



## Laminate Selection Guide For Horizontal Surfaces in Recreational Vehicles



When selecting a surface for horizontal applications, manufacturers need to consider manufacturability, surface performance, aesthetics, weight and cost.

### Manufacturability

Is the surface durable enough to make it through production without damage? Surfaces with higher scratch, abrasion and impact resistance mean less scrap and improved overall yield. Rolled goods can provide improved yields over sheet goods. While solid surfaces may be highly durable, their weight can be difficult to handle in production.

### Performance

Enhanced scratch, abrasion and impact resistance matters long after the production line. Consumers want their unit to look “showroom-ready” long after purchase. Counters and tabletops fabricated with edgebanding may separate over time. Easily damaged, scratched or peeling surfaces will have a negative impact on customer satisfaction.

### Aesthetics

Well-appointed travel trailers and fifth wheels start with the goal of high-end aesthetics. Consumers want surfaces that simulate the real thing. When looking at surfacing options, manufacturers seek trend-forward stone and

woodgrain designs that inspire a potential owner to touch the surface while wondering “Is this real?” Seamless surfaces can further enhance that authentic feel.

### Weight

While consumers covet feature-rich units, fuel efficiency remains top-of-mind, driving manufacturers to continuously seek lighter weight material options and replacement components. When selecting the surface, the weight of the surface material and the component weight after fabrication both must be considered. While everyone loves the look of stone, its weight is clearly prohibitive.

### Cost

Manufacturers face a continuous challenge of finding the right balance between amenities and costs. Cost is more than just the initial cost of the surface material. Manufacturers must manage material and inventory costs, manufacturing efficiencies and scrap rate and evaluate how a selected material affects the overall cost of a unit.

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While there are a range of surfacing options, each of these offer distinct advantages and disadvantages based on the above considerations. This document will help explore the benefits and tradeoffs associated with each of the following surfaces:

- High Pressure Laminate (HPL)
- (7-mil Vinyl) Flat Laminate
- **surf(x)**® 3D Laminate
- Solid Surface (including granite and quartz)



#### High Pressure Laminate (HPL)

<b>Physical Form:</b>	Sheet
<b>Fabrication Method:</b>	Flat lamination
<b>Aesthetics:</b>	Broad design offering; dimensionally inflexible; requires seams / edgebanding
<b>Advantages:</b>	Initial cost, wide availability
<b>Disadvantages:</b>	Production inefficiencies (waste); requires secondary process or edgebanding; propensity to crack and chip; unattractive seams and performance



#### (7-mil Vinyl) Flat Laminate

<b>Physical Form:</b>	Rolled good
<b>Fabrication Method:</b>	Flat lamination
<b>Aesthetics:</b>	Broad design offering; 2-dimensional flexibility; requires seams / edgebanding
<b>Advantages:</b>	Cost, higher performance (compared to HPL); improved manufacturing efficiencies (roll vs sheet)
<b>Disadvantages:</b>	Requires secondary process or edgebanding; unattractive seams



### [surf\(x\) 3D Laminate](#)

- Physical Form:** Rolled good
- Fabrication Method:** Membrane pressing
- Aesthetics:** Broad design offering; 3-dimensionally flexible resulting in seamless, contoured surfaces
- Advantages:** Seamless; lightweight; higher scratch and impact resistance (when compared to HPL and Flat Laminate); manufacturing efficiencies (rolled vs sheet)
- Disadvantages:** Requires specialized equipment; lower yield compared to other rolled goods



### [Solid Surface \(including granite and quartz\)](#)

- Physical Form:** Solid surface
- Fabrication Method:** Cut to size
- Aesthetics:** High-end aesthetic; color inconsistency
- Advantages:** Aesthetics
- Disadvantages:** Manufacturing complexity; weight; cost

## Performance Comparison

### Taber Abrasion Test Results

Taber Abrasion is an indicator of the top coat's ability to resist wear. Abrasion is measured on the Taber machine as the sample is subjected to circular cycles until the first notice of ink loss. All samples below are shown at 400 cycles, as this is the initial wear failure of the (7-mil Vinyl) Flat Laminate.



High Pressure Laminate (HPL)



OMNOVA (7-mil Vinyl) Flat Laminate



[surf\(x\) 3D Laminate](#)

## Relative Product Comparison

	High Pressure Laminate (HPL)	(7-mil Vinyl) Flat Laminate	<a href="#">surf(x) 3D Laminate</a>	Solid Surface (including granite and quartz)
Manufacturability	★★★	★★★★	★★★★★	★★
Performance	★★	★★★	★★★★★	★★★★★
Aesthetics	★★★	★★★	★★★★★	★★★★★
Weight	★★★★★	★★★★★	★★★★★	★
Total Applied Cost*	★★★★	★★★★★	★★★	★

\*Initial and life cycle cost

## Selecting Surfaces for Horizontal Applications



Photo courtesy of Open Range RV

### Application: Kitchen Counters and Dining Tables

The kitchen area of the RV is one of the most demanding environments within the unit. Kitchen counters and tables are subject to scratches and abrasion, so performance of the surface is of paramount importance, with aesthetics playing a close second. Additionally, the sheer number of (laminated) components makes manufacturing efficiencies an important consideration.

Overall, based on the ranked (importance) of performance, aesthetics, manufacturability, weight and applied cost, **surf(x)** 3D Laminates are clearly a preferred selection.

	High Pressure Laminate (HPL)	(7-mil Vinyl) Flat Laminate	<b>surf(x)</b> 3D Laminate	Solid Surface (including granite and quartz)
Overall rating of surface for kitchen applications*	★★★	★★★	★★★★★	★★★★



Photo courtesy of Coachmen RV

### Application: Bedroom Furnishings

The performance requirements in the sleeping area of the RV are not nearly as demanding as those of the kitchen. In general, manufacturers put a very high value on controlling costs of manufacturing the bedroom furnishings. Manufacturing efficiencies are an important consideration.

Overall, based on the ranked (importance) of applied cost, manufacturability, performance, aesthetics, and weight, **surf(x)** 3D Laminates are still a preferred selection with OMNOVA's (7-mil Vinyl) Flat Laminate a good second choice.

	High Pressure Laminate (HPL)	(7-mil Vinyl) Flat Laminate	<b>surf(x)</b> 3D Laminate	Solid Surface (including granite and quartz)
Overall rating of surface for bedroom applications*	★★★	★★★★	★★★★★	★★★

\*Overall performance rating of various surfaces based on manufacturability, performance, aesthetics, weight and total applied cost.

## Summary

**surf(x)** 3D Laminates are a superior surfacing material as evidenced by:

- **Manufacturability** – scratch, abrasion and crack resistant material in rolled form improves manufacturing efficiency
- **Performance** – enhanced scratch, abrasion and crack resistance keeps surface looking new longer
- **Aesthetics** – no seams, edgebanding or T-moldings simulates the appearance of solid surface
- **Weight** – lighter weight improves fuel efficiency
- **Applied Cost** – highest value of all surfacing options

[www.omnova.com/laminates](http://www.omnova.com/laminates)



World Headquarters  
25435 Harvard Road  
Beachwood, OH 44122  
United States  
PHONE +1 216 682-7000  
FAX +1 216 453-0104

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