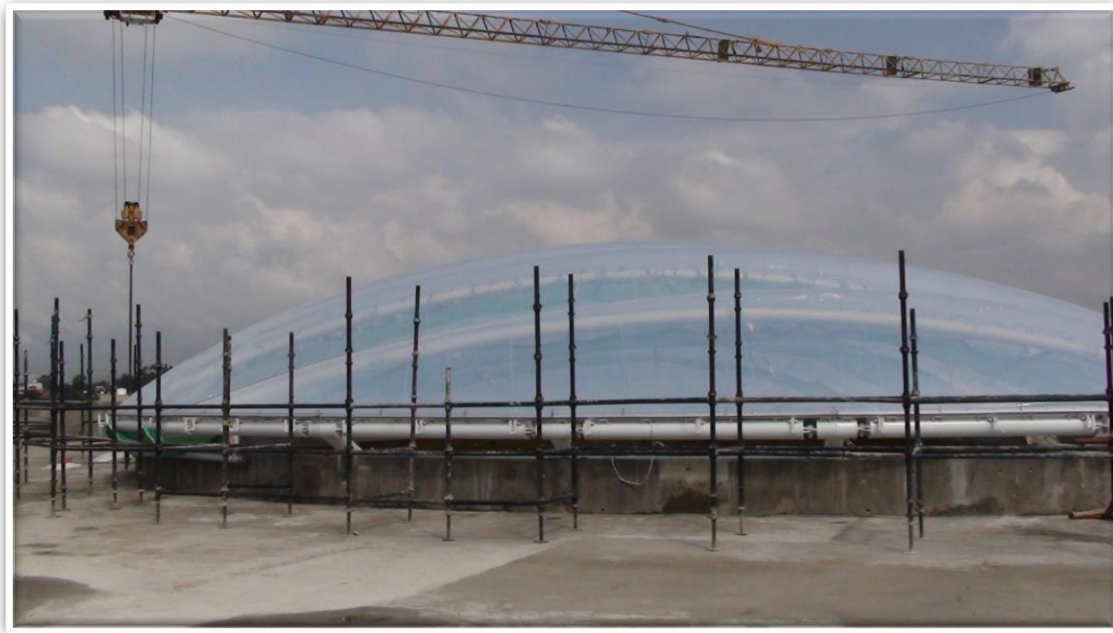


## Numerical analysis methods for ETFE multilayer cushions

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### Abstract

Analysis of ETFE Cushions without using complex air spring FEA models can be a hard problem to by-pass in most situations. Non-Linear behavior of the thin film and loss of stability due to applied loads lead to search for simplified methods yet still accurate for practical use.

In this paper different analysis methods are compared:

A Constant Pressure Model, a  $P * f(t)$  where pressure is a function of fictitious time  $t$ , a Boyle-Mariotte model solved with a inner Newton-Raphson procedure and a a Boyle-Mariotte Model solved with fictitious springs.

Results are compared to a reference model for validation.

### References

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