

Production options

There are lots of options available. The one you choose will depend upon:

- How long you want the panel to last for.
- How clear you need the images and text to be (viewed close up or at a distance)
- The image you want to create (e.g., professional, stylish, rustic, thrifty).
- The type of information you need to present (e.g., text only, text and graphic-type illustrations, photographs).
- The number of signs you are doing (the number of different signs or repeats of a single design).
- The environmental conditions (e.g., is the site exposed to extreme weather conditions, is it prone to vandalism).
- Your budget.

Options include:

1. **Routed or etched signs**

- Good for minimal/small amounts of text (e.g. a welcome sign or acknowledgment panel).
- Ability to include illustrations and colours is limited to stylised images and blocks of colours (e.g. simple logos or naive designs).
- You can create different styles depending on the substrate and fonts (rustic/modern/formal).

2. **Laminated photocopies**

- Quick, easy and cheap to produce.
- Colours do not last (especially outdoors) and image quality can be poor.
- Tend not to look very professional but useful if you just need something for a **very** short period of time.

3. **Digital prints**

There are a few options here:

A: Thermal prints onto 30mm wide vinyl and mounted onto 5mm aluminium

- Good for simple, smaller panels with basic messages and images or larger images that are seen at a distance (e.g., bill boards). Large images are printed across several strips of vinyl which are then mounted side by side.
- Image quality is reasonable
- Less expensive than the following processes.
- One print provided for standard cost. The material is stored on CD and can be reprinted. Reprints are less expensive than the original as set-up and design work is completed and cost is for production only.
- Should be displayed vertically for best protection of colour.

B. Digital prints onto various materials (width restrictions)

Good for most interpretive panels. Image quality is reasonable for viewing at close quarters.

- Printed onto paper or a synthetic equivalent, they can be used for posters (movable displays / interior / temporary exterior).
- One print is provided for standard cost. The image is stored on CD and can be reprinted. Reprints are less expensive than original as set-up and design work is completed and cost is for production only.
- It is easy to accommodate text and illustrative changes in future copies
- The longevity is good with colour-fast guarantees of about 7 years.
- The cost for full colour prints is only marginally more for 2 colour prints.
- Should be displayed vertically for best protection of colour.

C. Digital 3M Scotchprint onto various materials (width restrictions) including 5-6 mm aluminium

- Good for most interpretive panels. Image quality is good for viewing at close quarters.
- The quality and variety of substrates is better/larger than available when using standard digital processing options. Good for extreme environments (e.g., geothermal and coastal areas). Can be used when you want backlit images, high quality banners etc.
- One print is provided for standard cost. The image is stored on CD and can be reprinted. Reprints are less expensive than original as set-up and design work is completed and cost is for production only.
- It is easy to accommodate text and illustrative changes in future copies
- The longevity is good with colour-fast guarantees of about 7 years.
- The cost for full colour prints is only marginally more for 2 colour prints.
- Should be displayed vertically for best protection of colour.

D. Digital prints directly onto substrate (including corrugated iron, wood etc).

Techniques are being perfected by Deneefe Image Graphics (and possibly others). Allows for lots of creativity but image quality may not be as good as other options in the short term.

4. Screen printing onto vinyl or directly onto aluminium.

- This gives you very sharp image definition and slightly better durability.
- The process is more complicated and expensive. The more colours you use the more expensive it is.
- You can get multiple copies for your standard cost so this process is most useful when you need lots of copies of the one design.
- Can be displayed vertically or on an angle.

5. **Stoved screen prints**

- Screen printed (see above) images are baked onto the aluminium giving an extremely hard finish (like baked enamel).
- This gives you very good colours and the best durability. It is the most expensive option but it is not a lot more than screen printing.
- It is quite useful to use when you are printing several copies of the same images. It can also be used in combination with digital prints to keep costs down. For example, if you have a repeated heading and logo but different interpretive information, the title and logos can be baked on and the digital print applied afterwards.
- Because of its hard finish it is an option in areas where you expect a high rate of vandalism. Additional acrylic or glass covers are not necessary.

6. **Anodised images onto aluminium/stainless steel**

- Images are transferred onto aluminium sheet through a photosensitive screen. The image embeds into the surface and sealed under a protective ceramic coating. The durability of the product is given a longer life span than digital prints.
- It works best with line work and graphic images with solid blocks of colour, though photos do reproduce with reasonable clarity.
- The unit cost for multiple copies are quite good compared to the other options.
- There are size limitations for any one piece of aluminium

7. **Artforms**

Interpretive signs don't have to be confined to wooden or alloy shapes. Nor do they always need to use traditional word structures and illustrations. You can literally think outside the square and go for artwork alternatives:

- Sculpture
- Pottery
- Mosaics
- Stencils
- Stone
- And a mix of any of the above with more traditional forms

Framing and mounting

For outdoor, permanent panels

Vinyl prints and screen prints can be mounted onto the surface of:

- Sealed sign ply. Similar cost to aluminium. Must be sealed properly otherwise the chemicals in the ply can affect the vinyl and printing inks. Does expand and contract so can cause wrinkling.
- 5 mm alloy (can be powdercoated). Doesn't expand and contract and doesn't react with the vinyl and inks.
- Acrylic. Can be useful for interior displays or when the displays need to be light and transportable.

Or they can be reverse mounted behind acrylic, polycarbonate or toughened glass. If vandalism is unlikely toughened glass is the best option as it doesn't flex, doesn't go cloudy over time and can't be scratched, but it is heavier.

Framing and mounting

If your signs are face-mounted you can:

- Frame them behind toughened glass, acrylic or polycarbonate using a powder coated steel frame. Note that vinyl prints can wrinkle and stretch if the covering material touches the print so a packing strip is put in place between the aluminium sheet and the glass, acrylic or polycarbonate. Toughened glass is recommended as there is less flex. Vandals can shatter glass (like a windscreen) but they can burn and scratch Perspex or polycarbonate. Condensation can occur between the print and any of the covering materials.
- Have a coating of graffiti guard or floor graphic applied. This is a cheaper option and causes fewer problems with condensation and 'wrinkling' of the vinyl. However, vandals can have more immediate access to the print. The 'guard' applications provide protection from writing (which can be wiped off) and abrasive scratches but no significant protection against burning and gouging. Floor graphic is more robust than graffiti guard and slightly more expensive. A new coating may soon be available that is applied as a liquid and apparently is very effective and less expensive.

Remember, if someone is determined to do damage, glass and other coverings won't stop them either.

One advantage of not framing a sign is that you have more flexibility and can be more creative with shape. You can frame some shapes that aren't square or rectangular but it is more difficult and expensive.

For interior / permanent use

Lots of options are available. Usually involve application of graphic onto a solid substrate like custom wood, acrylic etc). Still useful to apply graffiti guard or floor graphic if front mounted (i.e, accessible to sticky fingers). Images can also be reverse mounted behind acrylic. Standard applications can also be placed in and around more kinetic or sculptural forms like corrugated iron, stone etc.

For interior / temporary / movable use

Large format posters can be mounted into a variety of mobile display systems available from a number of companies and in a variety of designs

Installation

To be conservative or creative? Most people put their money into the panel and just go for basic posts for installation. However, try thinking about the materials you use for posts / supporting structure – they don't have to be tanalised pine: think totara fence strainers, power poles, wharf piles, corrugated iron, rock columns, carvings. Likewise standard interior applications can also be placed in and around more kinetic or sculptural forms (Staughan example)..

Nor does the surface of the image have to be flat. But remember, sometimes too much creativity gets in the way of readability and simplicity (e.g., curved lines of text are quite hard to read and people will give up before they get the message – Kaikoura Information Centre).

Upright or tilted

Most digital and screen printed images have a 7 year guarantee against fading. However, for that guarantee to be valid for digital prints, the signs should be installed vertically not on an angle. This reduces exposure to direct sun and also decreases the amount of detritus that builds up on the face of the panel. However, signs on an angle often look a bit better and can be easier to read. Screen printed images can be placed on an angle and maintain colourfastness.

Cost

Costs will vary depending on:

- The production technique used.
- The installation design.
- The complexity of the design (e.g. do maps or detailed graphics need to be developed).
- The number of scans required (illustrative images).
- How much of the preparation work is done by you and how much is done by the interpretation contractor and or production company.
- How many copies you require (vinyl prints).
- How many colours you use (screen printing).
- The amount of changes to content that occur after the design process starts.

For a single copy of a panel (600/800mm x 800-1200 mm) costs can vary between \$1500 and \$3000.00. The higher part of the range would be for full colour screen printing or 3M Scotchprints, a more professional or complex design with graphic developments (e.g., detailed maps) and the contractor doing all of the research and development. Excludes installation costs.