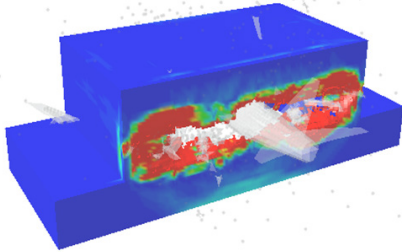


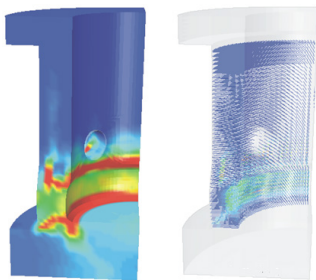


**Structural Integrity**  
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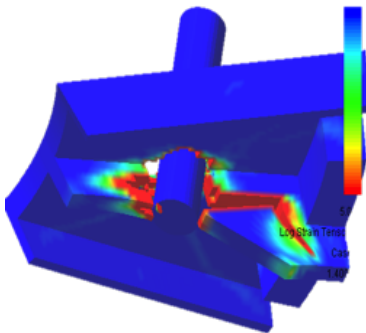
# EXTREME LOADING EVENTS AND TORNADO GENERATED MISSILES



Aircraft Impact Assessment



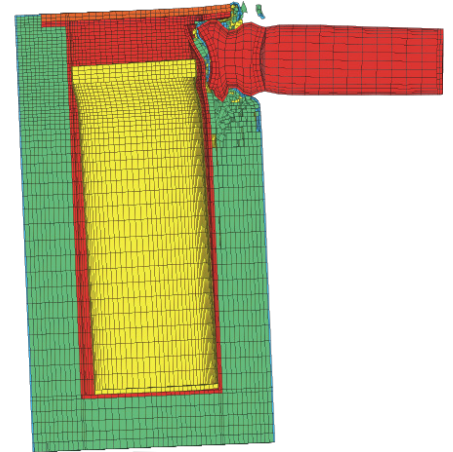
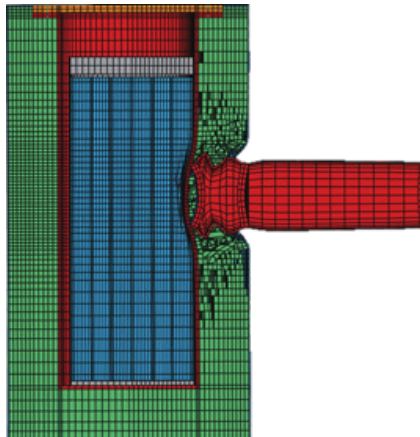
Impulsive Blast Loads



Handling Accidents for Heavy Loads

**Structural Integrity Associates, Inc.** provides experienced structural engineering services to support extreme loading events and tornado generated missiles. Structural design typically isolates major structural components and their associated loads, so simplified design formulas can be applied for section sizing. Load and resistance factors, along with applicable margins of safety, have proven reliable in accounting for uncertainties in these assumptions and for variations in loads, material performance, and construction detailing. Our experts use advanced tools for structural analyses in order to increase the life expectancy and loading requirements of sophisticated, modern structures.

- Utilizes methodology recognized in NEI 07-13 and accepted by USNRC for performing aircraft impact assessments for new plant design.
- Experience in applications for aircraft/missile impact, heavy load handling accidents, and impulsive blast loads.
- Experimentally validated explicit dynamics finite element analysis code developed at Structural Integrity



Local Deformable Hard Missile Response

- Analysis methodology can assess not only viability of target but also surrounding support structures and systems.
- Provides refined solution when traditional strain energy balance methods calculate unrealistic or overly conservative results.
- Non-linear concrete and steel material response as opposed to traditional linear elastic strain energy balance methods.
- Capable of simulating energy dissipation of a deformable missile as opposed to highly conservative rigid missile methodology.



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