

SUMMARY REPORT

CASE STUDY

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Steam Train Car Roof

OWNER:

Entertainment Company

FACILITY LOCATION:

Florida, USA

EQUIPMENT NAME:

Steam Train Car

CONCLUSIONS

Inspection and analysis of FRP asset buckling revealed that visible damage did not compromise the structural integrity.

SUMMARY

The asset for this case study was an FRP roof of a steam train car used at an outdoor amusement park. The owners of the train car identified buckling and sagging along the length of the roof and selected UTComp to evaluate the extent of damage and the car's suitability for service.

The workplan:

1. A UTComp Engineer collected data using the UTComp **UltraAnalytix™** system.
2. An **UltraAnalytix™** file was created for the roof and more than 60 readings were taken across the full width and length of the car.
3. Additional readings were taken at the areas of concern.

The collected data was then analyzed, and heat diagrams were produced for each reading to show thickness and the percentages of design stiffness (PDS) for each reading. The area of concern was shown in greater detail.

The analysis showed that the PDS was greater than the critical PDS and the engineering review threshold. This meant that despite the visible buckling, the structural integrity of the train car had not been compromised. Furthermore, the **UltraAnalytix™** analysis provided the client with valuable insights into the remaining service life of the train car.

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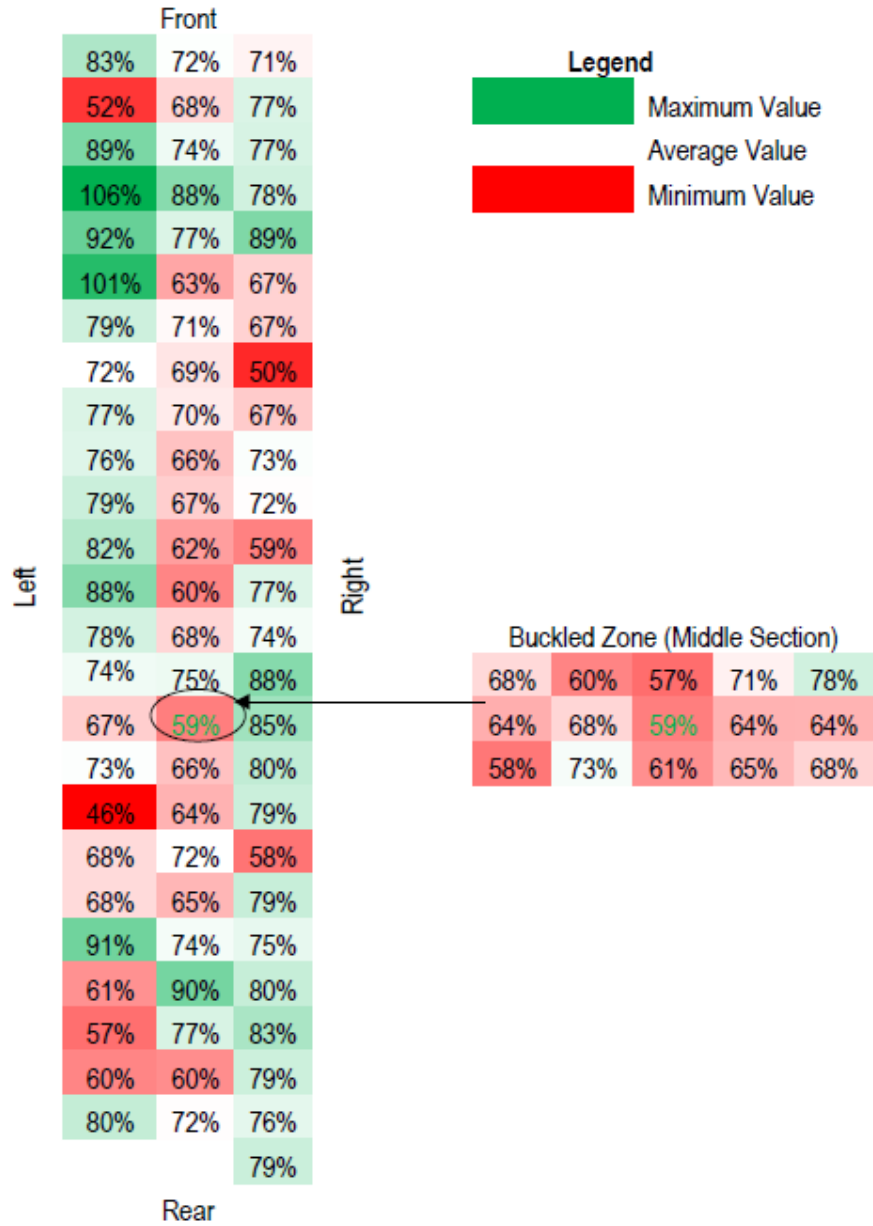


Figure 1 - Sample heat chart for FRP Asset