

X International Conference on Textile Composites and Inflatable Structures – STRUCTURAL MEMBRANES 2023

Nic Goldsmith FAIA LEED AP*

Principal FTL Design Engineering Studio
44 East 32nd Street, New York, NY 10016 USA

*
Centre Internacional de Mètodes Numèrics en Enginyeria (CIMNE)
Universitat Politècnica de Catalunya (UPC)
Campus Norte UPC, 08034 Barcelona, Spain
e-mail: congress@cimne.upc.edu, web page: <http://www.cimne.upc.edu>

† Spanish Association for Numerical Methods in Engineering (SEMNI)
Edificio C1, Campus Norte UPC
Gran Capitán s/n, 08034 Barcelona, Spain
Email: membranes@cimne.upc.edu / semni@cimne.upc.edu - Web page: <http://www.semni.org>

ABSTRACT

Detailing of Tensile Architecture and the Adoration of the Joint

Details of something are its individual features or elements; they are indicators of quality, identity, functionality and care. They tell stories and create memories. You might be able to create successful spaces without good details, but architecture only comes into being when you have a level of clarity throughout. Because tensile architecture is still a relatively recent form of construction (only 60 years), tensile structure details have traditionally been an expression of geometry and member sizing with little acknowledgement to its architectural qualities.

This presentation will start with a historical overview of tensile connections, the divergent European and American approaches in the 70's and where we are today as our industry has globalized and subsequently unified. We will question what is the meaning of a fabric / steel connection? When gravity plays no role, when there is no datum and every angle is one of 360 degrees, what is our sense of order? Are we developing a new sense of order for tensile architecture or is it an ad hoc approach based on practicality?

This presentation will then examine the three recently completed FTL projects in the US: an adaptive reuse project of an abandoned baseball stadium in Connecticut; an entry canopy of a new hotel in Texas suspended from above; and a new enclosure in Washington State covering a 450m pedestrian Interstate bridge joining two campuses together. The first is an enclosed static space whilst the next two projects are ones of motion, highlighting arrival and departure. All three use the same woven tensile material (PTFE coated glass) but because they are in different climates and have different uses, the details of each one describe different narratives.

Can their descriptions suggest a detailing approach to a mature tensile architecture industry?