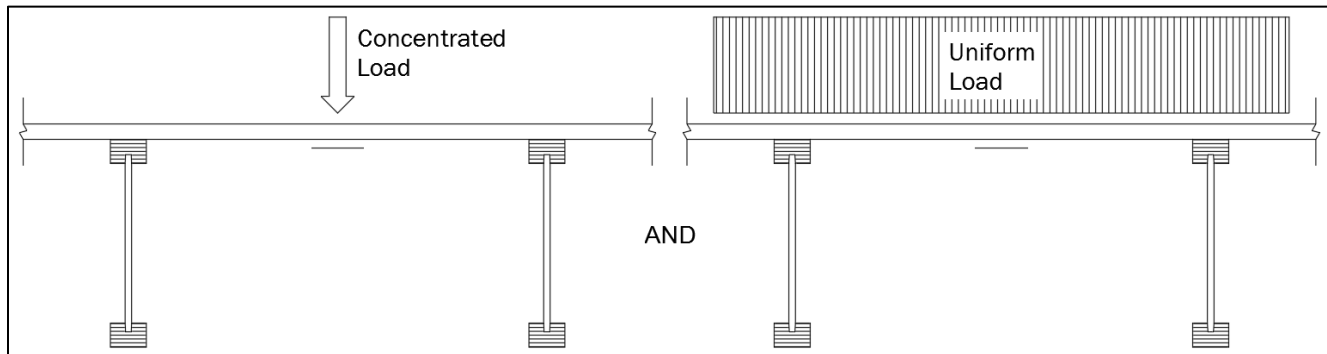


## Weyerhaeuser Edge Gold™ Floor Panel Deflection Comparison

### Comparison Outline

An analysis was conducted by Weyerhaeuser engineers to compare the deflection performance of Weyerhaeuser Edge Gold™ floor panels in two (2) separate floor systems.

### Load Condition



The systems were evaluated for deflection and curvature under both concentrated and uniform loads with the results summarized in the following table:

### ANALYSIS RESULTS

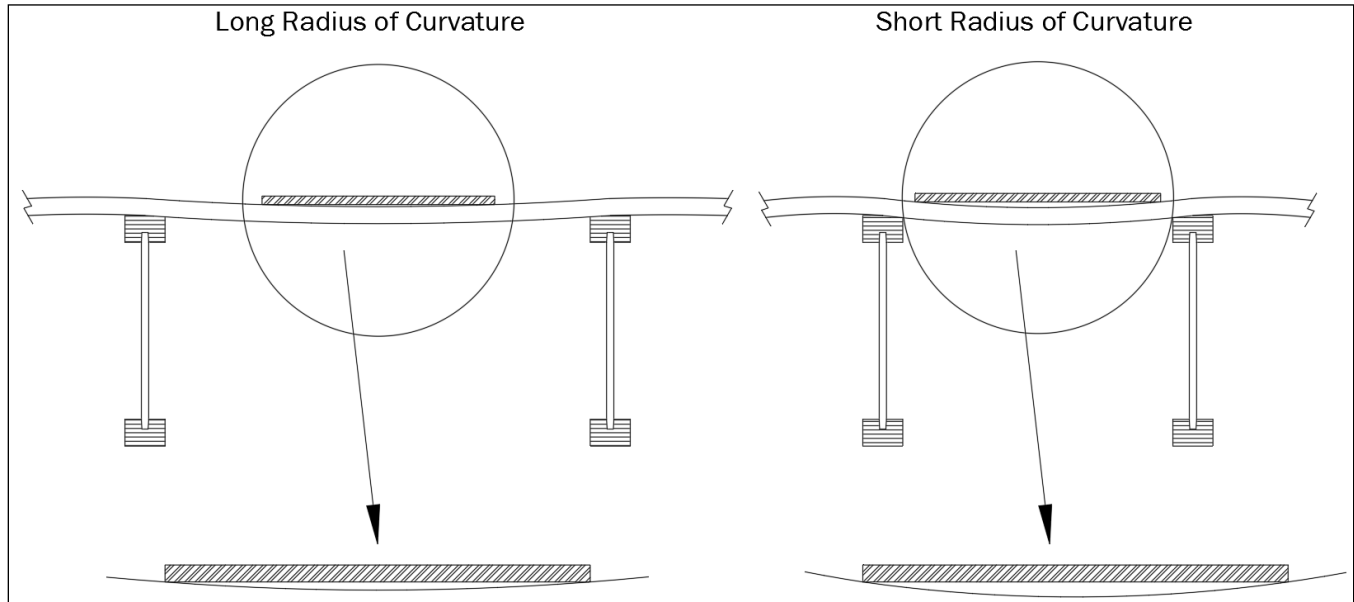
| System 1                 |                                                                                                          | System 2                 |                                                                                                          |
|--------------------------|----------------------------------------------------------------------------------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Joist Type</b>        | TJI® appropriate for span and load                                                                       | <b>Joist Type</b>        | TJI® appropriate for span and load                                                                       |
| <b>O.C. Spacing</b>      | 24 in.                                                                                                   | <b>O.C. Spacing</b>      | 16 in.                                                                                                   |
| <b>Floor Panel</b>       | 7/8" Edge Gold™ (1F32)                                                                                   | <b>Floor Panel</b>       | 19/32" OSB (1F20)                                                                                        |
| <b>Uniform Load</b>      | Live Load: 40 psf<br>Dead Load: 22 psf<br>Deflection: 0.034 in. (L/697)<br>Radius of Curvature: 2090 in. | <b>Uniform Load</b>      | Live Load: 40 psf<br>Dead Load: 22 psf<br>Deflection: 0.021 in. (L/771)<br>Radius of Curvature: 1542 in. |
| <b>Concentrated Load</b> | Load: 300 lbs<br>Deflection: 0.133 in. (L/180)<br>Radius of Curvature: 540 in.                           | <b>Concentrated Load</b> | Load: 300 lbs<br>Deflection: 0.121 in. (L/133)<br>Radius of Curvature: 266 in.                           |

### Results

- Standard Deflection under uniform load and concentrated loads are comparable between both systems. In both cases, System 1 panel deflection was slightly more than System 2, but the deflections were within 0.015 in. of each other.
- Both systems meet the L/360 deflection criterion under uniform loads.
- Despite the larger spacing between joists in System 1, the thicker floor panel results in superior performance with respect to radius of curvature of the panel between supports. Radius of curvature is often considered a more critical performance parameter than deflection for the floor finishes (e.g. ceramic tile). For more information of the effects of panel curvature, see the following section.

## Radius of Curvature

To visualize radius of curvature, imagine two simple span beams of different length with an equal distance of total deflection at mid-span. Although the deflection is the same, the shorter beam would have to be deformed in a tighter curve to deflect the same amount as the longer beam (i.e., shorter radius of curvature = sharper curve).



The floor panel system with a short radius of curvature results in a much “sharper” curve, therefore, a floor finish will be required to flex more than a system with a large radius of curvature.

***If you have any questions, please contact  
your Weyerhaeuser representative.***