



Interpretive Signage Production Guidelines

In a world that is increasingly multilingual and icon-driven, excellence in interpretive signage is critical. Since 1961, GGE has established itself as a reliable resource for quality services and products in this area. As a provider of award winning exhibits and displays for corporations, museums, city, state and national parks, we continue to meet the unique requirements of each.

One of our strengths is our ability to provide a selection of interior and/or exterior interpretive displays and signage. We have access to materials and media to fit any budget or application. Our production and fabrication capabilities enable us to offer creative ways to manufacture sign structures and interpretive displays that withstand user abuse, weather, sun, and graffiti.

Exterior Sign Product Materials

There are four preferred methods for producing exterior interpretive signage:

1. Porcelain Enamel

Porcelain Enamel has been used for years by the National Parks Services (NPS) and other public and private sectors where signage is needed. It is considered the most durable of signage materials. However, it is also the most expensive because of the imaging process that requires 4-color film separations and additional films for areas needing special attention. Each film requires an exposure and processing method that fuses the colored glass to the steel substrate making the image permanent. The process becomes very labor intensive and costly, especially if something goes wrong on the last exposure and process. The finished product is very durable with brilliant colors and clarity. Porcelain enamel comes with a 25 year guarantee against all outdoor environments, and it is graffiti resistant. The down side is that if a crack develops in the sign, the steel substrate begins to rust and corrode over a period of time, and the panel is lost.

2. High Pressure Laminate (HPL)

High Pressure Laminate (HPL) is the newest material used for exterior grade signage. It has taken advantage of recent improvements in printing technology. This process uses specially developed printing paper for digital imaging. The paper is then impregnated with melamine resin and over-laminated with a UV-resistant laminate. Various thicknesses (1/16" to 3/4") are achieved with a build-up of phenolic resin-impregnated kraft stock that solidifies during pressing. HPL is guaranteed outdoors for up to 10 years. The panels are graffiti-resistant and can be cleaned with mild soap and water or with an organic solvent to remove paint and markers. GGE archives the digital files and can easily replace damaged or stolen panels by identifying the panels that need to be replaced.

3. Fiberglass Embedment

Fiberglass Embedment has been used extensively for well over 20 years by the NPS and other public and private sectors. Twenty years ago the process was done with screen-printed images. With today's new technology, fiberglass embedment is a digital print embedded in a durable, optically clear polyester resin with UV inhibitors. The resin is reinforced with sheets of woven mesh behind the print. Available thicknesses are from 1/16" to 1/4". Fiberglass Embedment is guaranteed outdoors, like HPL, for up to 10 years. Once again, panels are graffiti resistant and can be cleaned with a non-abrasive cleaner or an organic solvent to remove paint and markers. GGE archives the digital files and can easily replace damaged or stolen panels by identifying the panels that need to be replaced.

Exterior Sign Product Materials

4. Adhesive Back Vinyl

Adhesive Back Vinyl has been around for years, but until the improved digital technology, it was used primarily for cutout vinyl lettering applied to smooth surfaces. Today we can create digital images using UV pigmented inks for outdoor applications that are guaranteed for 7 years when properly applied and displayed. GGE uses 3M exterior grade vinyl because of its quality and guarantee. Adhesive back vinyl is usually adhered to exterior grade substrates from aluminum, Dibond, Sintra or any other smooth exterior grade surface. Image quality is high resolution, and with proper application and maintenance, the image looks as good as Fiberglass Embedment or High Pressure Laminate. Cleaning with mild soap and water and a periodic coating of an automotive wax will extend the life of the graphic panel. Here again GGE archives the digital files and stolen or damaged panels can easily be replaced.

All four methods have pros and cons relating to production. Using current high technology processes, all four have adapted their manufacturing methods and procedures to start with digital files, either as RGB or CMYK offering high resolution imaging.

Note: Two other less common ways of producing exterior interpretive signage are:

- **Photo Metal** uses a film negative or positive. It is an anodized aluminum and limited to the single anodized color.
- **Laser Edged** is usually done using stainless steel. It is also limited to having only one choice of a very dark brown - almost black - color from the laser marking process.

Conclusion

Each of the four processes described above will meet the needs of providing interpretive informational graphic panels for the viewer to learn about his or her surroundings. Is one better than the other? That question can only be answered by answering two more questions. The first is, "How long does it have to last?" and secondly, "Will it be subjected to handling by the public, and what is the risk of graffiti?" Once you have determined the answers to these two simple questions it comes down to budget dollars available and finding a trusted supplier.

Exterior Sign Structure Materials

Steel

Steel is one material used for sign structures, but it requires some type of finishing, either painting or galvanizing. Hot dipped galvanizing is best for ocean front properties because it requires little if any maintenance and has a nice industrial appearance. There is a large selection of profiles that make steel a good choice for sign structures. However it is heavy and requires a certain amount of maintenance to keep it looking new.

Core-10 Steel

Core-10 Steel is a special steel that will rust on the surface only. It has been used for outdoor sign structures because the rusting quality requires little, if any maintenance. In an outdoor environment Core-10 Steel has a natural appearance. Because it is necessary to form and weld the shapes and angles to create the structures, fabrication cost is high.

Wood Structures

Wood Structures do well outdoors, depending on the look and finish needed. Selection of wood is important in determining the final finish and look (painted, stained, or natural). Redwood or Pacific Yellow Cedar is most commonly used. These two types hold up well and do not need regular maintenance if a weathered look is what you want. Pine is also used often, but it requires regular maintenance and finishing to keep its original look and finish. Wood is easy to work with and cost effective, but is a limited natural resource.

Aluminum

Aluminum is the most popular material for fabrication of sign structures because it is relatively easy to work with, long lasting, and can be finished in several different ways. The NPS has developed a standard for its sign structures using aluminum (see GGE Framing Systems brochure enclosed). There is a large selection of profiles available. Aluminum is lightweight and requires little maintenance outdoors if properly finished. Painting is the usual way to finish aluminum with either a zinc based powder coating or a textured catalyzed polyurethane coating.

Conclusion

Again, final selection comes down to durability, the look you are after, maintenance requirements, and available budget dollars. In addition, weight may be a factor to consider when handling, shipping and installing. The choice is yours.