3430 kV/in	60.9 kV/mm	7
Dissipation Factor	5e-005-0.0004	5e-005-0.0004	0.00013	10
Dissipation Factor, Low Frequency	9e-005-0.0004	9e-005-0.0004	0.00014	9
Arc Resistance	100-180 sec	100-180 sec	130 sec	5
Comparative Tracking Index	350-600 V	350-600 V	420 V	12
Hot Wire Ignition, HWI	15 sec	15 sec	-	4
High Amp Arc Ignition, HAI	120 arcs	120 arcs	-	4
High Voltage Arc-Tracking Rate, HVTR	123-300 mm/min	4.72-11.8 in/mm	170 mm/min	4
Thermal Properties				
CTE, linear 20°C	50-125 µm/m-°C	27.8-6934 µin/in-°F	79.8 µm/m-°C	26
CTE, linear 20°C Transverse to Flow	70-90 µm/m-°C	38.9-50 µin/in-°F	72.5 µm/m-°C	8
Specific Heat Capacity	1.2-2.1 J/g-°C	0.287-0.502 BTU/lb-°F	1.8 J/g-K	3
Thermal Conductivity	0.12-0.193 W/m-K	0.8833-1.34 BTU-in/hr-ft ² -°F	0.14 W/m-K	4
Max Svc Temp, Air	69-91°C	156-196°C	80.6°C	28
Deflection Temp at 0.46 MPa (66 psi)	78-103°C	172-217°F	90.9°C	19
Deflection Temp at 1.8 MPa (264 psi)	69-99°C	156-210°F	82.8°C	49
Vicat Softening Point	1.03-110°C	33.9-230°F	94.3°C	47
Glass Temp	83-100°C	181-212°F	90.4°C	47
Flammability, UL94	HB	HB	-	32
Oxygen Index	18-19%	18-19%	18.1%	9
Optical Properties				
Haze	0.65-1%	0.65-1%	0.956%	8
Transmission, Visible	80-90%	80-90%	85.2%	15
Processing Properties				
Processing Temperature	200-218°C	392-424°F	200°C	4

THP® Polystyrene Compressed Foam



TEST REPORT

REPORT NO.: 2005KL0455
PAGE: 2 OF 2

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SIRIM
SIRIM QAS International Sdn Bhd (Company No: 410334-X)
Chemical Testing Section
Building 16, No. 1, Persiaran Dato' Mentari,
P.O.Box 7035, Section 2,
40911
Shah Alam, Selangor

Product	:	Polystyrene Foam Board
Brand	:	THP
Model	:	PL/HDPL/CL/AD/PP/HIPS
Marking	:	PS Foam Sheet
Reference standard / Method of test	:	<ol style="list-style-type: none"> 1. BS EN 1122:2001 Plastic-Wet Decomposition Method (Method B) 2. Measurement Technique – Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES) for Determination of Cadmium and Lead 3. Flameless Atomic Absorption Spectroscopy Technique for Determination of Mercury 4. UV Spectrophotometry Technique for Chromium 5. Gas Chromatography Mass Spectrometry Technique for PBDEs and PBBs

No	Type of Tests	Result	Detection Limit
1.	Cadmium (Cd), ppm	0.20	<0.001
2.	Total Chromium (Cr), ppm	0.40	<0.001
3.	Lead (Pb), ppm	1.60	<0.006
4.	Mercury (Hg), ppm	Not detected	<0.01
5.	Polybrominated Biphenyls (PBB), ppm	Not detected	<100
6.	Polybrominated Diphenyl Ethers (PBDE). Ppm	Not detected	<100

Note:

1. < denotes less than
2. Detection limit is the minimum concentration of analyze that can be detected by the instrument



ANALYSIS AND STANDARD

LIMITS OF CHEMICAL SUBSTANCES CONTAINED IN

THP® POLYSTYRENE FOAM BOARD

1. NOT exempted by RoHS

		Threshold (Legal limit)	Analysis method (High accuracy)	Standard limit (ppm or less)
Cadmium	Plastic	75ppm or less	ICP-OES<ICP-MS, AAS	<0.002
	Metal	100ppm or less		
Lead	Plastic	1000ppm or less		<0.02
	Metal	1000ppm or less		
Mercury	Plastic	1000ppm or less		<0.002
Hexavalent chromium		1000ppm or less	Diphenylcarbazide Absorptiometric analysis	<0.002
Specified bromine-based flame-retardants		1000ppm or less	GC-MS	-
Cadmium	Pkg Material	Total	ICP-QES, ICP-MS, AAS	Total
Lead				
Mercury				
Hexavalent				
Chromium				

2. RoHS exempted with a treshold

		Threshold (Legal limit)	Analysis method (High accuracy)	Standard limit (ppm or less)
	Copper alloy	4% or less	ICP-OES, ICP-MS, AAS	<0.5
Lead	Aluminum alloy	0.4% or less		
	Steel alloy	0.35% or less		

3. RoHS Compliant

RoHS = European Directive for **R**estriction of **H**azardous **S**ubstances

Element/Compound	Limit
Pb	1000 ppm
Hg	1000 ppm
Cd	100 ppm
Cr+6	1000 ppm
Polybrominated biphenyl	1000 ppm
Polybrominated diphenyl ether	1000 ppm





TONG HIN POLYSTYRENE INDUSTRIES SDN BHD
(Company No: 673981-D)

MTSD NO: THP/MTSD-V100627080
MATERIAL NAME: POLYSTYRENE COMPRESSED FOAM BOARD

THP® Polystyrene Compressed Foam

Heat Resistant Grade

OVERVIEW – POLYSTYRENE, HEAT RESISTANT GRADE

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Physical Properties	Metric	English	Average	Grade Count
Density	1.04-1.06 g/cc	0.0376-0.0383 lb/in ³	1.04 g/cc	33
Water Absorption	0-0.1%	0-0.1%	0.059%	17
Linear Mold Shrinkage	0.0045-0.006 cm/cm	0.0045-0.006 in/in	0.0052 cm/cm	13
Melt Flow	1-28 g/10 min	1-28 g/10 min	4.5 g/10 min	33
Mechanical Properties				
Hardness, Rockwell M	76-78	76-78	77.3	3
Tensile Strength, Ultimate	27.6-62 MPa	4000-8990 psi	49.8 MPa	24
Tensile Strength, Yield	25-53.1 MPa	3630-7700 psi	40.5 MPa	14
Elongation at Break	1.8-58%	1.8-58%	13%	33
Elongation at Yield	2-2.2%	2-2.2%	2.1%	3
Tensile Modulus	1.8-3.3 GPa	261-479 ksi	2.8 GPa	33
Flexural Modulus	1.8-3.448 Gpa	261-500 ksi	2.9 Ppa	10
Flexural Yield Strength	62-103 MPa	8990-14900 psi	84.5 MPa	4
Izod Impact, Notched	0.16-1.01 J/cm	0.3-1.89 ft-lb/in	0.32 J/cm	16
Charpy Impact Unnotched	0.8-2 J/cm ²	3.81-9.52 ft-lb/in ²	1.3 J/cm ²	15
Charpy Impact, Notched, Low Temp	0.1-0.2 J/cm ²	0.476-0.952 ft-lb/in ²	0.17 J/cm ²	3
Charpy Impact, Notched	0.2-1 J/cm ²	0.952-4.76 ft-lb/in ²	0.58 J/cm ²	8
Gardner Impact	2.3-10 J	1.7-7.38 ft-lb	6.2 J	2
Tensile Creep Modulus, 1 hour	1900-3300 MPa	276000-479000 psi	2600 MPa	10
Electrical Properties				
Electrical Resistivity	1e+015 ohm-cm	1e+015 ohm-cm	-	7
Surface Resistance	1e+013-1e+014 ohm	1e+013-1e+014 ohm	7E+13 ohm-cm	17
Dielectric Constant	2	2	-	7
Dielectric Constant, Low Frequency	2	2	-	7
Dielectric Strength	65 kV/mm	1650 kV/in	-	7
Dissipation Factor	0.0002	0.0002	-	7
Dissipation Factor, Low Frequency	0.0002	0.0002	-	7
Comparative Tracking Index	350 V	350 V	-	7
Thermal Properties				
CTE, linear 20°C	50-100 µm/m-°C	27.8-55.6 µin/in-°F	74.1 µm/m-°C	22
CTE, linear 20°C Transverse to Flow	70-100 µm/m-°C	38.9-55.6 µin/in-°F	83 µm/m-°C	10
Specific Heat Capacity	2.1 J/g-°C	0.502 BTU/lb-°F	-	2
Thermal Conductivity	0.12 W/m-K	0.833 BTU-in/hr-ft ² -°F	-	2
Max Svc Temp, Air	76-95°C	169-203°F	86.9°C	19
Deflection Temp at 0.46 MPa (66 psi)	85-100°C	185-212°F	95.1°C	12
Deflection Temp at 1.8 MPa (264 psi)	76-97°C	169-207°F	89.6°C	33
Vicat Softening Point	86-109°C	187-228°F	100°C	33
Glass Temp	89-104°C	192-219°F	98°C	7
Flammability, UL94	HB	HB	-	25
Oxygen Index	18%	18%	-	7
Optical Properties				
Haze	1%	1%	-	5
Transmission, Visible	80-90%	80-90%	85%	10
Processing Properties				
Processing Temperature	200-230°C	392-446°F	220°C	8



TONG HIN POLYSTYRENE INDUSTRIES SDN BHD
(Company No: 673981-D)

MTSD NO: THP/MTSD-V100627080
MATERIAL NAME: POLYSTYRENE COMPRESSED FOAM BOARD

Polystyrene Compressed Foam

THP® HIPS



Polystyrene Compressed Foam Board c/w
additional double-sided HIPS Film coated
HIPS Film Thickness: 0.04-0.3mm

High Impact Polystyrene

THP®

HIPS sheet is a thermoplastic, produce from styrene monomers and various impact modifiers. It is available with a matt or high gloss surface. Excellent forming characteristics make it an ideal choice for vacuum forming, packaging and screen-printing applications.

HIPS is a low cost plastic material that is easy to machine and fabricate. It is often specified for low strength structural applications when impact resistance, machinability, and low cost are required. It is frequently used machining preproduction prototypes since it has excellent dimensional stability and is easy to fabricate. HIPS is FDA compliant for use in food processing applications

Product features:

Excellent thermoforming characteristics, good impact strength, FDA approved – food safe, good rigidity and low temperature toughness, excellent printability.

Typical applications:

Graphic arts, signs, packaging, cutlery trays, take away food containers, margarine tubs. Cups and lids, point of sale displays and etc.

Fabrication:

Cutting & Guillotining:

A circular saw blade with carbide teeth utilizing the triple chip tooth design is preferred for thicker gauges. Laser cutting and routing are also successful. Other suitable methods for cutting THP® HIPS include guillotining and punching. Guillotining produces straight-edged cuts, while blanking dies and punches can produce a wide variety of shapes.

Foaming:

High impact polystyrene can be thermoformed using typical strip heating and vacuum forming equipment. No pre-drying of the material is required.

Decorating:

HIPS can be screen-printing using inks specifically formulated for HIPS. Vinyl graphics can also be applied using typical application methods.

Cementing:

HIPS can be successfully bonded using Weldon 3 and 16.

[See overleaf page for Typical Properties of HIPS.]


TYPICAL PROPERTIES OF HIPS

ASTM test	Property	Value
PHYSICAL		
D792	Specific gravity	1.05
D1238	Melt flow index	4(200°C)
D570	Water absorption, 24 hours, 3.0 mm thick (%)	0.1
°C	Maximum service temperature	+70
°C	Minimum service temperature	-50
MECHANICAL		
D638	Tensile strength at yield N/mm ²	30
D638	Elongation at yield (%)	3
D638	Tensile strength at break N/mm ²	35
D638	Elongation at break (%)	40
	Impact strength mj/mm ²	No break
D256	Notched impact strength mj/mm ²	8
	Ball indentation hardness N/mm ²	80
D790	Flexural strength N/mm ²	52
D638	Modulus of elasticity N/mm ²	2100
THERMAL		
C177	Thermal conductivity at 20°C	0.17
D696	Coefficient of thermal expansion K-1.10-4	0.9
D648	Deflection temperature °C	89
D1525	Vicat softening temperature °C	89
ELECTRICAL		
D257	Volume resistivity (ohm-cm)	10.16
D257	Surface resistivity ohm	10.13
D150	Dielectric constant At 1kHz	2.5
D150	Dissipation loss factor At 1kHz	0.0001
FABRICATION		
	Welding temperature °C	220
	Forming temperature °C	150

These values are representative of those obtained under standard ASTM conditions and should not be used to design parts which function under different conditions



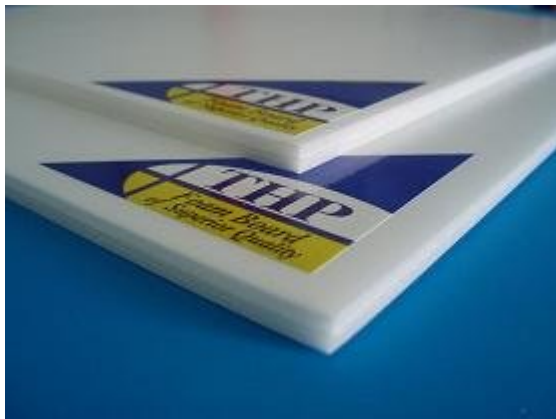
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 (Company No: 673981-D)

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 MATERIAL NAME: POLYSTYRENE COMPRESSED FOAM BOARD

Polystyrene Compressed Foam

THP®

ADDITIONAL THP® TECHNICAL DATA SHEET
FOR REFERENCE ONLY



THP® HIPS

For Polystyrene Foam Board's Technical Data Sheet to refer from page 1 to 5

DEFINITION

High impact polystyrene has good dimensional strength, balanced properties of impact strength and good heat resistance features. HIPS can be easily handling and it's relatively low cost and good impact strength at low temperatures. It is typically used for home appliances, office, stationery applications, toys, store department and etc. Moreover, HIPS is waterproof and reusable. After laminating on PS foam board, it gives the foam board a resilience that regular foam board does not exist. Our HIPS product with its added advantages and together with competitive pricing. It could be served as replacement material for some other products in the market. In short, it is beyond the conventional ways of thinking and working with HIPS.

Technical Specification

Properties	ISO Test Method	Unit	Matt Sheet	Gloss Capping
Density	ISO 1183	G/cm ³	1.05	1.05
Izod Impact Strength (notched)	ISO180	J/M	100	-
Flxural Strength	ISO178	Mpa	42	90
Tensile Strength	ISO527	Mpa	26	-
Falling dart impact Strength (4.0mm)	ISO6603-1	J	16	16
Vicat Softening Temperature	ISO306A	°C	95	92
Heat Deflection Temperature	ISO75a	°C	81	76
Flammability Rating	UL94	-	HB	HB

MATERIAL SAFETY DATA SHEET

PHYSICAL PROPERTIES

- Nature of material- solid
- Appearance- sheet smooth
- Insoluble in water
- Melting point 80°C
- Physical form- flat sheet
- Odour- characteristic
- Molecular weight- variable
- Specific gravity- 1.05



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Polystyrene Compressed Foam

THP®

FIRE and EXPLOSION DATA: Auto ignition temp.-450°C, Flash point-350°C. Fire and explosion hazards-Formation of toxic fumes & styrene & butadiene monomer in trace quantities.

Ingredients: Pigment (non hazardous) 4% max, Additives (non hazardous) 10% max, Graft polymer of styrene on a dienic unsaturated rubber CAS#009003-55-8 90%

CAPABILITIES

Width: 915-1220mm
 Coated thickness: 0.04-0.3mm
 Food/Medical grade
 High gloss cap layers available
 Graphic arts available
 Custom colors available
 Silicone coating available
 5 strategic mfg locations

PROPERTIES

Easily thermoformed
 Excellent yield
 Low gloss surface
 Offers good opacity in colors
 Though, impact resistant sheet
 Polystyrene-based material
 Recycled content available
 Kosher material

CHEMICAL RESISTANCE

Acid Free/Resistance
 Strong Oxidizers
 Alkalies
 Hydrocarbon solvent
 Alcohols
 Fat, Grease and oil

Good to Excellent
 Poor
 Excellent
 Poor
 Good to Excellent
 Good

PRODUCT AVAILABILITY: THP® HIPS

PS Foam Core + HIPS Coated
 Color: White
 Product Thickness: 3-10mm
 HIPS Coated Thickness: 0.04-0.3mm
 Width: max. 1220mm
 Common Sizes: 24" x 36", 36" x 72" and 48" x 96"



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Polystyrene Compressed Foam

Silk-screen Color Printing

THP® COLOR



Superior quality of THP® solvent-based direct silk-screen color ink printing

THP® COLOR polystyrene compressed foam board consist of four (4) type of color boards, which there are basic, fluorescent, luminous and metallic. From the high qualities color inks, we have produced many attractive and vibrant color boards to suit all creativity works processing and enhance designing power. THP® COLOR also known as THP® Super Lightweight Multicolor PS Foam Board. In short, the product composition of polystyrene foam board + direct silk-screen solvent-based high quality color ink printing are the perfect matches in the designing arena.

TECHNICAL DATA SHEET: SILKSCREEN INK

- Screen ink with leaded and non-leaded pigment mixture in synthetic thermoplastic polymer with additives and organic solvents blend.
- Developed for screen-printing onto polystyrene plastic, ABS and acrylic plastic.
- Good toughness and quick drying.
- Good gloss, good adhesion and good outdoor durability.
- For optimum adhesion, surface to be printed must be free from oil or grease contamination.
- It is good to pre-test on actual substrate before production run.

Typical physical data

Appearance	See Color Chart / Code
Pigment	leaded and Non leaded pigments
Fineness of grind	≤ 10 microns
Non-volatile matter (% wt)	45 ± 3
Application parameters -	
Reducing thinner	K-PS softener KS 135
Ink : thinner ratio	100 : 10
Screen mesh	120T/cm (Emulsion or film used must be solvent resistant)
Drying conditions	Air-dry in open space, jet of warm air
Drying time -	
Surface dry	~20 mins
Through dry	≥ 1-2 hours
Clean-up solvent	KPS2664

THP®



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THP® Polystyrene Compressed Foam

THP® Color Code



THP®
 Super Lightweight Multicolored PS Foam Board's
 Color Range

Basic Color

- | | |
|-----|-------------------------------|
| 110 | Light Yellow (Lemon) |
| 111 | Chrome Yellow (Golden Yellow) |
| 122 | Vermillion Red (Raza Red) |
| 124 | Brilliant Red (Orange) |
| 128 | Burnt Sienna |
| 130 | Blue (Navy Blue) |
| 133 | Ultramarine |
| 135 | Marine Blue |
| 136 | Caribe Blue (Ocean Blue) |
| 138 | Cobalt Blue |
| 139 | Plum (Purple) |
| 140 | Violet |
| 142 | Light Green |
| 143 | Emerald |
| 144 | Dark Green (Moss) |
| 170 | Black (Total Black) |

Fluorescent Color

- | | |
|-----|-------------------------|
| 180 | Fluorescent Yellow |
| 181 | Fluorescent Orange |
| 182 | Fluorescent Red |
| 183 | Fluorescent Fire Orange |
| 184 | Fluorescent Pink |
| 185 | Fluorescent Magenta |
| 186 | Fluorescent blue |
| 190 | Fluorescent Green |

Metallic Color

- | | |
|-----|--------|
| 190 | Gold |
| 192 | Silver |



TONG HIN POLYSTYRENE INDUSTRIES SDN BHD
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 MATERIAL NAME: POLYSTYRENE COMPRESSED FOAM BOARD

THP® Polystyrene Compressed Foam

THP® SELF ADHESIVE



THP® Constructive Solutions
THP-778®
Permanent Adhesive

Self-Adhesive (Acrylic Adhesive)

Description: Both THP-778® is a specifically formulated for the bonding of polystyrene foam board to various substrates. THP-778® is the premium acrylic-based permanent adhesives that are non-flammable and solvent-free. It provides a strong moisture and alkali resistant bond and is vinyl compatible. It is designed to ensure that application efficiency and maximum production speeds and will NOT cause attack on polystyrene foam or other sensitive substrates when used as contact adhesives, but it is also suitable for used in many pressure-sensitive applications.

THP® Self-Adhesive PS Compressed Foam Board

Composition:

Polystyrene Foam Board c/w single-sided acrylic-based self-adhesive under release paper liner (PAPER-based Self-Adhesive) or it could be HIPS-based Self-Adhesive as well. Both types have its unique characteristics and difference applications.

Typical applications:

All creativity works especially in the advertising, decorating and booth making industries, framer's works, and exhibitions, display board, architectural model making, POP signs, posters, pictures, and etc.



TONG HIN POLYSTYRENE INDUSTRIES SDN BHD
 (Company No: 673981-D)

MTSD NO: THP/MTSD-V100627080
 MATERIAL NAME: POLYSTYRENE COMPRESSED FOAM BOARD

THP® Polystyrene Compressed Foam

CLAY / Acid Free Paper

THP® PAPER



THP® PAPER

Paper Type:

Clay Paper or Acid Free Paper at ph7.5 – ph 8.5

Composition:

White / black Polystyrene foam core c/w white / black double-sided paper laminated

Paper Grammage (gram):

150-210 gram

Definition: Refers to paper and other items that do not contain acids. Acids can cause paper to discolor, become inflexible, and eventually turn brittle over time. Acid can also destroy photographs or various other elements if it comes in contact with them. If preserving your projects for years to come is important to you, you should avoid the use of paper and other items that are not 'Acid Free'. To be considered Acid Free, an object must have a ph level of 7 or above (Neutral pH of 7.0)

GRAMMAGE		STIFFNESS TABER 15°			THICKNESS
g/m ²	CD (gf.cm)	MD (gf.cm)	CD (mNm)	MD (mNm)	Mm
T 410 om - 02		T489 om - 99			ISO 534 : 1988 (E)
150 ± 3%	7.7	23.1	0.8	2.4	150 ± 10
170 ± 3%	17.6	36.3	1.7	3.6	205 ± 10
190 ± 3%	27.5	49.5	2.6	4.8	250 ± 10
210 ± 3%	39.6	66.0	3.9	6.5	275 ± 10

Tolerance for stiffness: ± 10%

MOISTURECONTENT T412 om – 02	%	6.5 ± 1
ROUGHNESS (1.0 MPa) T555 om - 99	µm	Max 2.0
GLOSS 75°	%	45 ± 5
BRIGHTNESS (ISO) ISO 2470 – 1977 (E)	%	87.5 ± 1
INTERNAL BOND STRENGTH	J/m ²	Mm 100
WATER ABSORPTION COBB 1 mm T 441 cm – 98	g/m ²	35-55

MATERIAL SPECIALTIES: HIGH PRINTABILITY



THP® Polystyrene Compressed Foam

Board Type

Board type	Thickness		Sizes	
		MM	MM	MM
THP® Plain Extruded Polystyrene Foam Core Board w/o coated-originally plain Foam Core Density: 55-110kgs/m3	3	915	1830	
	3	1220	2440	
	5	610	915	
	5	915	1830	
	5	1220	2440	
	10	610	915	
	10	915	1830	
	10	1220	2440	
	15	1220	2440	
	THP® HD-Plain High-Density Extruded Polystyrene Foam Core Board w/o coated-originally plain Foam Core Density: 110kgs/m3	10	610	915
10		915	1830	
10		1220	2440	
THP® Color Extruded Polystyrene Foam Core Board c/w 26 vibrant direct silk-screen colors printing on single-sided. Color Ink Type: Basic, Fluorescent, Metallic & Luminous	5	20"	30"	
	5	24"	36"	
	5	30"	40"	
THP® Paper Extruded Polystyrene Foam Core Board c/w double-sided paper coated. Paper Color Type: White / Black Paper Grammage: 180-210gram Acid Free Level: ph7.5 – ph8.5	3	610	915	
	3	1220	2440	
	5	610	915	
	5	610	1220	
	5	1220	2440	
THP® HIPS Extruded Polystyrene Foam Core Board c/w double-sided hips film coated. (HIPS Self-Adhesive is also available) HIPS Film Coated: 0.04-0.12mm	3	1220	2440	
	5	1220	1830	
	5	1220	2440	
THP® Self-Adhesive Extruded Polystyrene Foam Core Board c/w single-sided acrylic based self-adhesive surface under release paper liner	5	915	1830	
	5	1220	2440	

Customized sizes, thickness and hardness are available. But than again, it's all depends on our ability and the market demands. However, please contact our Global Sales & Marketing Representative for further discussion on the specific measurement and requirement.

Thickness availability: 3, 5 and 10mm

Additional sizes are also available:

A1 (594mm x 841mm)		50cm x 70cm (500mm x 700mm)
A2 (420mm x 594mm)	32" x 40" (81mm x 101mm)	70cm x 100cm (700mm x 1000mm)
A3 (297mm x 420mm)	40" x 60" (101mm x 152m)	100cm x 140cm (1000mm x 1400mm)
A4 (210mm x 297mm)	48" x 96" (1220mm x 2440mm)	120cm x 200cm (1200mm x 2000mm)



THP® Polystyrene Compressed Foam

Processing Options

THP® PROCESSING OPTIONS	THP® PLAIN	THP® HD-PLAIN	THP® COLOR	THP® PAPER	THP® HIPS	THP® ACRYLIC ADHESIVE
Direct Silkscreen / Digital / Flatbed Printing	■	■	■	■	■	
Mounting	■	■	■	■	■	■
Framing / Filming	■		■	■ ■		■ ■
Interactive Electronic Whiteboards (Inner Center Panel)	■	■ ■				
All Arts & Crafts / Creative Designing Works E.g. Advertising, Interior Decorating and Conventional Trade Fair for POP signs, exhibition panels, backdrop, sample displays & presentations, posters, lettering designs, directional arrows and etc...	■	■	■ ■	■ ■	■	■
Special Die-cutting products: E.g. Reel, Partition and Protective Sheet (Packaging/Electronic Manufacturing)	■ ■	■		■ ■	■	
Architectural Model Making and Designing	■	■	■	■ ■		■
Toys Making [3D puzzle]	■			■ ■	■	
Whiteboards & Notice Boards and Photo frame Backing Solutions	■	■		■		
Cell Rigid Insulation (underlying-part of modern Building & Construction materials)	■	■				
Audio System-Speaker Cabinet		■		■		
Cornices	■	■				

To note that there are a lot more invisible applications for us to discover especially when come to replacement material at the present competitive marketplace.

Your innovative and creative both are becoming our commitment towards excellency leading Innovation manufacturing.