



7. Sign Panel Material Alternatives

This section provides a number of alternatives for sign panel materials and outlines the advantages, disadvantages, and other considerations when choosing materials. Also included in this section is a list of the companies that fabricate these products and their associated costs.

These are some questions to help guide decision-making:

1. What is the **budget** for the project?
2. Will the exhibit be **temporary or permanent**?
3. Will the exhibit be located in a place with high **vandalism** potential?
4. Will the exhibit have **shaped-edge** and be mounted to a sign base or be a **straight-edge** with a framed base?

SIGN PANEL DIMENSIONS

WELCOME KIOSK PANELS

The standard size of the welcome/kiosk panels created with the Signing Program is **30”w x 40”h**. This fits both the 3-sided and 1-sided structures. These panels can be fabricated in any size to meet site needs, but graphic and structural designs will need to be modified accordingly.

WAYSIDE PANELS

The standard size of wayside panels created through the Signing Program is **24w” x 36h”**. Panels can be created in other sizes, (i.e. for rail-mounts) however estimates are not provided in this manual.

SHAPED OR STRAIGHT-EDGE SIGN PANEL?

Panels can be cut along a pre-designed “shaped-edge” line along the top if desired. The shaped-edge panels will **not** fit a standard frame and must have custom-made bases. Following is a summary of considerations for both options.





STRAIGHT-EDGE (2 ALTERNATIVES)

Framed

- Looks like a traditional National-Park style sign; does not offer the more creative and interesting look as the shaped-edge
- Must be purchased at 1/8" thick to accommodate standard NPS-style frame structure

Unframed

- Looks more interesting than framed panel
- Must be purchased at at least 1/2" thick to self-supporting on chosen sign base
- Slightly *less* expensive than shaped-top panel



The unframed straight-edged sign panel can come in a variety of thicknesses (1/8" - 1") and be adapted to many styles of sign bases.



This is a standard NPS-style framed straight-edged sign panel. This panel is 1/8" to fit into the frame.

SHAPED-EDGE (FOR CELLEx OR HIGH PRESSURE LAMINATE PANEL MATERIAL OPTIONS ONLY)

- Creates a unique, artful, and interesting look
- Must be purchased at 1/2" thickness for self supporting ability
- Panels are all **unframed**, but supported by a baseplate which is bolted or welded to a sign base and to the panel itself (from underneath so that bolts are not seen). Welcome Kiosk panels would be bolted into the back from the kiosk structure.
- Slightly *more* expensive than both straight-edge panel alternatives. Fabricators charge an additional 'per linear foot' cost.



The unframed shaped-edge of this sign gives it a unique, interesting look. This shaped-edge cut is consistent among all the interpretive signs developed through the Signing Program. The bases are similarly unique and made to fit in to the surrounding natural environment.

SIGN PANEL FABRICATION MATERIALS

There are **three suggested options** for sign panel materials included in this manual. Following is a summary of each material and advantages and disadvantages for each. Choosing materials should be based on budget and site parameters.

- High Pressure Laminate/Phenolic Resin
- Cell-Ex
- Vinyl Ink Jet

HIGH PRESSURE LAMINATE (HPL)

HPL panels are excellent for quality permanent exhibits. The process of fabricating HPL panels includes layering special imaged paper, a UV resistant overlamine, and kraft stock, then pressing the layers under intense pressure and heat. The process fuses the layers into a durable and solid panel. This is one of the most durable materials on the market for outdoor interpretive exhibits.



Advantages of HPL:

- Excellent for permanent exhibits
- Good photo reproduction capabilities
- Good resistance to vandalism
- Very good resistance to scratches and abrasion
- Excellent UV protection
- Does not need to be covered
- Does not need to be framed if more than 1/2" thick
- Can be made in a variety of thicknesses to be framed or not framed

Disadvantages of HPL:

- Produced out of area
- Moderately expensive
- 5 year warranty

CELLEx

CellEx is a high resolution graphics sign panel option at a very competitive price. This high density laminate material is very resistant to vandalism, scratching, weathering, and UV rays. A CellEx panel can either be fabricated in 1/8" thick panel which can be accommodated by most standard NPS-style framing systems, or in greater thicknesses which can stand alone without a frame. This ranks next in durability to the HPL panels above.

Advantages of CellEx:

- Good for permanent exhibits
- Good photo reproduction capabilities
- Good resistance to vandalism
- Good resistance to scratches and abrasion
- Good UV protection
- Does not need to be framed if more than 1/2" thick
- Does not need to be covered
- Can be made in a variety of thicknesses (1/8" - 1")
- 10 year warranty

Disadvantages of CellEx:

- Produced out of state
- Moderately expensive
- Materials may delaminate





INKJET PANELS (3M OR TRUE SOLVENT)

Ink jet panels are an excellent lower-budget option for temporary signage or for sites where the vandalism potential is too high to invest a lot of money on interpretive signage. Although graphics can be high resolution, there are many materials involved to make a sign.

Advantages of Inkjet panels:

- Inexpensive
- Produced locally
- Excellent for temporary exhibits

Disadvantages of Inkjet panels:

- Needs to be adhered to an additional surface
- Graphics are susceptible to abrasion/vandalism and surface would need a protective cover (plexi-glass)
- Edges are sharp and would need a frame
- Photo reproduction quality is fair
- Not resistant to weathering and fading from UV rays (would need a protective covering)

SIGN PANEL MANUFACTURERS AND COST ESTIMATES

The following cost estimates are included to give you an idea of the cost of fabricating sign panels. Getting cost price quotes from fabricators is extremely difficult due to situation-specific variables. **Each order is unique and rates will be quoted accordingly.** The provided estimates are ball-park at best! Bear in mind that rates will *decrease* with the increase in square footage of material ordered. These estimates are subject to change on the basis of project scope and other factors and do not include sales tax. Add 3.5% to estimates for every year after 2003 to adjust for inflation. **See Section 10 for fabricator contact information.**



HIGH PRESSURE LAMINATE

KVO Industries (Santa Rosa, CA)

Estimates:

Welcome Kiosk panels (30" x 40"): See attached pricing matrix on following pages. **Wayside panels (24" x 36"):** See attached pricing matrix on page 48. Turn-around time: 4-6 weeks.

PPI Industries, Portland, Seattle, San Francisco

Estimates:

PPI prefers to give estimates on a job to job basis. Their products are top-of-the-line and they have an extremely talented staff of interpretive text writers, graphic designers, and illustrators. Turn-around time: 4-6 weeks.

CELLEX

Grand Visuals (Colorado)

Estimates:

1/8" ranges from \$40 to \$25 per square foot depending on how big the order is. 1/2" ranges from \$49 to \$31 accordingly. Add \$50 per panel for 'image rip charge'. One **wayside** sign would be roughly just about \$300 and a **kiosk-size** would be about \$350. Contour-shape cost not included. Cost includes a color proof. Turn-around time: 4 days for color proof, 10 days for final.

INKJET (3M OR TRUE SOLVENT)

Agreda Communications (Eureka, CA)

Estimates:

One 34.5" x 24" full color, weather resistant outdoor decal applied to 1/8" Diebond substrate (for support): starting at \$200.00. Would need additional protective covering and frame. Warranty: 18 months.

JB Designs (Eureka, CA)

Estimates:

True Solvent vinyl graphics print at \$12/sq.ft. A 24"x 36" vinyl sheet would be about \$72. This does NOT include the mounting substrate (a range of materials to choose from), the protective plexi-glass covering, or the frame.



