

Guardrail Wind Load Analysis

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Engineering
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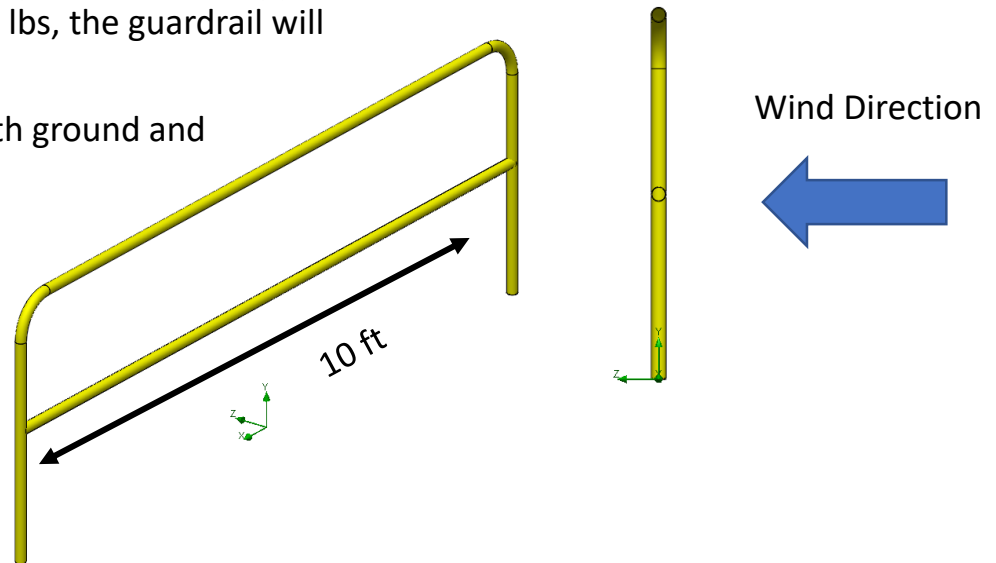
TIE DOWN
MANUFACTURING INGENUITY



Wind Load Analysis

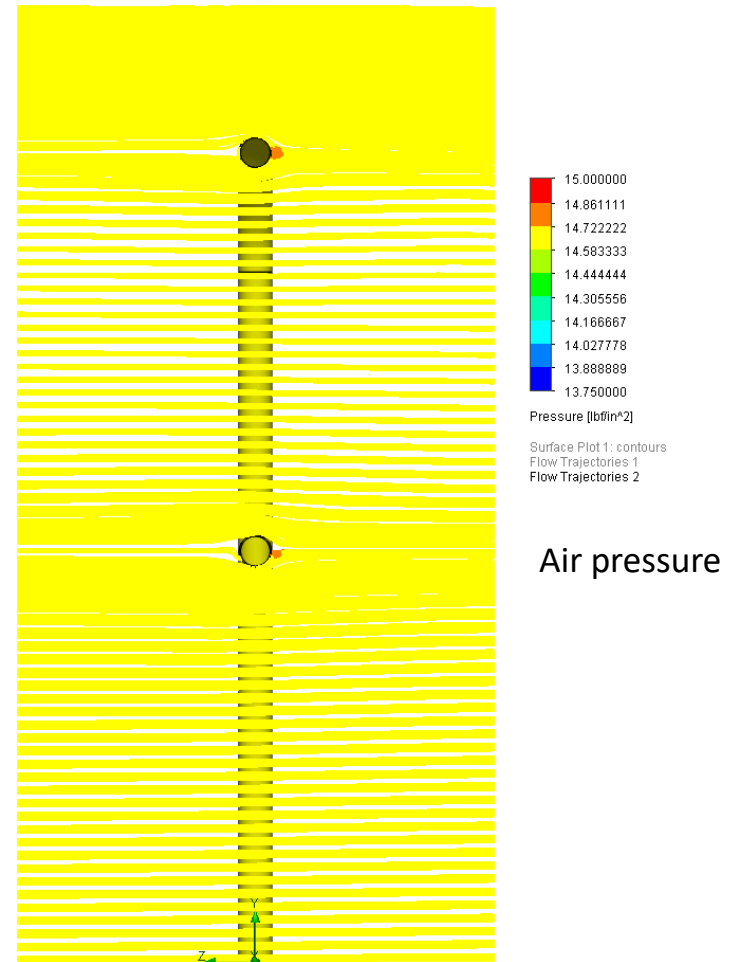
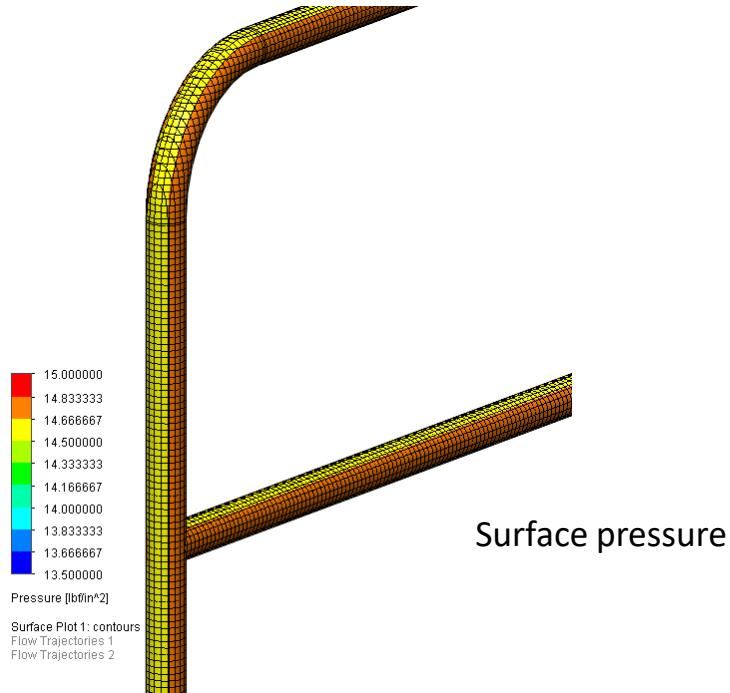
- 10 foot zip rail P/N 70758
 - 10 foot width is worst case - largest surface area
 - 1.66" diameter top tube
 - 1.625" diameter mid-tube
- OSHA requires guardrails to withstand 200 lb force without tipping
- All Tie Down guardrails meet the OSHA requirements for applied loads, therefore if wind load is under 200 lbs, the guardrail will not tip at that wind speed.
- Wind direction modeled as horizontal with ground and perpendicular to cross tubes

Wind Speeds
50 MPH
100 MPH
200 MPH



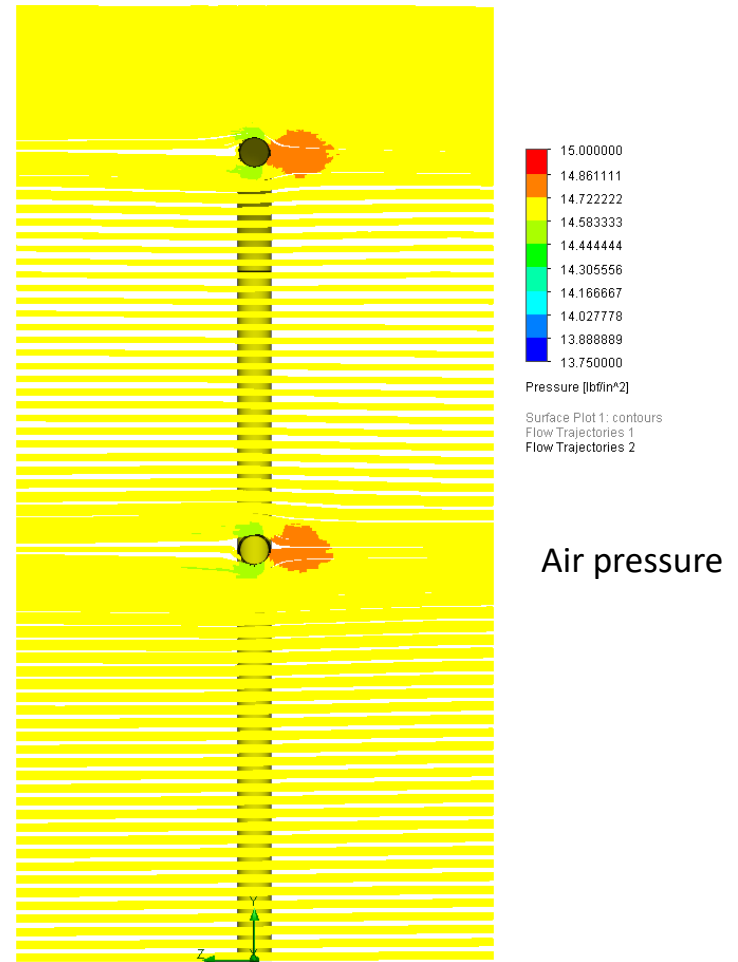
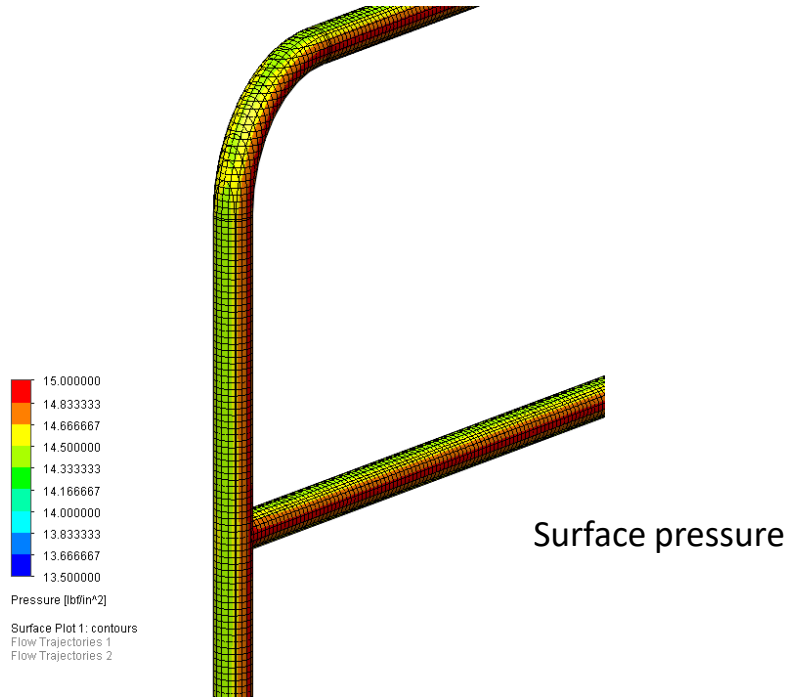
50 MPH

- 13.7 lbf wind load



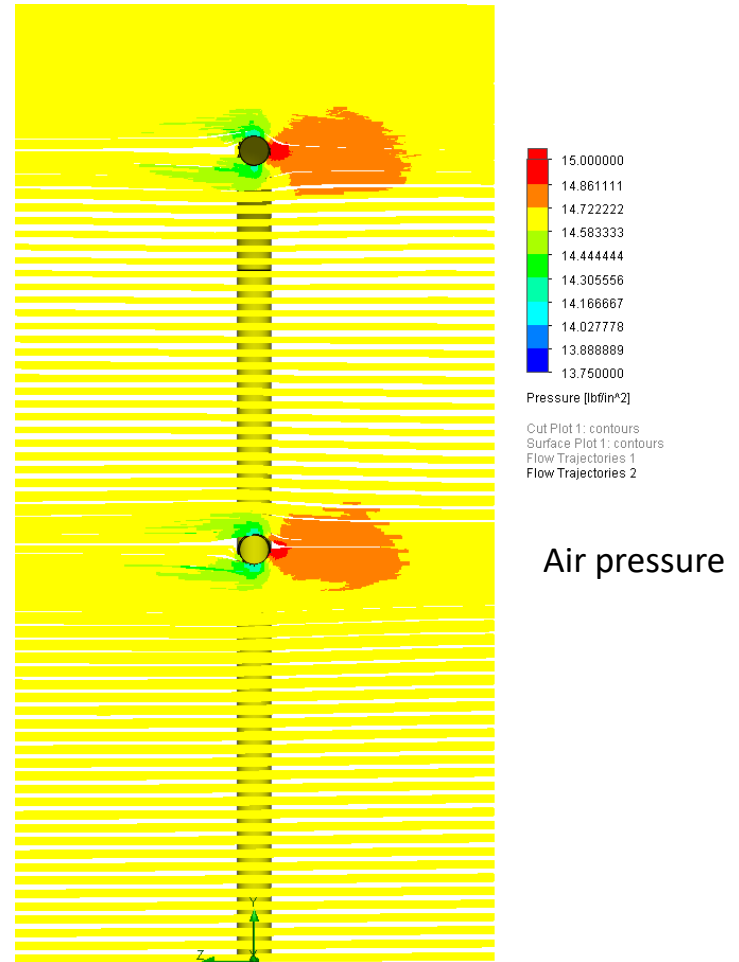
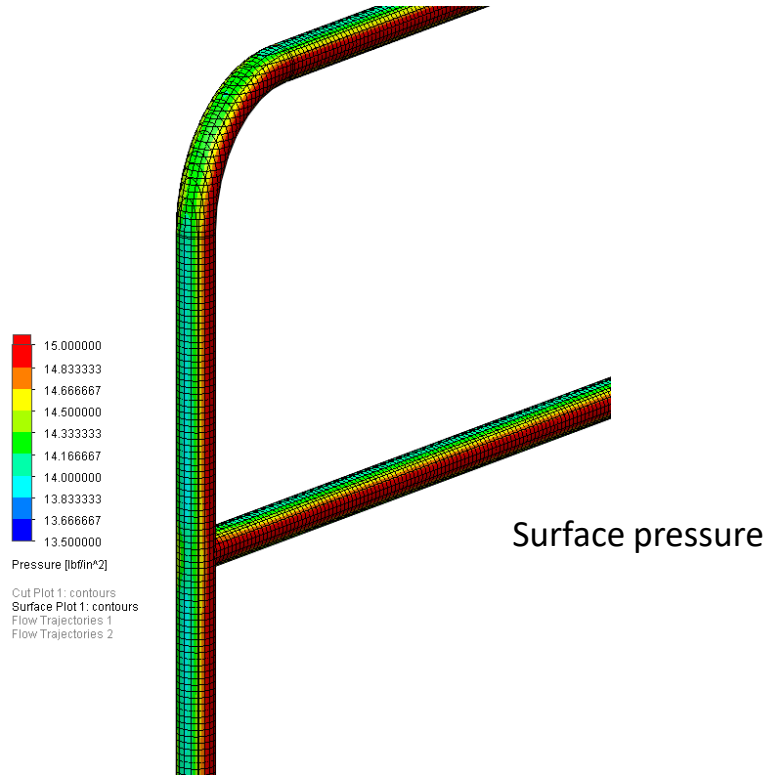
100 MPH

- 55.16 lbf wind load



150 MPH

- 125.75 lbf wind load



Summary

- All wind loads up to 150 MPH are significantly less than 200 lbs, the load which the guardrail has been successfully tested to per OSHA requirements.
- The Tie Down guardrail system will withstand wind loads up to 150 MPH.
- Guardrail systems shorter than 10 ft can also be assumed to withstand wind loads up to 150 MPH because their surface area and therefore wind load will be smaller.

Wind Speeds	Wind Load
50 MPH	13.70 lbf
100 MPH	55.16 lbf
150 MPH	125.75 lbf