



**Technical Product  
information**

**Date: 23/10/2002**

**DYMO LabelWriter Permanent**

**(1) Description**

DYMO LabelWriter Permanent product is a paper label with a high tack permanent adhesive. The product is supplied on a roll in 16 different label formats, for almost all applications such as suspension folders, diskettes, video tapes, files, etc. The labels are printed on the LabelWriter with a thermo-direct printing process, which involves no messy ink ribbons, toner or cartridges. Individual labels or whole rolls can be printed with laser like print quality. This label is recommended for indoor use only. Direct and indirect sunlight as well as high temperatures and humidity must be avoided.

Property	Unit	Value		Test method
<b>1. General</b>				
- Thickness tape	Micron	147± 10		Micrometer
- Thickness liner	Micron	55 ± 5		
<b>2. Adhesive properties</b>		<b>Dwell<sup>1</sup></b>		PSTC-1
		<b>20 min</b>	<b>24 hrs</b>	
- to stainless steel	N/25mm	21	21	
- to glass		16	21	
- to PVC		19	21	
- to textured ABS		16	16	
- to powder coated steel		20	22	
- to wood		7	15	
- to polypropylene film matt		6	8	
- to polypropylene film glossy		18	21	
- to polyethylene		16	17	
- to Lever Arch File		6	9	
- to steel computer casing		8	13	

<sup>1</sup> Dwell means the contact time between label and substrate

<b>3. Abrasion resistance<sup>2</sup> of text Printed in LabelWriter Turbo 330</b>  - Pencil erasure - Polystyrene pin - Sandpaper	30x 30x 30x	No visible effect No visible effect Moderate print removal	Crockmeter 900g weight/arm
<b>4. Light stability of printed label</b>  - real life test : 6 months protected from direct and indirect sunlight, heat and humidity  - real life test : 6 months behind window glass (Belgium)  - in Sun tester <sup>3</sup> with glass filter ( corresponds with direct exposure behind window glass)		No visible effect  Not legible anymore.  Background yellows. Severe loss of print quality, but still legible.	
<b>5. Temperature stability</b>  - Application temperature  - Service temperature  30 days in consumer deep freezer  24 h at 50°C  10 minutes at 85°C	°C	Room temperature  -20 to 50 °C  No visible effect  No visible effect  No changes in print quality. Background becomes dark grey.	
<b>6. Humidity resistance of applied label</b>  - 30 days at 40°C, 95 % R.H. (on alu panel)		To be done	
<b>7. Shelf life of label roll</b>  - 1 year at 5-25°C and 40-60% relative humidity in its original packaging		Avoid exposure to heat, humidity & sunlight	

<sup>2</sup> Abrasion resistance: The printed labels are subjected to different scratching sources for a fixed number of cycles with a finger weight of 900g.

<sup>3</sup> Resistance up to wool scale 4. This corresponds with 24 summer days and 48 winter days of exposure behind window glass.



## Technical Product information

Date: 23/10/02

### DYMO LabelWriter Removable

#### (1) Description

DYMO LabelWriter Removable product is a paper label with a removable adhesive. The product is supplied on a roll. The labels are printed on the LabelWriter with a thermo-direct printing process, which involves no messy ink ribbons, toner or cartridges. Individual labels or whole rolls can be printed with laser like print quality. The product is recommended for indoor use only. Direct and indirect exposure to sunlight as well as high temperatures and high humidity must be avoided.

Property	Unit	Value	Test method
<b>3. General</b>			
- Thickness tape	Micron	155 ± 10	Micrometer
- Thickness liner	Micron	55 ± 5	
<b>4. Adhesive properties</b>			
		<b>Dwell<sup>4</sup></b>	PSTC-1
		<b>20 min 24 hrs</b>	
- to stainless steel	N/25mm	3 4	
- to glass		3 4	
- to PVC		2 3	
- to textured ABS		2 3	
- to powder coated steel		1 3	
- to wood		1 2	
- to polypropylene film matt		1 2	
- to polypropylene film glossy		3 4	
- to polyethylene		3 4	
- to Lever Arch File		1 1	
- to steel computer casing		1 1	

<sup>4</sup> Dwell denotes the contact time between label and surface

<p><b>5. Abrasion resistance<sup>5</sup> of text Printed in LabelWriter Turbo 330</b></p> <ul style="list-style-type: none"> <li>- Pencil erasure</li> <li>- Polystyrene pin</li> <li>- Sandpaper</li> </ul>	<p>30x 30x 30x</p>	<p>No visible effect No visible effect No visible effect</p>	<p>Crockmeter, 900g weight/arm</p>
<p><b>5. Light stability of printed label<sup>6</sup></b></p> <ul style="list-style-type: none"> <li>- in sun tester with glass filter (corresponds with direct exposure behind 3 mm window glass)</li> </ul>		<p>Background yellows. Text fades but still legible.</p>	
<p><b>8. Temperature stability</b></p> <ul style="list-style-type: none"> <li>- Application temperature</li> <li>- Service temperature</li> </ul> <p>30 days in consumer deep freezer</p> <p>24h at 50°C</p> <p>10 minutes at 85°C</p>	<p>°C</p>	<p>Room temperature</p> <p>-20 to 50 °C</p> <p>No visible effect</p> <p>No visible effect</p> <p>No changes in print quality. Background becomes grey.</p>	
<p><b>9. Humidity resistance of applied label</b></p> <ul style="list-style-type: none"> <li>- 30 days at 40°C, 95 % R.H. (on alu panel)</li> </ul>		<p>To be done</p>	
<p><b>10. Shelf life of label roll</b></p> <ul style="list-style-type: none"> <li>- 1 year at 5-25°C and 40-80% relative humidity in its original packaging</li> </ul>		<p>Avoid exposure to heat, humidity &amp; sunlight</p>	

<sup>5</sup> Abrasion resistance: The printed labels are subjected to different scratching sources for a fixed number of cycles with a finger weight of 900g.

<sup>6</sup> Resistance up to wool scale 4. This corresponds with 24 summer days and 48 winter days exposure behind window glass.



**Technical Product  
information**

**Date: 23/10/2002**

**DYMO LabelWriter Clear**

**(1) Description**

DYMO LabelWriter Clear product is a polypropylene label with a semi-permanent adhesive. The product is supplied on a roll, for almost all applications where a clear label is required. The labels are printed on the LabelWriter with a thermo-direct printing process, which involves no messy ink ribbons, toner or cartridges. Individual labels or whole rolls can be printed with laser like print quality. This product is recommended for indoor use only. Direct and indirect exposure to sunlight as well as high temperatures and humidity must be avoided.

Property	Unit	Value		Test method
<b>6. General</b>				
- Thickness tape	Micron	150 ± 10		Micrometer
- Thickness liner	Micron	55 ± 5		
<b>7. Adhesive properties</b>		<b>Dwell<sup>7</sup></b>		PSTC-1
		<b>20 min</b>	<b>24 hrs</b>	
- to stainless steel	N/25mm	14	18	
- to glass		10	18	
- to PVC		10	17	
- to textured ABS		9	12	
- to powder coated steel		2	5	
- to wood		5	7	
- to polypropylene film matt		4	6	
- to polypropylene film glossy		9	10	
- to polyethylene		4	6	
- to Lever Arch File		2	3	
- to steel computer casing		2	5	

<sup>7</sup> Dwell denotes the contact time between label and surface

<p><b>8. Chemical resistance<sup>8</sup> of text printed in LabelWriter Turbo 330</b></p> <ul style="list-style-type: none"> <li>- Eurosuper</li> <li>- Diesel</li> <li>- Isopropylalcohol</li> <li>- Ethanol</li> <li>- Ethyl acetate</li> <li>- Skydrol LD-4 (hydraulic engine oil)</li> <li>- Water</li> </ul> <p><b>Abrasion resistance<sup>2</sup> of text Printed in LabelWriter Turbo 330</b></p> <ul style="list-style-type: none"> <li>- Pencil erasure</li> <li>- Polystyrene pin</li> <li>- Sandpaper</li> </ul>	<p>30x 30x 30x 30x 30x 30x 30x</p> <p>30x 30x 30x</p>	<p>No visible effect No visible effect No visible effect No visible effect Printing gone Printing gone</p> <p>Severe print removal</p> <p>No visible effect No visible effect Slight print removal</p>	<p>Crockmeter, 900g weight/arm</p>
<p><b>6. Light stability<sup>9</sup> of printed label</b></p> <ul style="list-style-type: none"> <li>- in suntester with glass filter ( corresponds with direct exposure behind 3 mm window glass)</li> </ul>		<p>Background becomes yellow-brown. The print fades but is still legible.</p>	
<p><b>11. Temperature stability</b></p> <ul style="list-style-type: none"> <li>- Application temperature</li> <li>- Service temperature</li> </ul> <p>30 days in consumer deep freezer</p> <p>24 h at 50°C</p> <p>10 minutes at 85°C</p>	<p>°C</p>	<p>Room temperature</p> <p>-20 to 50 °C</p> <p>No visible effect</p> <p>No visible effect</p> <p>No changes in print quality. Background becomes dark grey.</p>	

<sup>8</sup> Resistance: The printed labels are subjected to different chemical and scratching sources for a fixed number of cycles with a finger weight of 900g.

<sup>9</sup> Resistance up to wool scale 6. This corresponds with 108 winter days and 216 summer days exposure behind window glass.

<p><b>12. Humidity resistance of applied label</b></p> <ul style="list-style-type: none"> <li>- 30 days at 40°C, 95 % R.H. (on alu panel)</li> </ul>		To be done	
<p><b>13. Shelf life of label roll</b></p> <ul style="list-style-type: none"> <li>- 1 year at 5-25°C and 40-80% relative humidity in its original packaging</li> </ul>		Avoid exposure to heat, humidity & sunlight.	