# **EPSON**

# **TM-C3400**

# Paper Specification

	STANDARD				
Rev. No.	С				
Notes					

Date Issued	
Issued By	

## **SEIKO EPSON CORPORATION**

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## **REVISION SHEET**

Sheet 1 of 3

Be sure to check the contents before utilizing the specification. This specification has the history shown below.

	Revisions	De	sign Sec	tion		Sheet Rev. No.					
Rev.	Document	WRT	СНК	1	\PL	Shee	et Re	/. Shee	t Rev.	Sheet	Rev.
Α	Enactment	Kato	_	5	Sato	I	В				
В	Change	Kato	_	5	Sato	II	В				
С	Change	Kato	_	5	Sato	III	С				
						,					
						1	В				
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						4	В				
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						6	В				
						7	В				
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						13	С				
						14	С				
						15	С				
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11166	TM-C3 Paper Spe			Cover	Rev. Sheet	Scope	General Features	Table of Contents	Contents	Appendix	Total
	(STAND			1	3		2	1	15	_	22

# **REVISION SHEET**

Sheet 2 of 3

<b>-</b>	i	Sneet 2 or s
REV.	SHEET	CHANGED CONTENTS
Α	All	Newly enacted.
В	All	All pages are changed.
	1	1.1 General Specifications Added NOTE 2.
	2	1.1.3 Paper form 1) Roll paper Removed "When using roll paper,10 mm should be folded." Added NOTES 1, 2. and 3.
	4	1.1.4 Paper detection Added NOTE 6 and Figure 1.1.2.
	6	1.4 Paper Specifications (Black Mark Receipt, Fanfold Paper) Added NOTE 4 and Figure 1.4.2.
	8	1.6.1 Plain media label 6) Label length Changed "When the length is 15 mm {0.59"} to less than 25.4 mm {1"}, and use the paper as black mark die-cut label." to "paper whose outer edges are all removedon the right and left as black mark die-cut label."  7) Gaps between labels
		Changed "maximum 5 mm {0.2"}" to "maximum 6 mm {0.24"}."  1.6.2 Fine media label 6) Label length
		Changed "When the length is 15 mm {0.59"} to less than 25.4 mm {1"}, and use the paper as black mark die-cut label." to "paper whose outer edges are all removedon the right and left as black mark die-cut label."
		7) Gaps between labels Changed "maximum 5 mm {0.2"}" to "maximum 6 mm {0.24"}."
	9	1.6.3 Synthetic media label     6) Label length     Changed "Remove outer edges remove only the left and right outer edges," to "paper whose outer edges are all removedon the right and left as black mark die-cut label."
		7) Gaps between labels Changed "maximum 5 mm {0.2"}" to "maximum 6 mm {0.24"}."
	10	1.7.1 Plain media label 6) Label length Changed "Remove outer edges remove only the left and right outer edges," to "paper whose outer edges are all removedremoved only on the right and left."
		7) Gaps between labels Changed "maximum 5 mm {0.2"}" to "maximum 6 mm {0.24"}."
		<ul> <li>1.7.2 Fine media label</li> <li>6) Label length</li> <li>Changed "Remove outer edges Remove only the left and right outer edges and leave the rest." to "paper whose outer edges are all removedremoved only on the right and left."</li> </ul>
		7) Gaps between labels Changed "maximum 5 mm {0.2"}" to "maximum 6 mm {0.24"}."
	11	1.7.3 Synthetic media label 7) Gaps between labels Changed "maximum 5 mm {0.2"}" to "maximum 6 mm {0.24"}."
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# **REVISION SHEET**

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	<del> </del>	Sheet 3 of 3
REV.	SHEET	CHANGED CONTENTS
В	12, 14	1.8 Paper Specifications (Black Mark Die-cut Label, Fanfold Paper) Added "Minimum 15 mm {0.59"}, maximum 1,117.6 mm {44"}" to ": paper whose outer edges are all removed and paper whose outer edges are removed only on the right and left can both be used."
		7) Gaps between labels Changed "5 mm {0.2"} or more" to "Minimum 3 mm {0.12"}, maximum 6 mm {0.24"}." Added NOTE 5. Added Figure 1.8.3.
		1.9 Paper Specifications (Wrist Bands, Roll Paper) 10) Paper core: Changed "External diameter: 44.1 mm {1.74"} or more" to "(TBD)."
С	8	1.6.1 Plain media label Added "15) Outer edge width: 1.5 mm {0.059"} or more."
	9, 10	1.6.2 Fine media label Added "16) Outer edge width: 1.5 mm {0.059"} or more."
		1.6.3 Synthetic media label
		6) Label length Added "When the paper core external diameter is 44.1 mm {1.74"} or more:" Added "When the paper core external diameter is 56,8 mm {2.24"} or more: (See Figure 1.6.1.)."
		11) Paper core: Changed "External diameter: 44.1 mm {1.74"} or more" to "External diameter: 44.1 mm {1.74"}, or 56,8 mm {2.24"} or more (See 6) Label length in this section.)"
		Added "16) Outer edge width: 1.5 mm {0.059"} or more."
		Moved Figure 1.6.1 Paper Specifications to Sheet 10, increasing the sheet number of the subsequent sheets by 1.
		Figure 1.6.1 Paper Specifications (Die-cut Label, Roll Paper) Added "Outer edge."
	11	1.7.1 Plain media label Added "21) Outer edge width: 1.5 mm {0.059"} or more."
		1.7.2 Fine media label Added "21) Outer edge width: 1.5 mm {0.059"} or more."
	12	1.7.3 Synthetic media label  6) Label length:
		Added "When the paper core external diameter is 44.1 mm {1.74"} or more:"  Added "When the paper core external diameter is 56,8 mm {2.24"} or more:  (See Figure 1.8.1.)."
		15) Paper core: Changed "External diameter: 44.1 mm {1.74"} or more" to "External diameter: 44.1 mm {1.74"}, or 56,8 mm {2.24"} or more (See 6) Label length in this section.)"
		Added "21) Outer edge width: 1.5 mm {0.059"} or more."
	14, 15	1.8 Paper Specifications (Black Mark Die-cut Label, Fanfold Paper)     Figure 1.8.1 Paper Specifications (Black Mark Die-cut Label)     Added "Outer edge."
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# **GENERAL FEATURES**

This specification applies to paper supported by the TM-C3400 printer.

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## 1. PAPER SPECIFICATIONS

## 1.1 General Specifications

The printer uses the paper shown below.

When using paper other than the specified, deterioration in paper feed accuracy/bar code reading/printing quality, and frequent paper jams may occur. Users must evaluate and check the paper in advance.

Table 1.3.1 Paper

Category	Paper type	Form	Width
Plain media	Receipt	Roll paper	30 to 108 mm
Fine media	(Continuous paper)		{1.18 to 4.25"}
PET film			(Paper width)
Plain media	Black mark receipt	Roll paper	30 to 108 mm
Fine media	(Continuous paper with black marks)		{1.18 to 4.25"}
PET film			(Paper width)
Plain media	Black mark receipt	Fanfold paper	50 to 108 mm
Fine media	(Continuous paper with black marks)		{1.97 to 4.25"}
PET film			(Paper width)
Plain media label	Full-page label	Roll paper	25.4 to 108 mm
Fine media label			{1 to 4.25"}
Synthetic media label			(Label width)
Plain media label	Die-cut label	Roll paper	25.4 to 108 mm
Fine media label			{1 to 4.25"}
Synthetic media label			(Label width)
Plain media label	Black mark die-cut label	Roll paper	25.4 to 108 mm
Fine media label	(Die-cut label with black marks)		{1 to 4.25"}
Synthetic media label			(Label width)
Plain media label	Black mark die-cut label	Fanfold paper	46 to 108 mm
Fine media label	(Die-cut label with black marks)		{1.81 to 4.25"}
			(Label width)
Wrist band	Black mark receipt	Roll paper	30 mm {1.18"}
	(Continuous paper with black marks)	Fanfold paper	(Paper width)

- NOTES: 1. The widths for the continuous paper show the paper width, and those for the label paper show the label width.
  - 2. When using paper other than the specified, users must evaluate it in advance to avoid deterioration of the paper feed accuracy/bar code recognition rate/print quality and frequent occurrence of paper jams.

## 1.1.1 Paper materials

1) Plain media

Paper without an ink absorbing layer or an adhesive face. Applicable image resolution (horizontal  $\times$  vertical):  $360 \times 180$  dpi,  $360 \times 360$  dpi [dpi: dots per 25.4 mm (dots per inch)]

2) Plain media label

Paper without an ink absorbing layer but with an adhesive face. Applicable image resolution (horizontal  $\times$  vertical): 360  $\times$  180 dpi, 360  $\times$  360 dpi

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#### 3) Fine media

Paper with an ink absorbing layer but without an adhesive face.

Applicable image resolution (horizontal × vertical): 360 × 360 dpi, 720 × 360 dpi

#### 4) Fine media label

Paper with an ink absorbing layer and an adhesive face.

Applicable image resolution (horizontal × vertical): 360 × 360 dpi, 720 × 360 dpi

### 5) Synthetic media label

Synthetic media with an ink absorbing layer and an adhesive face.

Applicable image resolution (horizontal × vertical): 360 × 360 dpi, 720 × 360 dpi

### 6) PET film

PET film with an ink absorbing layer but without an adhesive face.

Applicable image resolution (horizontal × vertical): 360 × 360 dpi, 720 × 360 dpi

#### 7) Wrist band

Synthetic media for wrist bands with an ink absorbing layer but without an adhesive face.

Applicable image resolution (horizontal × vertical): 360 × 360 dpi, 720 × 360 dpi

### 1.1.2 Paper types

#### 1) Receipt

Continuous paper without black marks for position detection or an adhesive face.

#### 2) Black mark receipt

Continuous paper with black marks for position detection but without an adhesive face.

#### 3) Full-page label

Paper that has no gaps or black marks for position detection but has an adhesive face and is not precut in a certain size in the way a die-cut label is.

#### 4) Die-cut label

Paper on which labels are adhesion-processed and precut in a certain size and has gaps in between.

### 5) Black mark die-cut label

Die-cut label with black marks. Paper on which labels are adhesion-processed and have precut in a certain size and have black marks for position detection.

### 1.1.3 Paper form

#### 1) Roll paper

Paper processed in the form of a roll.

- NOTES: 1. Do not adhere the paper end to the paper core. Doing so prevents the roll paper-end sensor from detecting the paper-end even if the paper is used up.
  - 2. If the turnback at beginning of roll-up is too long, the paper may get stained when it is used up and paper jams may also occur. Therefore, the paper at beginning of roll-up should not be turned back; if it is turned back, no more than 10 mm should be turned back.
  - 3. The turnback of the paper must not stick out of either side of the roll paper, or the paper edge will be bent, causing possible stains on the paper and paper jams.

### 2) Fanfold paper

Paper folded on perforated lines.

If paper without black marks is used, perforated lines and print areas overlap each other to destabilize printing, or perforated lines and the autocutting positions are aligned to shorten the autocutter life. Use paper with black marks on the back of the paper to adjust the paper position.

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### 1.1.4 Paper detection

The TM-C3400 uses transmissive photo interrupter and reflective photo interrupter to detect the presence and position of the paper. Paper must satisfy the following specifications to prevent false detection in paper presence and paper position.

- NOTES: 1. When using die-cut label without black marks, the light transmission rates must be 70% or higher for the backing paper, and 25% or lower for the labels.
  - 2. Macbeth concentration meter TD-904 (infrared filter) is used for measuring the light transmission rate. The light transmission rate is calculated as:

    Light transmission rate (%) = the light transmission amount/irradiation light amount × 100, based on concentration = Log<sub>10</sub> (irradiation light amount/light transmission amount).
  - 3. When using paper with black marks, the black mark reflectance rate must be 10 % or lower, and the white reflectance rate is 70 % or higher.
  - 4. Macbeth concentration meter PCMII (Filter D) is used for measuring the light reflectance rate.
  - 5. When preprinting on the back of the continuous paper, do not preprint on the area where preprinting is prohibited that is shown in the figure below to avoid affecting paper detection.

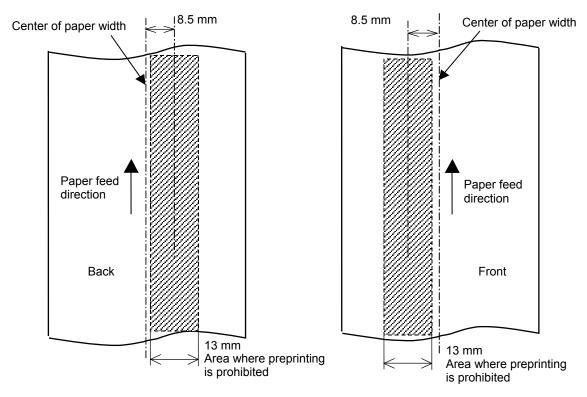
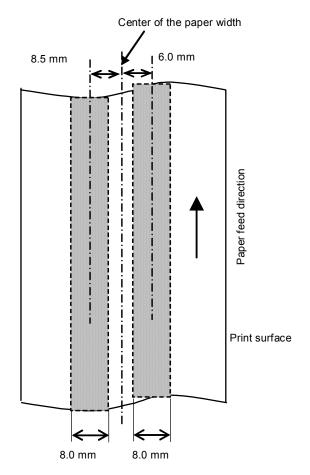


Figure 1.1.1 Area Where Preprinting is Prohibited

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6. When paper such as wrist bands requires holes, do not provide holes in the area indicated in Figure 1.1.2 to avoid affecting functionality of paper sensors.



Area where holes are prohibited

Figure 1.1.2 Area Where Holes are Prohibited

### 1.2 Paper Specifications (Receipt/Roll Paper)

1) Paper type: Plain media/fine media/PET film

2) Specified original paper: Plain media NIP55K (Kishu Paper)

Fine media TJ99FC-SEN (Nippon Paper)
PET film SPDSEKIJ150 (Kobayashi Create)

3) Form: Roll

4) Paper width: 30 to 108 mm {1.18 to 4.25"}

5) Paper thickness: 0.085 to 0.151 mm {0.003 to 0.006"}

6) Paper core: External diameter: 44.1 mm {1.74"} or more

7) External diameter: Maximum 101.6 mm {4"}

8) Winding direction: Printing face must be facing outside.

9) Holes and breaks: Not permitted

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### 1.3 Paper Specifications (Black Mark Receipt, Roll Paper)

Paper type: Plain media/fine media/PET film
 Specified original paper: Plain media: NIP55K (Kishu Paper)

Fine media: TJ99FC-SEN (Nippon Paper)
PET film: SPDSEKIJ150 (Kobayashi Create)

3) Form: Roll

4) Paper width: 30 to 108 mm {1.18 to 4.25"} 5) Black mark width: 13 mm {0.51"} or more 6) Black mark length: 9 mm {0.35"} or more

7) Center of a black mark:  $8.5 \text{ mm} \pm 1 \text{ mm} \{0.33 \pm 0.039"\}$ 

8) Gaps between black marks: 15 mm {0.59"} or more

9) Paper thickness: 0.085 to 0.151 mm {0.0034 to 0.0059"}
10) Paper core: External diameter: 44.1 mm {1.74"} or more

11) External diameter: Maximum 101.6 mm {4"}

12) Winding direction: Printing face must be facing outside.

13) Holes and breaks: Not permitted14) Black mark layout: See Figure 1.4.1.

### 1.4 Paper Specifications (Black Mark Receipt, Fanfold Paper)

1) Paper type: Plain media/fine media/PET film

2) Specified original paper: Plain media: Npi Form 90 (Nippon Paper)

Fine media: TJ99FC-SEN (Nippon Paper)
PET film: SPDSEKIJ150 (Kobayashi Create)

3) Form: Fanfold

4) Paper width: 50 to 108 mm {1.97 to 4.25"}
5) Black mark width: 13 mm {0.51"} or more
6) Black mark length: 9 mm {0.35"} or more

7) Center of a black mark:  $8.5 \text{ mm} \pm 1 \text{ mm} \{0.33 \pm 0.039^{\circ}\}\$ 

8) Gaps between black marks: 15 mm {0.59"} or more

9) Paper thickness: 0.119 to 0.151 mm {0.0047 to 0.0059"}

10) Holes and breaks: Not permitted11) Black mark layout: See Figure 1.4.1.

12) Pitch of perforated line: 203.2 to 304.8 mm {8 to 12"}

13) Number of folds: 500 or less

14) Form of perforated line: Plain media: 1 mm uncut, 5 mm cut

Fine media: 1 mm uncut, 5 mm cut PET film 0.6 mm uncut, 8.4 mm cut

NOTES: 1. Autocutting on the perforated lines may generate minute paper dust, causing machine problems. Also, autocutting short of the perforated line may cause problems when feeding paper. Therefore, autocutting must be performed 0.5 mm to 1 mm behind the perforated line.

2. Black marks must position away at least 0.5 mm from the perforated line.

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- 3. The black mark detector is not located in the center of the paper; however, using paper with black marks on both surfaces enables detection of black marks regardless of the surface that is facing up.
- 4. The perforated lines on both sides of the paper edge must be left uncut. (See Figure 1.4.2.)

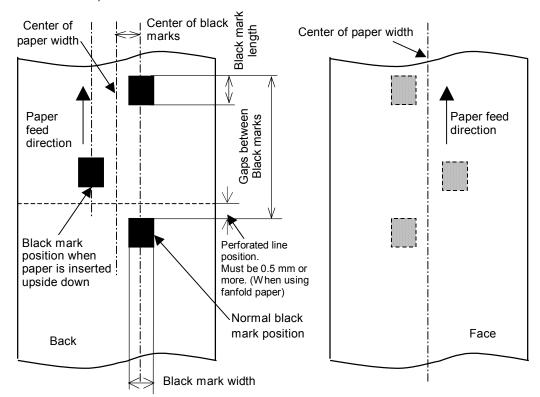


Figure 1.4.1 Paper Specifications (Black Mark Receipt)

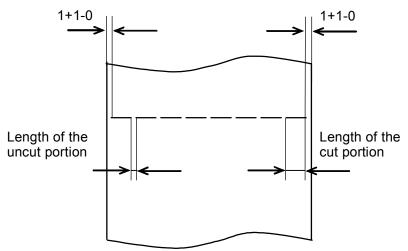


Figure 1.4.2 Detailed Specifications of Perforated Lines

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### 1.5 Paper Specification (Full-page Label, Roll Paper)

1) Paper type: Plain media label/fine media label/PET film

2) Specified original paper: Plain media label: CWF45S/P16/U43W (OJITAC)

Fine media label: IJC30G/P22/U5W (OJITAC) Synthetic media label: VJFP/P5E/PP60 (OJITAC)

3) Form: Roll

4) Backing paper width: 30 mm to 112 mm {1.18 to 4.41"} 5) Label width: 25.4 to 108 mm {1 to 4.25"} 6) Right and left outer edges: 2 mm ± 0.5 mm {0.079 ± 0.02"} 7) Paper thickness; 0.128 to 0.195 mm {0.05 to 0.08"}

8) Paper core: External diameter: 44.1 mm {1.74"} or more

9) External diameter: Maximum 101.6 {4"} mm

10) Winding direction: Printing face must be facing outside.

11) Holes and breaks: Not permitted

12) Label layout: See Figure 1.5.1 below.

NOTES: 1. Paper with black marks is not featured.

2. To prevent adhesive from sticking to the roll paper supply unit, use label paper whose outer edges are removed only on the right and left.

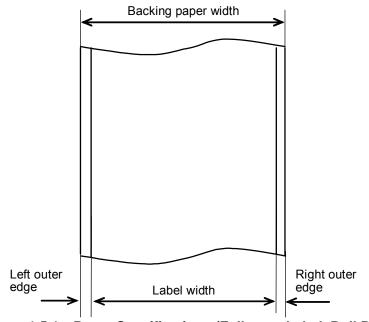


Figure 1.5.1 Paper Specifications (Full-page Label, Roll Paper)

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### 1.6 Paper Specification (Die-cut Label, Roll Paper)

#### 1.6.1 Plain media label

1) Paper type: Plain media label

2) Specified original paper: Plain media label: CWF45S/P16/U43W (OJITAC)

3) Form: Roll

4) Backing paper width: 30 mm to 112 mm {1.18 to 4.41"} 5) Label width: 25.4 to 108 mm {1 to 4.25"}

6) Label length: 25.4 to 1117.6 mm {1 to 44"}: paper whose outer edges are all removed

(only the labels are left on the backing paper) and paper whose outer edges are removed only on the right and left can both be used.

15 mm to less than 25.4 mm {0.59 to less than 1"}: use paper whose outer edges are removed only on the right and left as black mark die-cut

label. (See Figure 1.6.1.)

7) Gaps between labels: 3 to 6 mm  $\{0.12 \text{ to } 0.24"\}$ 8) Left and right outer edges: 2 mm  $\pm$  0.5 mm  $\{0.079 \pm 0.02"\}$ 

9) Label radius R: 2 mm {0.08"} or less10) Paper thickness: 0.128 mm {0.005"}

11) Paper core: External diameter: 44.1 {1.74"} mm or more

12) External diameter: Maximum 101.6 mm {4"}

13) Winding direction: Printing face must be facing outside.

14) Holes and breaks: Not permitted.15) Label layout: See Figure 1.6.1.

16) Outer edge width: 1.5 mm {0.059"} or more.

### 1.6.2 Fine media label

1) Paper type: Fine media label

2) Specified original paper: Fine media label: IJC30G/P22/U5W (OJITAC)

3) Form: Roll

4) Backing paper width: 30 to 112 mm {1.18 to 4.41"} 5) Label width: 25.4 to 108 mm {1 to 4.25"}

6) Label length: 25.4 to 1117.6 mm {1 to 44"}: paper whose outer edges are all removed

(only the labels are left on the backing paper) and paper whose outer

edges are removed only on the right and left can both be used.

15 to less than 25.4 mm {0.59 to less than 1"}: use paper whose outer edges are removed only on the right and left as black mark die-cut

label. (See Figure 1.6.1.)

7) Gaps between labels: 3 to 6 mm  $\{0.12 \text{ to } 0.24"\}$ 8) Left and right outer edges: 2 mm  $\pm$  0.5 mm  $\{0.079 \pm 0.02"\}$ 

9) Label radius R: 2 mm {0.079"} or less10) Paper thickness: 0.195 mm {0.06"}

11) Paper core: External diameter: 44.1 mm {1.74"} or more

12) External diameter: Maximum 101.6 mm {4"}

13) Winding direction: Printing face must be facing outside.

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14) Holes and breaks: Not permitted.15) Label layout: See Figure 1.6.1.

16) Outer edge width: 1.5 mm {0.059"} or more.

### 1.6.3 Synthetic media label

1) Paper type: Synthetic media label

2) Specified original paper: Synthetic media label: VJFP/P5E/PP60 (OJITAC)

3) Form: Roll

4) Backing paper width: 30 to 112 mm {1.18 to 4.41"} 5) Label width: 25.4 to 108 mm {1 to 4.25"}

6) Label length: When the paper core external diameter is 44.1 mm {1.74"} or more:

50.8 to 1,117.6 mm {2 to 44"}: paper whose outer edges are all removed (only the labels are left on the backing paper) and paper whose outer edges are removed only on the right and left can both

be used.

15 to less than 50.8 mm  $\{0.59 \text{ to less than 2"}\}$ : use paper whose outer edges are removed only on the right and left as black mark

die-cut label. (See Figure 1.6.1.)

When the paper core external diameter is 56,8 mm {2.24"} or more: 32 to 1,117.6 mm {1.26 to 44"}: paper whose outer edges are all removed (only the labels are left on the backing paper) and paper whose outer edges are removed only on the right and left can both be used.

15 to less than 32 mm {0.59 to less than 1.26"}: use paper whose outer edges are removed only on the right and left as black mark

die-cut label. (See Figure 1.6.1.)

7) Gaps between labels: 3 to 6 mm  $\{0.012 \text{ to } 0.24"\}$ 8) Left and right outer edges: 2 mm  $\pm$  0.5 mm  $\{0.079 \pm 0.02"\}$ 

9) Label radius R: 2 mm {0.079"} or less 10) Paper thickness: 0.195 mm {0.0077"}

11) Paper core: External diameter: 44.1 mm {1.74"}, or 56,8 mm {2.24"} or more (See 6)

Label length in this section.)

12) External diameter: Maximum 101.6 mm {4"}

13) Winding direction: Printing face must be facing outside.

14) Holes and breaks: Not permitted.15) Label layout: See Figure 1.6.1.

16) Outer edge width: 1.5 mm {0.059"} or more.

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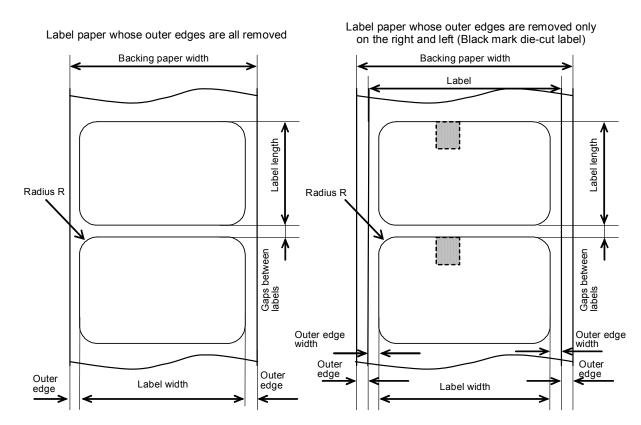


Figure 1.6.1 Paper Specifications (Die-cut Label, Roll Paper)

### 1.7 Paper Specifications (Black Mark Die-cut Label, Roll Paper)

### 1.7.1 Plain media label

1) Paper type: Plain media label

2) Specified original paper: Plain media label: CWF45S/P16/U43W (OJITAC)

3) Form: Roll

4) Backing paper width: 30 to 112 mm {1.18 to 4.41"} 5) Label width: 25.4 to 108 mm {1 to 4.25"}

6) Label length: 25.4 to 1,117.6 mm {1 to 44"}: paper whose outer edges are all

removed (only the labels are left on the backing paper) and paper whose outer edges are removed only on the right and left can both

be used.

15 to less than 25.4 mm {0.59 to less than 1"}: use paper whose outer edges are removed only on the right and left. (See Figure

1.8.1.)

7) Gaps between labels: 3 to 6 mm {0.12 to 0.24"}

8) Left and right outer edges:  $2 \text{ mm} \pm 0.5 \text{ mm} \{0.079 \pm 0.02''\}$ 

9) Label radius R: 2 mm {0.079"} or less 10) Width of a black mark: 13 mm {0.51"} or more 11) Length of a black mark: 9 mm {0.35"} or more

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12) Center of a black mark:  $8.5 \text{ mm} \pm 1 \text{ mm} \{0.33 \pm 0.039"\}$ 

13) Gaps between black marks: 15 mm {0.59"} or more14) Paper thickness: 0.128 mm {0.005"}

15) Paper core: External diameter: 44.1 mm {1.74"} or more

16) External diameter: Maximum 101.6 mm {4"}

17) Winding direction: Printing face must be facing outside.

18) Holes and breaks: Not permitted.
19) Label layout: See Figure 1.8.1.
20) Black mark layout: See Figure 1.8.2.

21) Outer edge width: 1.5 mm {0.059"} or more.

### 1.7.2 Fine media label

1) Paper type: Fine media label

2) Specified original paper: Fine media label: IJC30G/P22/U5W (OJITAC)

3) Form: Roll

4) Backing paper width: 30 to 112 mm {1.18 to 4.41"} 5) Label width: 25.4 to 108 mm {1 to 4.25"}

6) Label length: 25.4 to 1,117.6 mm {1 to 44"}: paper whose outer edges are all

removed (only the labels are left on the backing paper) and paper whose outer edges are removed only on the right and left can both

be used.

15 to less than 25.4 mm {0.59 to less than 1"}: use paper whose outer edges are removed only on the right and left. (See Figure

1.8.1.)

7) Gaps between labels: 3 to 6 mm  $\{0.12 \text{ to } 0.24"\}$ 8) Left and right outer edges: 2 mm  $\pm$  0.5 mm  $\{0.079 \pm 0.02"\}$ 

9) Label radius R: 2 mm {0.079"} or less
10) Width of a black mark: 13 mm {0.51"} or more
11) Length of a black mark: 9 mm {0.35"} or more

12) Center of a black mark:  $8.5 \text{ mm} \pm 1 \text{ mm} \{0.33 \pm 0.039''\}$ 

13) Gaps between black marks: 15 mm {0.59"} or more14) Paper thickness: 0.145 mm {0.0057"}

15) Paper core: External diameter: 56.8 mm {2.24"} or more

16) External diameter: Maximum 101.6 mm {4"}

17) Winding direction: Printing face must be facing outside.

18) Holes and breaks: Not permitted.19) Label layout: See Figure 1.8.1.20) Black mark layout: See Figure 1.8.2.

21) Outer edge width: 1.5 mm {0.059"} or more.

#### 1.7.3 Synthetic media label

1) Paper type: Synthetic media label

2) Specified original paper: Synthetic media label: VJFP/P5E/PP60 (OJITAC)

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3) Form: Roll

4) Backing paper width: 30 to 112 mm {1.18 to 4.41"} 5) Label width: 25.4 to 108 mm {1 to 4.25"}

6) Label length: When the paper core external diameter is 44.1 mm {1.74"} or more:

50.8 to 1,117.6 mm {2 to 44"}: paper whose outer edges are all removed (only the labels are left on the backing paper) and paper whose outer edges are removed only on the right and left can both

be used. (See Figure 1.8.1.)

15 to 50.8 mm {0.59 to 2"}: use paper whose outer edges are

removed only on the right and left.

When the paper core external diameter is 56,8 mm {2.24"} or more: 32 to 1,117.6 mm {1.26 to 44"}: paper whose outer edges are all removed (only the labels are left on the backing paper) and paper whose outer edges are removed only on the right and left can both be used.

15 to less than 32 mm  $\{0.59 \text{ to less than } 1.26"\}$ : use paper whose outer edges are removed only on the right and left as black mark

die-cut label. (See Figure 1.8.1.)

7) Gaps between labels: 3 to 6 mm  $\{0.012 \text{ to } 0.24"\}$ 8) Left and right outer edges: 2 mm  $\pm$  0.5 mm  $\{0.079 \pm 0.02"\}$ 

9) Label radius R: 2 mm {0.079"} or less 10) Width of a black mark: 13 mm {0.51"} or more 11) Length of a black mark: 9 mm {0.35"} or more

12) Center of a black mark:  $8.5 \text{ mm} \pm 1 \text{ mm} \{0.33 \pm 0.039^{\circ}\}\$ 

13) Gaps between black marks: 15 mm {0.59"} or more14) Paper thickness: 0.195 mm {0.0077"}

15) Paper core: External diameter: 44.1 mm {1.74"}, or 56,8 mm {2.24"} or more (See

6) Label length in this section.)

16) External diameter: Maximum 101.6 mm {4"}

17) Winding direction: Printing face must be facing outside.

18) Holes and breaks: Not permitted.19) Label layout: See Figure 1.8.1.20) Black mark layout: See Figure 1.8.2.

21) Outer edge width: 1.5 mm {0.059"} or more.

NOTE: As for the black mark position on the Die-cut label, match the label tip and the black mark tip.

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### 1.8 Paper Specifications (Black Mark Die-cut Label, Fanfold Paper)

1) Paper type: Plain media label/fine media label

2) Specified original paper: Plain media label: TWF55/P22/U7W (OJITAC)

Fine media label: IJC30G/P22/U7W (OJITAC)

Synthetic media label: TBD

3) Form: Fanfold

4) Backing paper width: 50 to 112 mm {1.97 to 4.41"}5) Label width: 46 to 108 mm {1.81 to 4.25"}

6) Label length: 15 to 1,117.6 mm {0.59 to 44"}: paper whose outer edges are all

removed (only the labels are left on the backing paper) and paper whose outer edges are removed only on the right and left can both be

used.

7) Gaps between labels: 3 to 6 mm  $\{0.12 \text{ to } 0.24"\}$ 8) Left and right outer edges: 2 mm  $\pm$  0.5 mm  $\{0.079 \pm 0.02"\}$ 

9) Label radius R: 2 mm {0.079"} or less 10) Width of a black mark: 13 mm {0.51"} or more 11) Length of a black mark: 9 mm {0.35"} or more

12) Center of a black mark:  $8.5 \text{ mm} \pm 1 \text{ mm} \{0.33 \pm 0.039''\}$ 

13) Paper thickness: 0.145 to 0.161 mm {0.0057 to 0.0063"}

14) Holes and breaks: Not permitted.
15) Label layout: See Figure 1.8.1.
16) Black mark layout: See Figure 1.8.2.

17) Perforated line pitch: 203.2 to 304.8 mm {8 to 12"}

18) Number of folds: 500 or less

19) Perforated line form: Plain media label: 1mm uncut, 5 mm cut

Fine media label: 1mm uncut, 5 mm cut

Synthetic media label: TBD

- NOTES: 1. Autocutting on the perforated lines may generate minute paper dust, causing machine problems. Also, autocutting short of the perforated line may cause problems when feeding paper. Therefore, autocutting must be performed 0.5 mm to 1 mm behind the perforated line.
  - 2. When using fanfold paper, the black marks must be at least 2 mm from the perforated lines
  - 3. As shown in Figure 1.8.2, using paper with black marks on both surfaces enables detection of black marks regardless of the surface that is facing up.
  - 4. As for the black mark position on the Die-cut label, match the label tip and the black mark tip.
  - 5. The perforated lines on both sides of the paper edge must be left uncut. (See Figure 1.8.3.)

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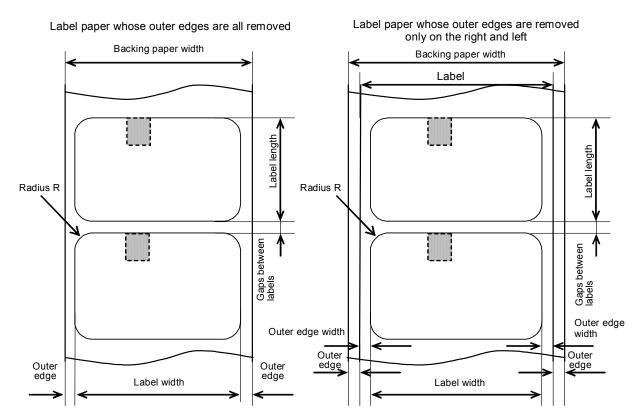


Figure 1.8.1 Paper Specifications (Black Mark Die-cut Label)

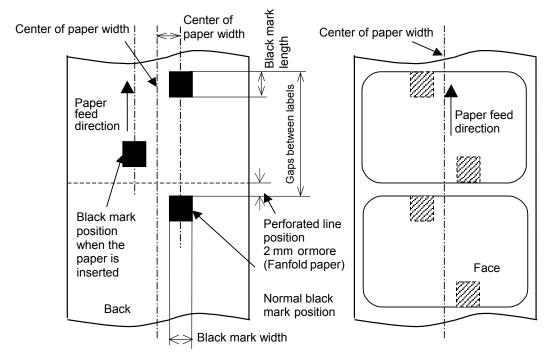


Figure 1.8.2 Paper Specifications (Black Mark Die-cut Label)

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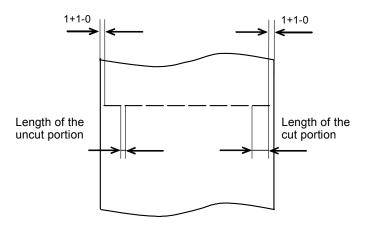


Figure 1.8.3 Detailed Specifications of Perforated Lines

### 1.9 Paper Specifications (Wrist Bands, Roll Paper)

1) Paper type: Wrist band

2) Specified original paper: TBD3) Form Roll

4) Paper width: 30 mm {1.18"}

5) Black mark width: 13 mm {0.51"} or wider 6) Black mark length: 9 mm {0.35"} or more

7) Center of a black mark:  $8.5 \text{ mm} \pm 1 \text{ mm} \{0.33 \pm 0.039"\}$ 

8) Gaps between black marks: TBD
9) Paper thickness: TBD
10) Paper core: TBD

11) External diameter: Maximum 101.6 mm {4"}

12) Winding direction: Printing face must be facing outside.

13) Holes and breaks: TBD14) Black mark layout: TBD

## 1.10 Paper Specifications (Wrist Bands, Fanfold Paper)

1) Paper type: Wrist band

2) Specified original paper: TBD3) Form: Fanfold4) Paper width: 30 mm {1.18"}

5) Black mark width: 13 mm {0.51"} or more 6) Black mark length: 9 mm {0.35"} or more

7) Center of a black mark:  $8.5 \text{ mm} \pm 1 \text{ mm} \{0.33 \pm 0.039"\}$ 

8) Gaps between black marks: TBD
9) Paper thickness: TBD
10) Holes and breaks: TBD
11) Black mark layout: TBD

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