

Label & Tag Dimensions

VP2020

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This document discusses the types of materials and dimensional parameters of those materials that can be used with the VP2020.

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1. Types of materials

The VP2020 can print on many types of materials. All the materials are either specially coated or are treated to be able to accept the ink from the printer. If you use a normal material that is for another type of printer then the image may be able to be smudged, may not dry or the edges of the image or text may bleed. Note these effects can also be seen in materials that are good but printed with the wrong paper type setting in the driver so too much or not enough ink is being used.

Material is supplied from many different material manufacturers. It is converted from jumbo continuous rolls into labels by your local label supplier. Manufacturers that produce stock for the VP2020 are Avery (Fasson), Flexcon, Mactac, Raflatac and Wasau coating and others. The stocks available range from synthetic to paper in label or tag with gloss, semi gloss or matt finishes. Ask your reseller for more information.

2. Accuracy of placement

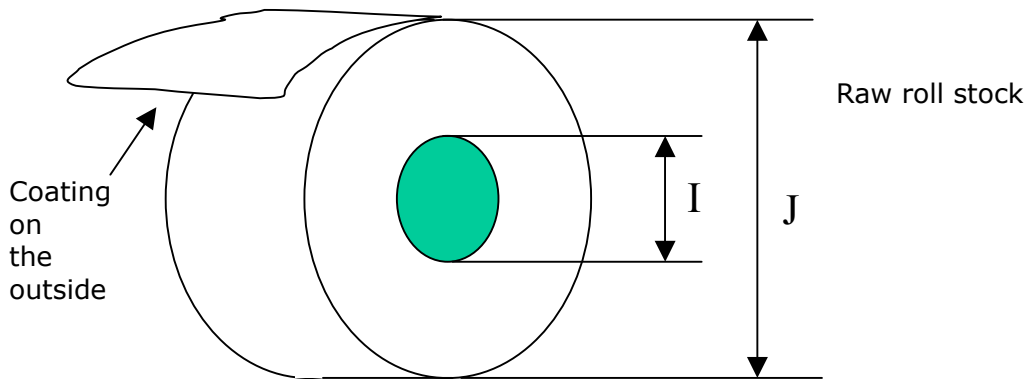
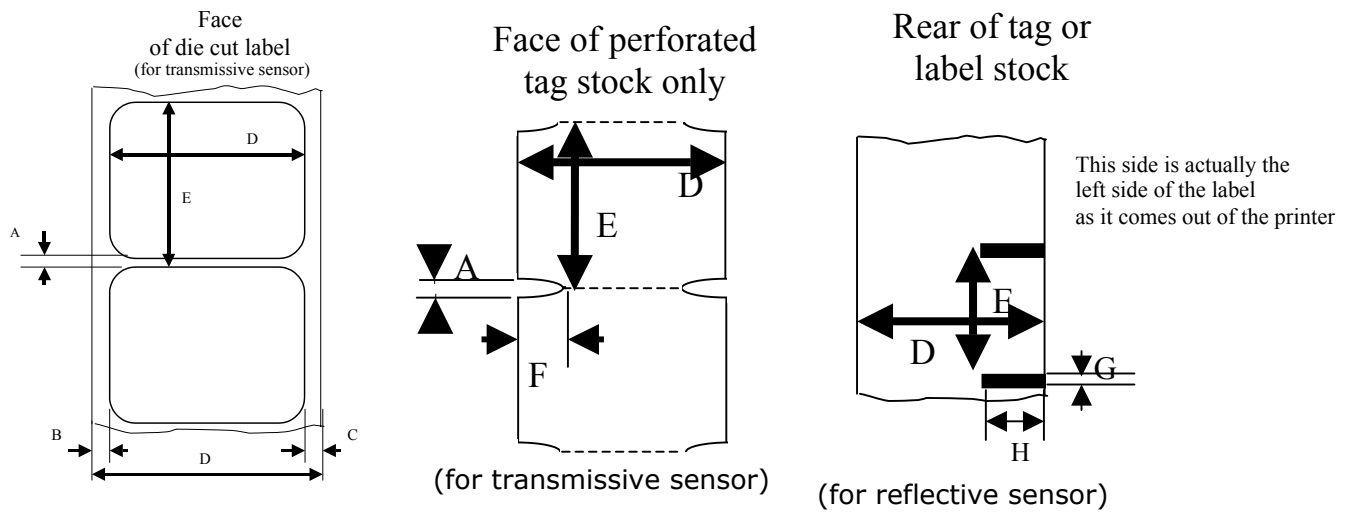
The VP2020 has a tolerance when it places the image on a label in the vertical (direction of print). This is no greater than +/- 0.0625 in. (1/16"). All versions of firmware from V2.12 and above have an option to check every label for placement accuracy and so does not show this minor movement of the image on the label. Ask your VIPColor reseller about upgrading your printer. An extra 0.08" (2mm) with no printed content is recommended in order to limit potential movement of the image from label to label.

3. Label size definitions

The layout below denotes the different ways that the various materials can be converted to labels and tags. The left most image is designed to show what a standard label will look like. The position of the image on the label is registered using a gap cut in the face stock and sensed by the printer. This sensor is a fixed position sensor on the left hand edge of the stock path and so the gap in the stock must be close to the left hand edge or it will not function correctly.

The image in the middle shows a tag material with the notch taken out for registration. It is not recommended that run a similar notch technique on a labels since the flimsiness of the material may cause it to get caught in the TOF sensor (top of form).

The picture on the far right shows the rear of a tag or a label. The black mark is used to register the placement of the label on the front of the label or tag. Black mark is generally only used on a label when you need to print full bleed. Look at the end of this document to get a more in depth explanation of this method of printing.



The above image illustrates the proper way a stock roll should be wound in order to print on in the VP2020. The face stock is rolled with the material coating facing out.

There is an unprintable zone of 0.05" (1.3mm) all round the label. An extra 0.12" (3mm) unprintable zone should be added between the top of the print area of a tag or label when using black mark or the image will progressively move its position.

The chart below relates to the images on the previous page and denote the maximums and minimum physical stock parameters that can be used.

Ref	Notes	Min	Max
A	The gap height	0.16" (4mm) min 0.19" (5mm) recommended	5" (152mm)
B	The left margin width	0.05" (1.3mm)	0.16" (4mm)
C	The right margin width	0.05" (1.3mm)	N/A

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D	The full width of the backing paper / label or tag	1.5" (38mm) label 2" (51mm) tag	6.15" (156mm)
E	Top of one label to top of next label	1" (25.4mm)	See chart on page 4
F	Gap width (of perforated tag stock)	Notch or hole to be supported shortly	Notch or hole to be supported shortly
G	Black mark height	0.19" (5mm)	1" (25.4mm)
H	Black mark width	0.78" (20mm)	6.15" (156mm)
I	Internal Core diameter	3" (76mm) cardboard core	
J	External roll diameter	N/A	No bigger than 8" (203mm) or this roll will not rotate
	Media thickness (Mil = 1/1000 th of an inch)	7Mil tested 6Mil theoretical not tested	10Mil

4. **Maximum print zone size supported by the VP2020**

The VP2020 is shipped with 64MB of SDRAM and 8MB internal flash memory. The VP2020 printer also supports 128MB SDRAM used for longer labels. The Flash is used to store fonts and the SDRAM is used to build the bitmap of the label.

The table below lists the maximum page (label) size that can be printed with the VP2020 using the various supported sizes of SDRAM.

The VP2020 will automatically detect and configure the SDRAM during boot up. If you use some computer SDRAMs you will find that the unit will either not recognize the module or may not start up correctly. Talk to your supplier about memory expansion. The printable zone depends on the memory size in the printer. You can see what size of memory your printer has in the webpage of the printer.

The length of label depends not only on the amount of SDRAM in the unit, but also the print mode that is being used and the width of the label being printed i.e. you can print a longer label if you use a narrower width e.g. 3" wide than when using a wider stock e.g. 6" wide. The table below gives you a rough guide.

64MB SDRAM

	COLOR MODE			GREY MODE		
	Draft	Normal	High/ Premium	Draft	Normal	High/ Premium
Without background print	6" x 16"	6" x 8"	6" x 8"	6" x 48"	6" x 24"	6" x 24"
With background foreground printing	6" x 16"	6" x 8"	6" x 8"	6" x 48"	6" x 24"	6" x 24"

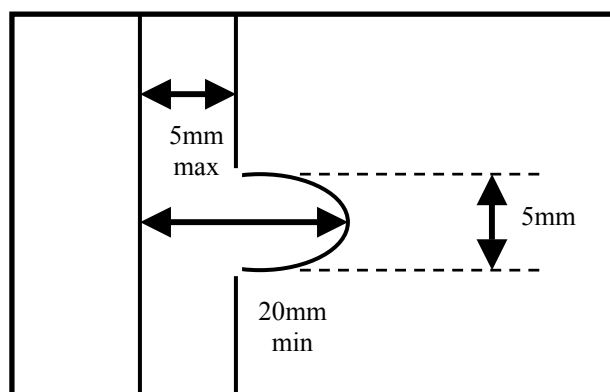
128MB SDRAM

	COLOR MODE			GREY MODE		
	Draft	Normal	High/ Premium	Draft	Normal	High/ Premium
Without background print	6" x 36"	6" x 18"	6" x 18"	6" x 50"	6" x 54"	6" x 50"
With background foreground printing	6" x 20"	6" x 10"	6" x 10"	6" x 50"	6" x 40"	6" x 40"

5. Sensors to register the image placement

The sensor type is selected in the driver. The transmissive sensor senses the gap or notch. The reflective sensor will sense the black mark (I-mark) and looks only at the rear of the stock. If the sensor is set to none the unit will still look for stock being present, but will use the length in the label design and not register to any pattern of lay out on the stock material. When the gap sensor is being used it will sense on the leading edge of the label (lagging edge of the gap). When the unit is using the black mark the printer senses on the leading edge of the black mark.

The sensors are laid out as below. The gap or the black mark on your label or tag should at least be within these parameters. The maximum boarder should be 5mm (0.2"), the min depth of the gap or even the black mark should be 20mm (0.78") from the edge of the liner and the recommended gap or black mark height is 5mm (0.126").



6. Adjusting the sensors for your material

The printer will automatically sense the difference between a gap and the label so that it can see this. This is the same with a black mark. However, with some materials the difference between the gap and paper or the black mark and backing is not very big so that the printer can get confused.

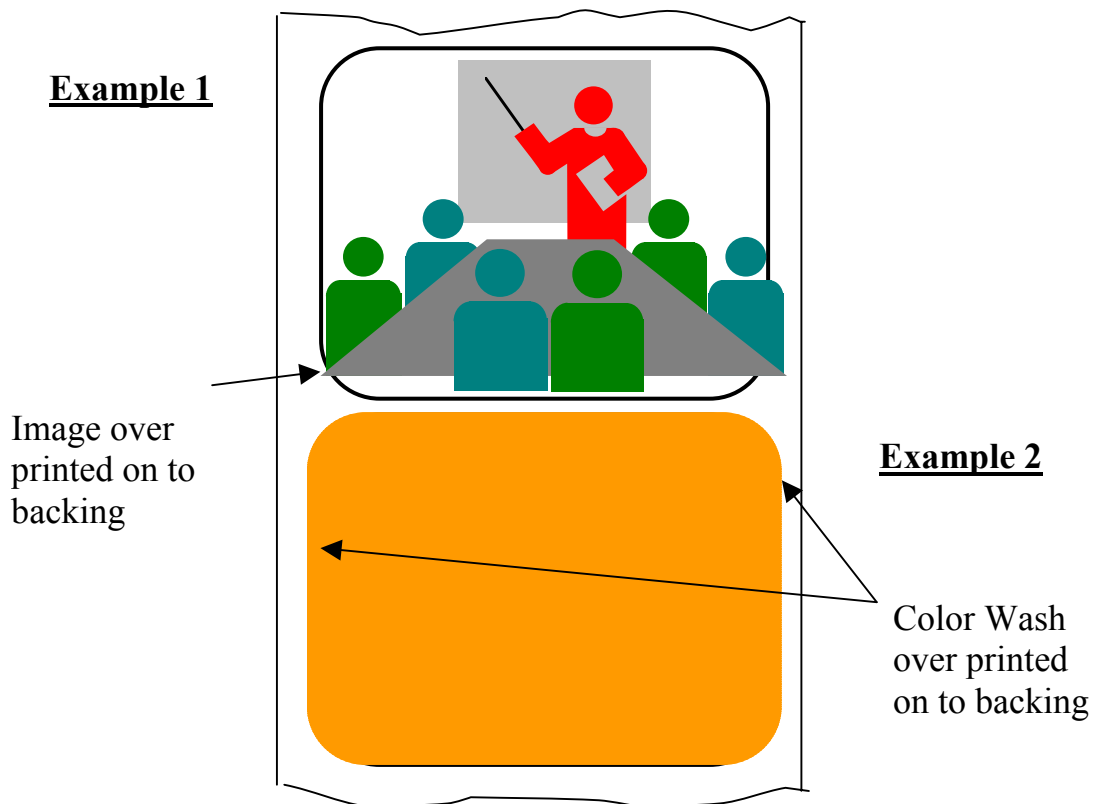
There is an option called "setup label threshold" which is in the printer's maintenance menu. This option allows a user to manually calibrate the level at which the unit senses the difference and can avoid the units confusion. Please look at the user manual for further information.

The only other reason that the printer may become confused is if a graphic is printed on the backing paper. This can be seen by the printer as another gap or black mark. It is strongly recommended not to have this type of printing on the backing paper. If it is absolutely necessary keep it at least 20mm (0.78") away from the left hand edge of the material or stock as it comes out of the printer.

7. Printing full bleed labels (completely up to the edge)

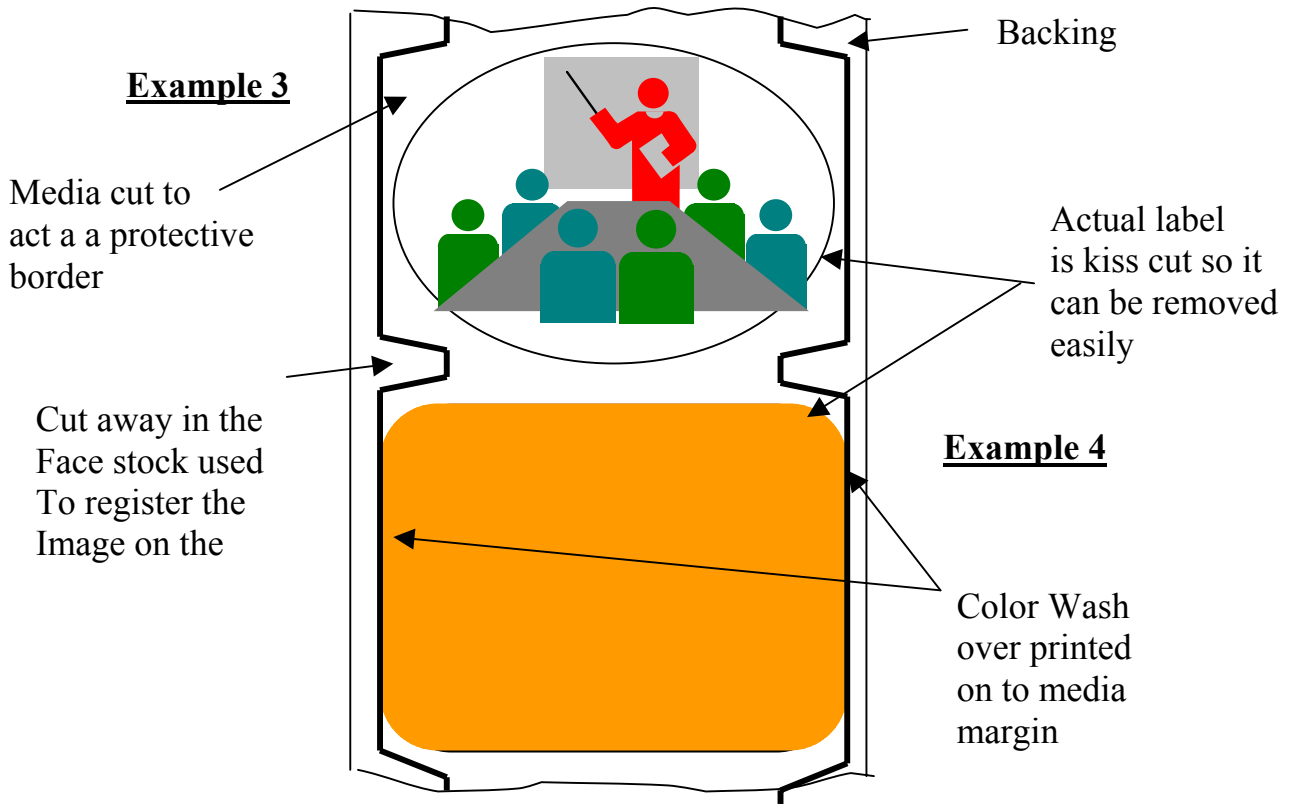
You can print edge to edge with the VP2020, but you must address this differently from running normal labels through the system. If you simply print over the edge of the label, onto the backing paper, the ink will not dry. It is also not recommended that you print right on the edge of the label or tag as there will be some movement in the stock or the WYSIWYG of the design package may not be completely precise and so the image may move past the edge.

The example 1 below shows some examples why you may want to print edge to edge. However, with these you are printing onto the backing paper.

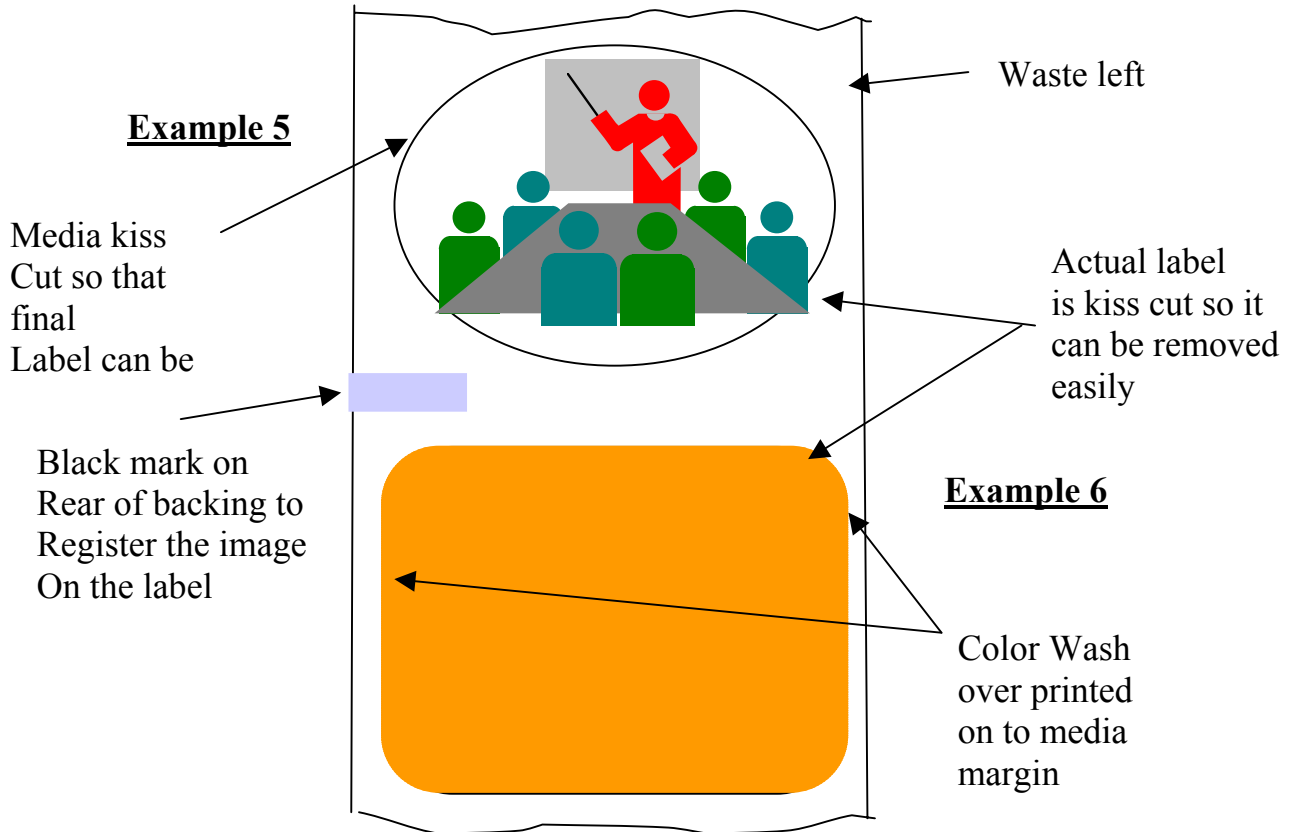


7.1. Printing over the edge correctly

The example 3 and 4 below show that the face stock has been cut so that the position of the label can be sensed by the printer. There is waste stock left in order to accept the ink printed over the edge. The actual label has a kiss cut so that it can be removed easily.



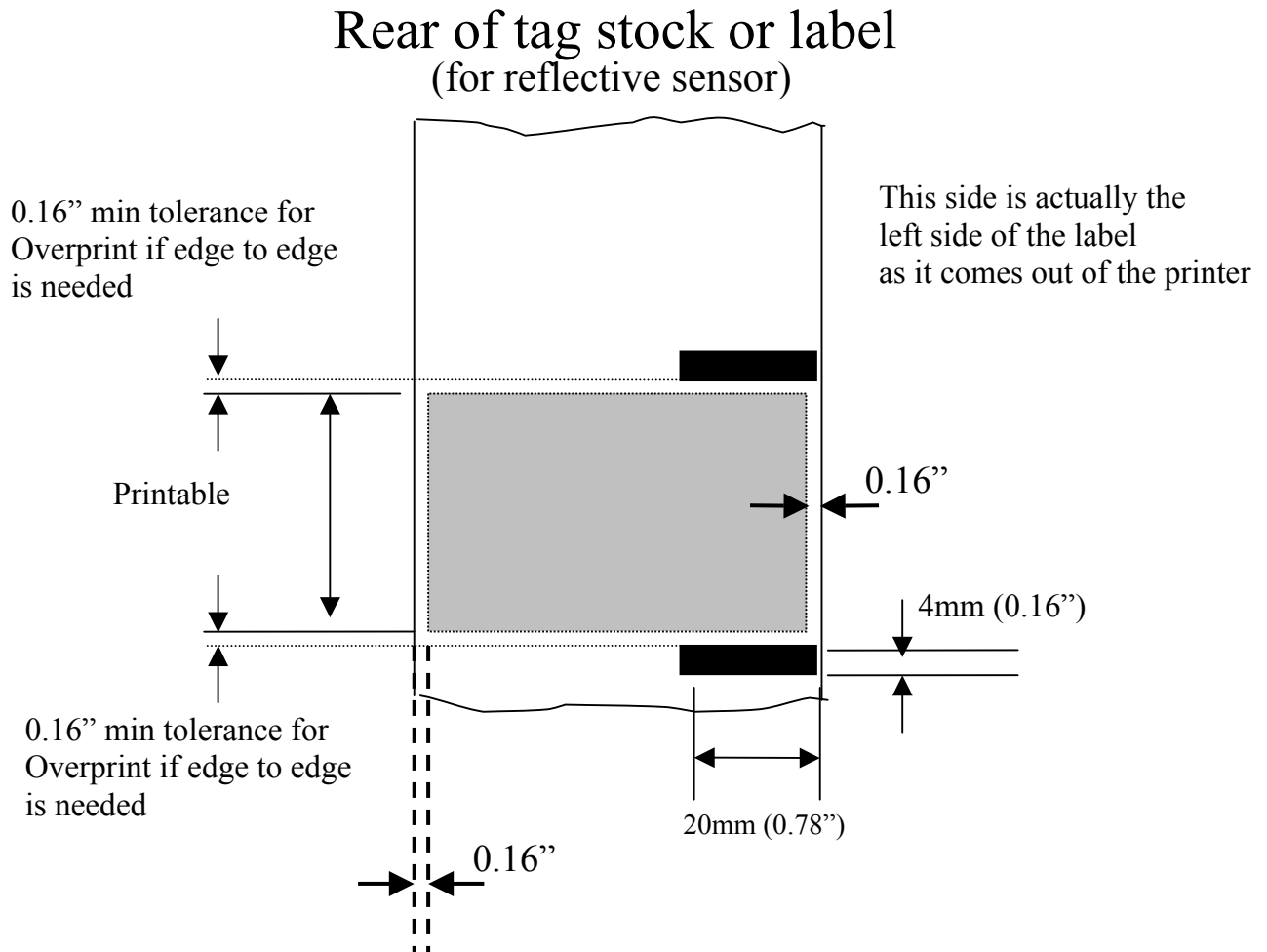
Example 5 and 6 below are another alternative for printing full bleed or up to the edge. Here none of the waste is removed from the face stock. The label is still kiss cut, so that it can be removed. There is a black mark on the rear printed on the backing paper. This is used to register the image placement on the label.



7.2. For label with black mark on backing

To Print Label with bleed the following measurements must be considered.

The label file being created must be larger than the finished size. Keep in mind that there is a quiet area (non-printing area) of 0.05" around the label and the area for the over bleed. Use at least 0.16" (4mm) around the outside of the label to print into.



7.3. For label with gap cut in face stock

To Print Label with bleed the following measurements must be considered.

The label file being created must be larger than the finished size. Keep in mind that there is a quiet area (non-printing area) of 0.05" around the label and the area for the over bleed. Use at least 0.16" (4mm) around the outside of the label to print into.

