



Cylindrical Structures - Structural Assessment and Monitoring

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STRAAM's monitoring system determines the integrity of cylindrical structures.



Cylindrical Structures such as steel and concrete **silos, tanks** and **chimneys** are essential industrial components which pose a substantial financial and safety risk to owners and insurers if they fail. Due to the repetitive loading and unloading, freeze thaw cycles and demanding operating conditions they are subjected to, these structures can experience cracking and performance degradation over time, yet they are difficult to assess due to their size.

STRAAM offers a proven approach to analyzing the stiffness and performance of cylindrical structures so owners can understand how much stiffness the structure has lost over the years. This can be used in inspection procedures and included in a risk assessment to determine when to replace the structure.

STRAAM'S METHODOLOGY INCLUDES:

Risk Analysis

- Systems identification to capture natural frequencies and response of the structure to the action of wind.
- Stiffness comparison to its original design.
- Failure mode analysis to identify specific potential risk scenarios.
- Use the above information to help structural engineers determine the response of the structure due to the action of a Seismic event.
- Rate similar structures relative to new condition based on a structural index.

Monitoring during rehabilitation

- Track changes to the performance of the structure to monitor the risk profile.
- 'Pre' and 'Post' condition assessment to provide a periodic summary of any changes to the structure due to aging or severe events.

Continuous Monitoring

- Offer clients a permanent record of the performance of the structure under all conditions.
- Track changes for immediate analysis.



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