

## SAMPLE

### CALIFORNIA STATE PARKS Fiberglass Embedded Panels Specifications

<u>Title</u>	<u># of embedded panels</u>	<u>Trim Size</u>	<u>Thickness</u>
<i>Example:</i> <b>Miscellaneous</b>	<b>4</b>	<b>40" w x 32" h</b>	<b>.090</b>

#### A. TECHNICAL SPECIFICATIONS

- (1) **Description of panels** - A graphic display panel shall be provided for the purpose of outdoor exhibits. Panels shall be shipped to a California State Parks location. Each panel shall consist of a solid, one-piece panel with 600 dpi ink jet graphics embedded in fiberglass. Completed panels shall be trimmed down 1/8" on all four sides with a tolerance of +/- of 1/32". The total thickness of all assembled panel components, which includes base substrate, marking film, and overlamine, shall not exceed .090".
- (2) **Imaging and Fabrication Procedures** - Four-color CMYK images shall be printed on an ink jet printer using ultraviolet resistant pigmented inks. Images shall be printed on a specially formulated substrate capable of resin saturation to ensure a true fiberglass embedment. Image for any panel size shall be printed on a single section, without tiling.

The imaged substrate shall be embedded in fiberglass according to the following specifications: Resin shall be non-yellowing R-70 clear resin (or UV stabilized, acrylic modified polyester resin), reinforced with high solubility, chopped strand fiberglass mat so that the index of refraction ensures total clarity of all color, copy and graphics. Glass fibers should not be readily discernable on the panel face. Panel must have a glass content of no less than 28% of the total panel weight. Panel must be able to withstand temperatures from -65° f. to 350°f. Panel must have a minimum Barcol hardness factor of 50, tensile strength of 12,000 psi, compressive strength of 20,000 psi, and flexural strength of 18,000 psi, minimum impact strength must be 6 ft lbs./in notch with a fire resistance of 500°f. Face must not be permanently defaced by seam, acids aromatics, scratching, inks, or paints and should be readily wiped clean with paint remover and solvents without affecting the appearance or legibility of finish or graphics. Face should retain legibility and finished appearance when sprayed with a 10% solution of hydrochloric, nitric, or sulfuric acid for one half-hour or when scrubbed by a brush or medium hardness using common commercial

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cleaning compounds such as ammonia, laundry soaps, detergents, carbon tetrachloride, or petroleum based solvents. Panel must be opaque with a matte finish with a minimum embedment of all graphic elements of .030. Panel must be router cut, the edges must not be crazed or cracked, and the finish must be smooth, clean, and neat. Thickness will range from .060" to .090".

The Contractor shall be responsible for assessment of images. Assessment of images shall include accuracy of color compared to original proofs, text sharpness, gray scale reproduction, and quality of mass tones. Images shall be free of multiplexing patterns, tiling, spurious writing, pixel drop-out, and other undesirable artifacts.

Proofs submitted to the State for review and approval, shall be right-reading images on embedment substrate printed in the actual color order to be used in production, but not embedded.

- (3) **Inkjet Printer Specification** - The minimum requirements for the inkjet printer shall be 600 DPI image resolution with an output width capable of printing a 36" x 48" image in a single section.
- (4) **Inks** - Inks shall be ultraviolet resistant pigmented ink jet inks.
- (5) **Substrate** -  
The substrate shall be a specially formulated substrate capable of resin saturation to ensure a true fiberglass embedment.

### B. DELIVERABLES

Upon completion of the work specified, the Contractor shall deliver to the State Representative the following:

- (1) Full size color proofs;
- (2) One imaged and embedded wayside panel for each exhibit listed in Scope of Work;
- (3) Disk(s) or CD(s) including files that reflect alterations made to PMS colors, final individual image masks, hi-res scans, final Tagged-Image File Format (TIFF) or Encapsulated Post Script (EPS) files with photographic retouching or color enhancement and files created to produce the final exhibit;
- (4) All original graphics and source material provided by the State in the original condition in which it was delivered.

### C. WARRANTY

The Contractor shall guarantee the workmanship against defects in work and material. At a minimum, a two-year warranty is required. The

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fabricated components of the graphics panel shall meet the following requirements:

- (1) Light fastness of colors: Image failure will consist of a degree of CMYK color fade that causes graphic to be unsuitable for viewing in the context of its intended purpose. Color fade of the image greater than 20%, as measured by densitometer, will be considered failure. Relative image fade of any one color greater than 10% will be considered failure.
- (2) Delamination and other mechanical failure: Delamination of the ink jet print from the glass reinforced polyester resin panel will be considered failure.
- (3) Panel warping: Extended perceptible warping of the panel while inserted in the base will be considered failure.
- (4) Noticeable fibers on the surface will be considered failure.

If during the warranty period defective workmanship or materials are identified by the Government, the Contractor will be notified, in writing, as to the liability and responsibility for replacement at no cost to the Government. Replacement shall include all costs of material, labor, production, and shipping. Damage from vandalism or acts of God will be excluded from the warranty requirements.

Should the Contractor fail to proceed with the work in accordance with the guarantee within seven calendar days from the Notice of Corrective Actions(s), the Government will have such work performed at the expense of the Contractor.

In no event will the Government be responsible for any extension or delays in the scheduled deliverables or periods of performance under this contract as a result of the Contractor's obligations to correct defects. There shall not be any adjustment of the delivery schedule or period of performance as a result of the correction of defects unless provided by a supplemental agreement with adequate consideration.

If the Government returns any work to the Contractor for correction or replacement under this contract, the Contractor shall be liable for transportation charges. The amount of these charges will be equal to the cost of transportation by the usual commercial method of shipment from the place of delivery specified in the contract to the Contractor's plant and return to the place of delivery specified in the contract. This is irrespective of the FOB Point or the point of acceptance. The Contractor shall also bear the responsibility for the work while in transit.

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The Contractor shall be liable for the reasonable costs, including travel of personnel, and disassembly and reassembly of larger items when it is necessary to remove the work to be inspected and returned for correction or replacement.

D. **REVIEW AND APPROVAL** – The State Representative will notify the Contractor, in writing, of approval or rejection citing and any additions, corrections, or suggestions within 15 calendar days. Any additions or corrections shall be completed and returned to the Government within 15 calendar days.

E. **State Representative:**

The State Representative for this order is:

[To be completed by requestor]