

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

### CPMSR40, Durable Resin Ribbon (for use with polyester & speciality material)

#### DESCRIPTION

Only resin ribbon capable of handling extreme environmental labelling with unmatched scratch and solvent resistance. Designed with anti-static and backcoat properties to protect the printhead provides unbeatable definition for crisp, extremely durable, and dense harsh environmental bar codes. For use with the Lighthouse CPM-100/H.

#### RECOMMENDED APPLICATIONS

- UL & CSA agency
- Asset Tracking
- Automotive Underhood
- Chemical Drum
- Circuit Board
- Electronic Components
- Extreme Environment
- Hazardous
- Healthcare
- Outdoor
- Product ID
- Security

#### COLOURS

Black – UL Recognized

RIBBON PROPERTIES	
Base Film thickness (µm)	4.8 ± 0.3 micrometer
Total Thickness (µm)	7.5 ± 0.5 micrometer
Ink Thickness (µm)	2.7 ± 0.2 micrometer
Ink Melting Point	109°C (228°F)
DURABILITY OF PRINTED IMAGE	
Print Density	> 1.9 densitometer
Print Speed	6 IPS
Smudge Resistance	ANSI A* Colourfastness Tester – 100 Cycles at 500 Grams with Cotton Cloth
Scratch Resistance	ANSI A* Colourfastness Tester – 50 Cycles at 200 Grams with Stainless Steel Pointed Tip
*Represents the American National Standard Institute (ANSI) Grade measured at the given conditions. Grade levels are A, B, C, D, and F, where A is excellent, B is above average, C is average, D is below average and F is poor.	

#### 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.

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

### **CPMSR41, Durable Resin Ribbon (for use with polyester & speciality material)**

#### **DESCRIPTION**

Offers the same incredible durability as CPMSR40 (Black). This ribbon has unmatched scratch and solvent resistance and has been designed with specially formulated backcoat technology for printhead protection. It is an industry leader in definition for clean, extremely durable, and dense bar codes. For use with the Lighthouse CPM-100/H.

#### **RECOMMENDED APPLICATIONS**

- UL & CSA agency
- Electronic Components
- Flexible Packaging
- Retail
- Shelf
- Signage
- Snack Food

#### **PERFORMANCE CHARACTERISTICS**

- Halogen-Free
- Smudge and scratch resistant
- Resistant to ethanol and isopropanol

#### **COLOURS**

White – UL Recognized

<b>RIBBON PROPERTIES</b>	
<b>Base Film thickness (µm)</b>	4.8 ± 0.3 micrometer
<b>Total Thickness (µm)</b>	9.3 ± 0.5 micrometer
<b>Ink Thickness (µm)</b>	4.5 ± 0.2 micrometer
<b>Ink Melting Point</b>	96°C (205°F)
<b>DURABILITY OF PRINTED IMAGE</b>	
<b>Print Density</b>	< 0.30 densitometer
<b>Print Speed</b>	6 IPS

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

**CPMSR42 & CPMSR44, Durable Resin Ribbon (for use with polyester & speciality material)**

### DESCRIPTION

Offers the same incredible durability as CPMSR41 (White) and is the industry's toughest colour resin ribbon capable of handling extreme environmental labelling with unmatched scratch and solvent resistance. For use with the Lighthouse CPM-100/H.

### RECOMMENDED APPLICATIONS

- UL & CSA agency
- Asset Tracking
- Automotive
- Chemical
- Circuit Board
- Electronic Component
- Extreme Environment
- Product ID
- Signage

### COLOURS

Red (CPMSR42) – UL Recognized  
Green (CPMSR44)

<b>RIBBON PROPERTIES</b>	
<b>Base Film thickness (µm)</b>	4.8 ± 0.3 micrometer
<b>Total Thickness (µm)</b>	9.3 ± 0.5 micrometer
<b>Ink Thickness (µm)</b>	4.5 ± 0.2 micrometer
<b>Ink Melting Point</b>	96°C (205°F)
<b>DURABILITY OF PRINTED IMAGE</b>	
<b>Print Density</b>	< 0.30 densitometer
<b>Print Speed</b>	6 IPS

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

### CPMSR43, Durable Resin Ribbon (for use with polyester & speciality material)

#### DESCRIPTION

Resin ribbon designed to provide a durable image onto vinyl substrate labels. It is optimised for resistance to smudging and scratching and is totally chemical resistant. The structure of these ribbons is based on a special formulation comprising synthetic resins. They guarantee long-lasting legibility thanks to highest possible durability and stability of the print. For use with the Lighthouse CPM-100/H.

#### APPLICATIONS

Ideal for harsh environments, drum labels, signage, outdoor labels, pharmaceutical labels.

#### COLOURS

Blue

PHYSICAL SPECIFICATIONS	
<b>Ink Type</b>	Resin
<b>Ribbon Thickness</b>	8.8 µm
<b>Base Film Material</b>	Polyester
<b>Base Film Thickness</b>	4.5 µm
<b>Transmission Density</b>	More than 1.5 (Macbeth)
<b>Recording Energy</b>	17 mJ/mm <sub>2</sub>
<b>Scratch Resistance</b>	In a rubbing test, withstood more than 4000 cycles at 200g/cm <sub>2</sub>
PRINTING PROPERTIES	
<b>Image Density</b>	More than 2.0 (Macbeth)
<b>Symbol Grade</b>	More than ANSI 3.5, A (Parallel Bar Code)
<b>Print Speed</b>	Up to 6 inch/sec
<b>Usage Conditions</b>	5°C to 35°C, 10% to 80% Relative Humidity
<b>Storage Conditions</b>	0°C to 40°C, 10% to 90% Relative Humidity
KEY CHARACTERISTICS	
<ul style="list-style-type: none"> <li>• Excellent results when tested for petrol and alcohol resistance</li> <li>• Exceptionally high scratch and smudge resistance</li> <li>• Outstanding temperature resistance</li> </ul>	<ul style="list-style-type: none"> <li>• Print temperature in the upper third of the temperature range capability of printers</li> <li>• Heavy metal free formulation in accordance with EN 71</li> </ul>
STANDARDS & COMPLIANCE	
<p><b>Ribbon manufactured in accordance with ISO 9001:2000 European Quality Standard</b> Mentioned products guaranteed in compliance with the following EC directive:</p> <ol style="list-style-type: none"> <li>1. <b>EN 2002/95/EC:</b> Directive on the restriction of the use of certain hazardous substances in electrical equipment (RoHS)</li> <li>2. <b>EN 2002/96/EC:</b> Directive on waste electrical and electronic equipment (WEEE)</li> </ol>	

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

**CPMSR45, Durable Resin Ribbon (for use with polyester & speciality material)**

### DESCRIPTION

Based on field experience, users can expect durability of 3-5 years. Durability will be affected by non-vertical applications and exposure to abrasion and chemicals. For use with the Lighthouse CPM-100/H.

### COLOURS

Dark Green

PHYSICAL SPECIFICATIONS	
<b>Carrier</b>	Polyester Carrier 4.5μ
<b>Coating</b>	Thermal Resistant Back Coated
<b>Type</b>	Pigmented Resin
QUALITY CONTROL (TYP)	
<ul style="list-style-type: none"> <li>• Coating weights</li> <li>• Colour consistency</li> <li>• Print Uniformity</li> </ul>	<ul style="list-style-type: none"> <li>• Fine Print Detail</li> <li>• Visual At Coater</li> <li>• Visual At Slitter</li> </ul>
STORAGE, USE AND HANDLING	
<b>Temperatures</b>	Avoid Temperatures above 40°C (104°F) Maintain above freezing temperatures 0°C (32°F)
<b>Handling</b>	Keep ribbon protected during storage
<b>Shelf Life</b>	1 year
<b>Risks</b>	Ribbon components are not considered health hazards, except when exposed to fire. Practice normal industrial hygiene and avoid ingestion.

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