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## Plywood Substrates for Dimensions Countertop and Panels: An Overview

What is Plywood?

The term plywood is defined as a panel manufactured of three or more layers (plies) of wood or wood products (veneers or overlays and/or core materials), generally laminated into a single sheet (panel).<sup>1</sup> Plywood is one of the most common building materials and is typically used in the roofing industry, moulds for concrete, in light partition or external walls, and as part of flooring systems.

### Plywood Substrate for Dimensions Countertops

While plywood is sometimes specified as a deck material for countertops, typically for HUD projects, it should be noted that telegraphing, or show through, of the graining of the plywood as well as joint marks on pieces over 96" in length may be noticeable. The degree of telegraphing will vary depending on the color and pattern, and gloss level of the laminate selected. Typically, the higher the gloss level and the lighter the laminate color, the higher the chance of telegraphing with postforming grade laminate (0.038"). Additionally, the rate of telegraphing goes up significantly when vertical grade (0.028") laminate is specified.

The image below shows the typical graining of plywood that can cause telegraphing.



Via <http://www.boulterplywood.com/photogallery/wood%20names/ROTARY%20DOUGLAS%20FIR.jpg>

### Plywood Substrate for High Pressure Laminated (HPL) Panels

Plywood is a substrate option that VT Industries offers customers for High Pressure Laminated Panels. Panel lay-up is an important factor for panel performance. Balanced construction, which is the preferred construction method, consists of

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<sup>1</sup> Architectural Woodwork Standards, 2<sup>nd</sup> Edition, Section 4 Sheet Products, October 1, 2014 ([http://woodworkinstitute.com/wp-content/uploads/2015/05/Sec4\\_2ndEdAWS\\_SmBkMrkd\\_141001.pdf](http://woodworkinstitute.com/wp-content/uploads/2015/05/Sec4_2ndEdAWS_SmBkMrkd_141001.pdf)), page 73



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an odd number of layers that is symmetrical from the center line; e.g., inner plies, except the innermost middle ply, should occur in pairs using materials and adhesives on both sides that contract and expand, or are moisture permeable, at the same rate.<sup>2</sup>

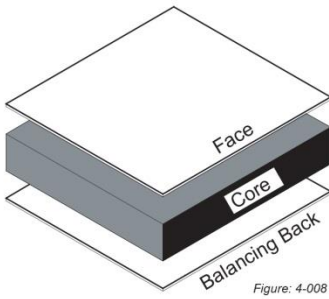
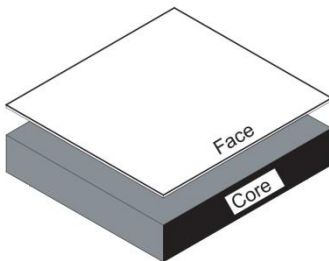


Figure: 4-008

By comparison, unbalanced panels have an even number of layers, and are not symmetrical from the center line or core. Unbalanced panel construction allows moisture to penetrate the unbalanced or raw side of the panel, which causes the panel to warp. This is especially true in plywood core lay-up.



Telegraphing, or show through, can also occur with high pressure laminated panels with plywood cores. Similar to laminate countertops with a plywood core, the degree of telegraphing will vary depending on the color and pattern, and gloss level of the laminate selected. Typically, the higher the gloss level and the lighter the laminate color, the higher the chance of telegraphing with postforming grade laminate (0.038"). Additionally, the rate of telegraphing goes up significantly when vertical grade (0.028") laminate is specified.

<sup>2</sup> Architectural Woodwork Standards, 2<sup>nd</sup> Edition, Section 4 Sheet Products, October 1, 2014 ([http://woodworkinstitute.com/wp-content/uploads/2015/05/Sec4\\_2ndEdAWS\\_SmBkMrkd\\_141001.pdf](http://woodworkinstitute.com/wp-content/uploads/2015/05/Sec4_2ndEdAWS_SmBkMrkd_141001.pdf)), page 75