

This technical data sheet refers to the following Lighthouse product(s):

### CPMSP51 & CM5031, 3M Silver/Grey Polyester

#### PHYSICAL PROPERTIES

Not for specification purposes (Calipers are nominal values)

<b>Face stock</b>	.002 in Matte Platinum Polyester Gloss TC (51 microns)
<b>Adhesive</b>	1.8 mils (46 micron) Acrylic
<b>Liner</b>	140 gsm kraft

#### FEATURES

- Adhesive can permanently bond to high surface energy (HSE) and low surface energy (LSE) plastics, textured and contoured surfaces, powder coatings, and slightly oily metals.
- Thick adhesive calliper provides for stronger bond on textured surfaces.
- Face stock is top coated for thermal transfer printing. Lighthouse durable resin ribbons are recommended for optimum durability.
- UL recognised (File MH16411) and CSA accepted (File 99316). See the UL and CSA listings for details.
- UL listing includes approval for use on powder coated surfaces.
- 3M Silver-Grey Polyester satisfies the requirements of UL-197 for occasional exposure to cooking oil when applied to stainless steel surfaces.

#### APPLICATION IDEAS

- Barcode labels and rating plates.
- Property identification and asset labelling.
- Warning, instruction and service labels for durable goods.
- Nameplates and durable goods.

**PHYSICAL PROPERTIES** (The following technical information and data should be considered representative or typical only and should not be used for specification purposes.)

<b>Adhesive Coat Weight</b>	2.70 to 3.24g/100 in <sup>2</sup>	TM-2279
<b>Release Range</b>	5 to 70 g/2 in	TLMI Method, 180° removal, 300 in/min
<b>Service Temperature</b>	-40°F to 300°F (-40°C to 149°C)	
<b>Minimum Application Temperature</b>	50°F (10°C)	
<b>Convertibility</b>	In order to capture the superior performance properties of the acrylic adhesive, thicker callipers are utilised for LSE or textured substrates. Its higher calliper, while desirable for the end use applications, may require extra care during processing.	

#### TYPICAL PEEL ADHESION PROPERTIES

**Adhesion:** 180° peel test procedure is ASTM D 3330.

90° peel test procedure is ASTM D 3330 modified for the angle change

Surface	Initial (10 minute Dwell/RT)				Conditioned for 3 days at Room Temperature 72°F (22°C)			
	180° Peel		90° Peel		180° Peel		90° Peel	
	Oz/In	N/100 mm	Oz/In	N/100 mm	Oz/In	N/100 mm	Oz/In	N/100 mm
<b>Stainless Steel</b>	88	96	63	69	96	105	75	82
<b>Polycarbonate</b>	90	98	65	71	94	103	69	76
<b>Polypropylene</b>	73	80	29	32	83	91	31	34
<b>Glass</b>	93	102	69	76	99	108	77	84
<b>HD Polyethylene</b>	54	59	27	30	58	63	32	35
<b>LD Polyethylene</b>	53	58	30	32	56	61	37	40
<b>Smooth Powder Coating*</b>	85	93	-	-	89	97	-	-
<b>Finely Textured Powder Coating*</b>	49	54	-	-	52	57	-	-

\*Calculated using averages of different powder coated surfaces.

Surface	Conditioned for 3 Days at 120°F (49°C)				Conditioned for 24 hours at 90°F (32°C) at 90% Relative Humidity			
	180° Peel		90° Peel		180° Peel		90° Peel	
	Oz/In	N/100 mm	Oz/In	N/100 mm	Oz/In	N/100 mm	Oz/In	N/100 mm
Stainless Steel	108	118	96	105	99	108	81	89
Polycarbonate	66	72	34	37	77	84	59	64
Polypropylene	81	89	33	16	78	85	47	51
Glass	106	116	86	94	89	97	72	79
HD Polyethylene	56	61	32	35	50	55	38	42
LD Polyethylene	15	16	14	15	43	47	40	44
Smooth Powder Coating*	93	102	-	-	88	96	-	-
Finely Textured Powder Coating*	56	61	-	-	50	55	-	-

\*Calculated using averages of different powder coated surfaces.

### ENVIRONMENTAL PERFORMANCE (The following technical information and data should be considered representative or typical only and should not be used for specification purposes)

The properties defined are based on four hour immersions at room temperature (72°F/22°C) unless otherwise noted. Samples were applied to stainless steel panels 24 hours prior to immersion and were evaluated one hour after removal from the solution for peel adhesion. Adhesion measured at 180° peel angle (ASTM D 3330) at 12 inches/minute.

Chemical Resistance	Adhesion to Stainless Steel		Appearance	Edge Penetration
Chemical	Oz/In	N/100 mm	Visual	Millimetres
Isopropyl Alcohol	88	96	No change	0.6
Detergent 1% Alconox ® Cleaner	92	101	No change	1.3
Engine Oil (10W30) @ 250°F (121°C)	102	112	No change	0.6
Water for 48 hours	67	73	No change	0.1
pH4	88	96	No change	0.7
pH10	83	91	No change	1.4
409 ® Formula	92	101	No change	1.3
Toluene	50	55	No change	5.2
Acetone	59	65	No change	4.9
Brake Fluid	98	107	No change	0.1
Gasoline	56	61	No change	4.6
Diesel Fuel	93	102	No change	0.7
Mineral Spirits	80	88	No change	2.2
Hydraulic Fluid	96	105	No change	0.0

### Temperature Resistance: (When applied to stainless steel. Other substrates should be tested per application.)

300°F (149°C) for 24 hours: No significant visual change  
0.4% MD shrinkage  
0.6% CD shrinkage

-40°F (-40°C) for 10 days: No significant visual change

### Humidity Resistance:

24 hours at 100°F (38°C) and 100% relative humidity: No significant change in appearance or adhesion.

### Accelerated Ageing:

ASTM D 3611: 96 hours at 150°F (65°C) and 80% relative humidity.

Product	Rate of Removal	Gram/Inch Width	N/100 mm
3M Silver-Grey Polyester	180° Peel Adhesion from Stainless Steel	12 inches/minute	87
			95

### APPLICATION TECHNIQUES

For maximum bond strength, the surface should be clean and dry. Typical cleaning solvents are heptane and isopropyl alcohol.\*

For best bonding conditions, application surface should be at room temperature or higher. Low temperature surfaces, below 50°F (10°C), can cause the adhesive to become so firm that it will not develop maximum contact with the substrate. Higher initial bonds can be achieved through increased rubdown pressure.

**\*When using solvents, read and follow the manufacturer's precautions and directions for use.**

### PROCESSING

<b>Printing</b>	Face stock is top coated for improved ink receptivity and is designed for thermal transfer printing with Lighthouse durable resin ribbons. It is printable by all standard roll processing methods including flexography, hot stamp, letterpress and screen printing.
<b>Packaging</b>	Finished labels should be stored in plastic bags.
<b>Storage</b>	Store at room temperature conditions of 72°F (22°C) and 50% relative humidity.
<b>Shelf Life</b>	If stored under proper conditions, product retains its performance and properties for two years from date of manufacture.

\*Trademarks listed are the property of their respective owners.

### IMPORTANT NOTICE

All Lighthouse products are subject to careful quality control throughout the manufacturing process and are warranted to be of merchantable quality and free from manufacturing defects.

Published information concerning Lighthouse products is based on research, which the Company believes to be reliable, although such information does not constitute a warranty.

Because of the variety of uses of Lighthouse products and the continuing development of new applications, the purchaser should carefully consider the suitability and performance of the product for each intended use, and the purchaser shall assume all risks regarding such use. The seller shall not be liable for damages in excess of the purchase price of the product nor for incidental or consequential damages.

All specifications are subject to change without prior notice.