

TSD Best Practice:

New Mexico DOT: Making the Case for Digitally Printed Extruded Panel Guide Signs

Background

Guide signs provide valuable wayfinding information for drivers to help them reach their destinations safely and efficiently. To ensure that these signs provide the consistent and accurate guidance that drivers need, it's important that they continue to perform over time. However, guide signs are exposed to environmental conditions that cause them to deteriorate, and they can be fabricated using different processes and materials. These factors can impact both the aesthetics and the performance of a sign.

The New Mexico Department of Transportation (NMDOT) was considering these factors in 2009, when they were first approached by 3M sales representatives with an idea to upgrade their signage. At the time, many of the state's signs were made of flat aluminum panels connected by rivets. When 3M showed them the benefits of digitally printed extruded panel guide signs, they were eager to give this new solution a try.

The Benefits of Digitally Printed Extruded Panel Guide Signs

The first thing NMDOT decision-makers noticed about the extruded panel signs was their clean, aesthetically-pleasing appearance. With the old flat panel aluminum construction, the rivets created bends on the surface of the sign and sometimes came loose. When this happened, the panels would break away from the rest of the sign and create both confusion and potential hazards for drivers. Additionally, the lettering frequently failed at panel seams due to delamination.



flat panel aluminum construction – rivets create bends on the surface of the sign



flat panel aluminum construction – lettering fail at panel seam



flat panel aluminum construction – panel that has broken away

The Benefits of Digitally Printed Extruded Panel Guide Signs (cont'd)

On digitally printed extruded panel signs, retroreflective sheeting — with its legend digitally printed on it — is applied to 12.75 inch panels with a laminator. Then the panels are bolted together in the back to fabricate the full sign. The result is a clean, robust appearance with the durability to withstand environmental conditions.

NMDOT was also quick to understand the benefits of 3M's digital printing process, which enables them to efficiently and accurately procure new signs using 3M certified sheeting, inks, printers, and overlays. The sheeting and inks are covered with a UV protective overlay film — which also ensures that the sign delivers optimal retroreflectivity — and a graffiti resistant overlay to make the sign easier to clean. The result is a highly visible, retroreflective, durable sign that holds its color and delivers consistent performance over time.

The Results

These benefits were enough to convince NMDOT to implement a pilot program in 2009 to replace 150 guide signs throughout the state. Over a decade later, these signs continue to deliver the consistent performance, visibility, and retroreflectivity that drivers need — and still look great on New Mexico's roads. Currently, NMDOT is pursuing funding to replace guide signs on additional corridors on interstate highways.



digitally printed extruded guide sign – installed south facing in NM in 2011



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