

Improved Fasteners for False Deck Panels *Ship Warfare Systems Integration Panel Meeting*

ATI Project Manager: Ryan Schnieder
Program Technical Representative: Gregg Buczkowski
Project Lead: Ron McClellan

7/23/26

300 M Street, Washington D.C.



Integrated Project Team

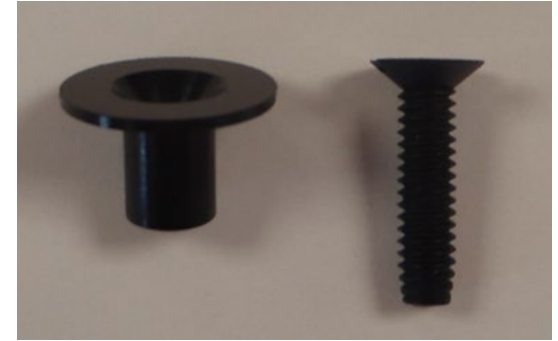
- NSRP / ATI
 - Ryan Schneider
 - ATI Project Manager
 - Gregg Buczkowski
 - Project Technical Representative
 - Jason Farmer
 - Ingalls NSRP Shipyard Delegate
- Technical Team
 - Ingalls
 - Ron McClellan
 - Mike Thompson
 - Jimmy Giles
 - Bill Tash
 - Reagan King
 - NNS
 - Harold Howard
- NAVSEA
 - 05P1: Shock - Ships
 - 05P2: Materials Nonmetallic, Ships
 - NSWC: Carderock Division
- Support
 - Milwaukee Composite Inc.
 - Shock test material support



Project Overview

- **BACKGROUND**

- The current fastening system allowed false deck panels to come adrift during shock testing after completion of ManTech project S2723 False Deck Panel Improvement which focused on developing new composite false deck panels. This causes safety concerns during any shock event.
- This method is a two-piece system, involving a multi-step process, which includes the use of adhesives , introducing a curing period, thereby making the system time and labor intensive.



- **GOALS**

- The IPT seeks to find *cost effective* and *readily available* industry solutions that meet the necessary requirements for fastening MIL-PRF-32664 deck panels and legacy Nomex core panels that are used in false decks of electrical or electronic spaces.
- The project team will seek to establish clear guidelines for fastening systems used to secure MIL-PRF-32664 compliant false deck panels and other false deck including legacy Nomex core panels.



“We are going to the hardware store, not the lab”



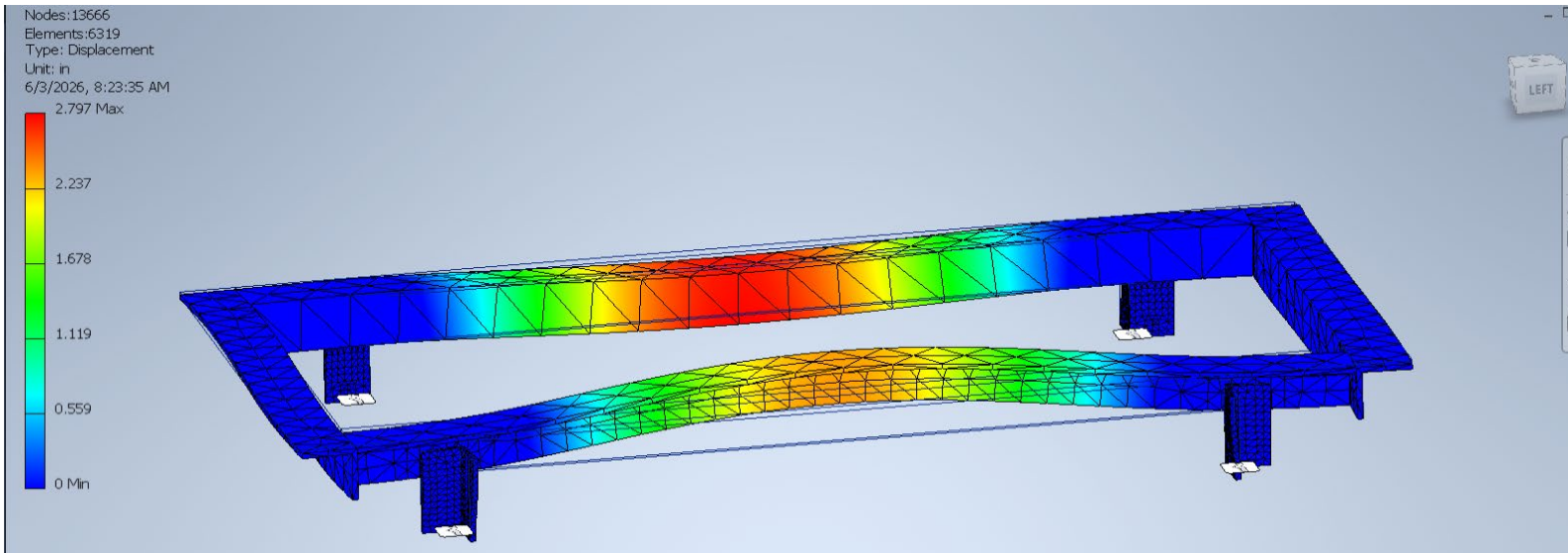
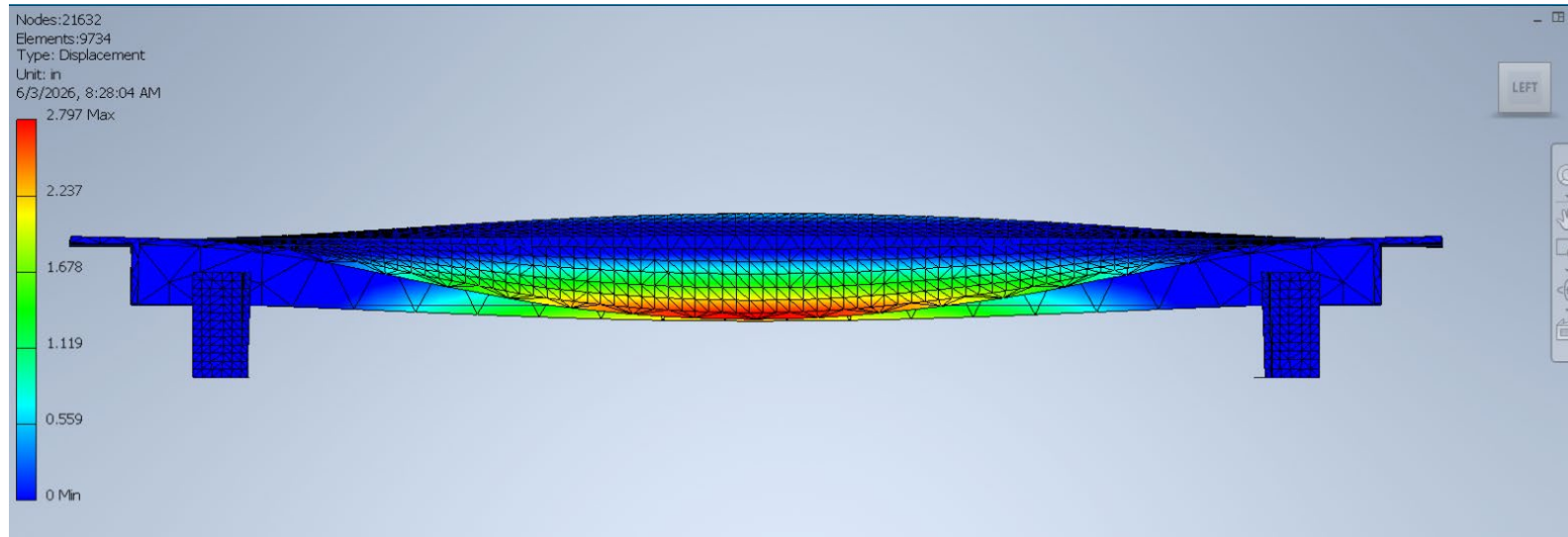
Project Status

- ***Kick Off meeting*** Complete
 - Team members briefed
- ***Initial Market Research*** In progress: early start
- ***Establish Baseline*** In progress
 - Initial discussion held with NAVSEA Technical Warrant Holder
 - Project approach and goals
 - Project benefits
 - Criteria and Metrics (Milestone) (Delayed)
 - Test current method (Linked to Test & Eval)
- ***Test and Evaluation*** In progress: on schedule
 - Design of Test Fixture
 - Draft of Shock Test Plan & Procedure
 - Obtained False Deck System Shock Test information from BIW
 - Collaboration with approved deck panel suppliers for shock test material

- Panel size, fastener location, number of fasteners

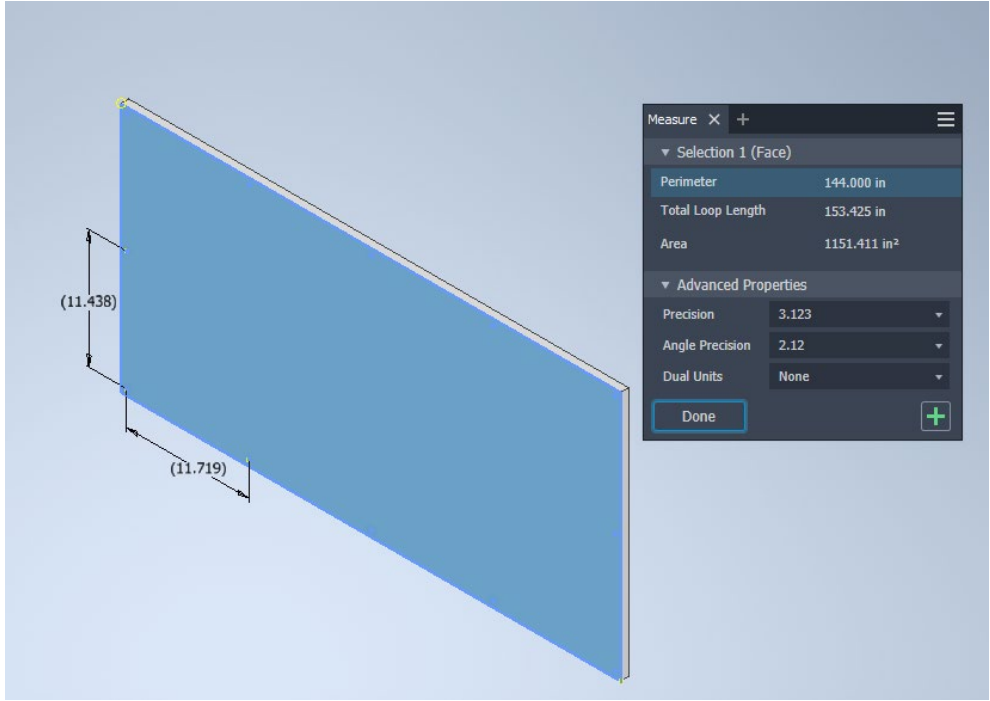
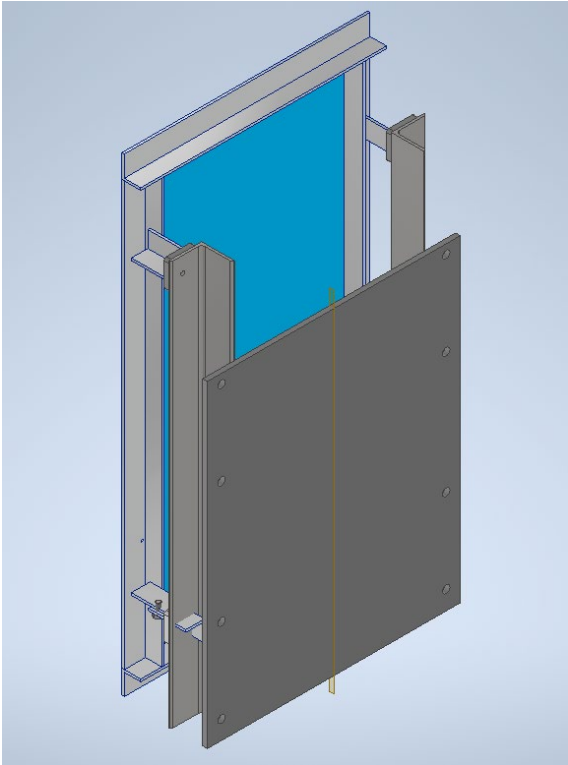
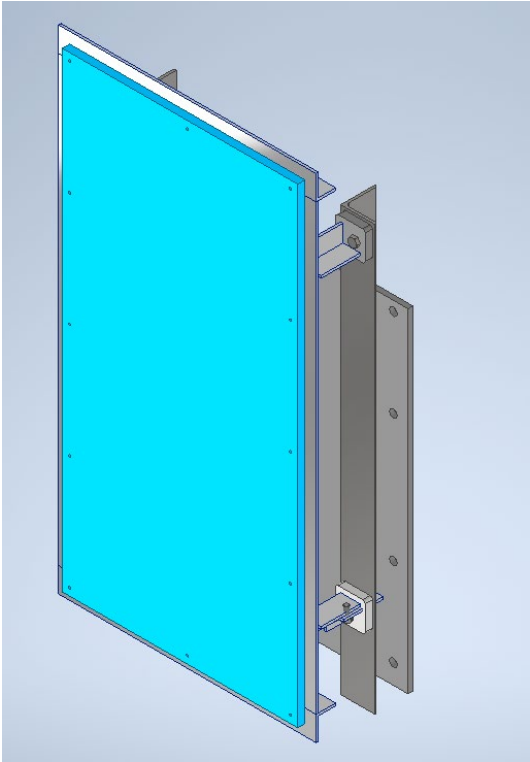
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Design of Fixture & Test Article



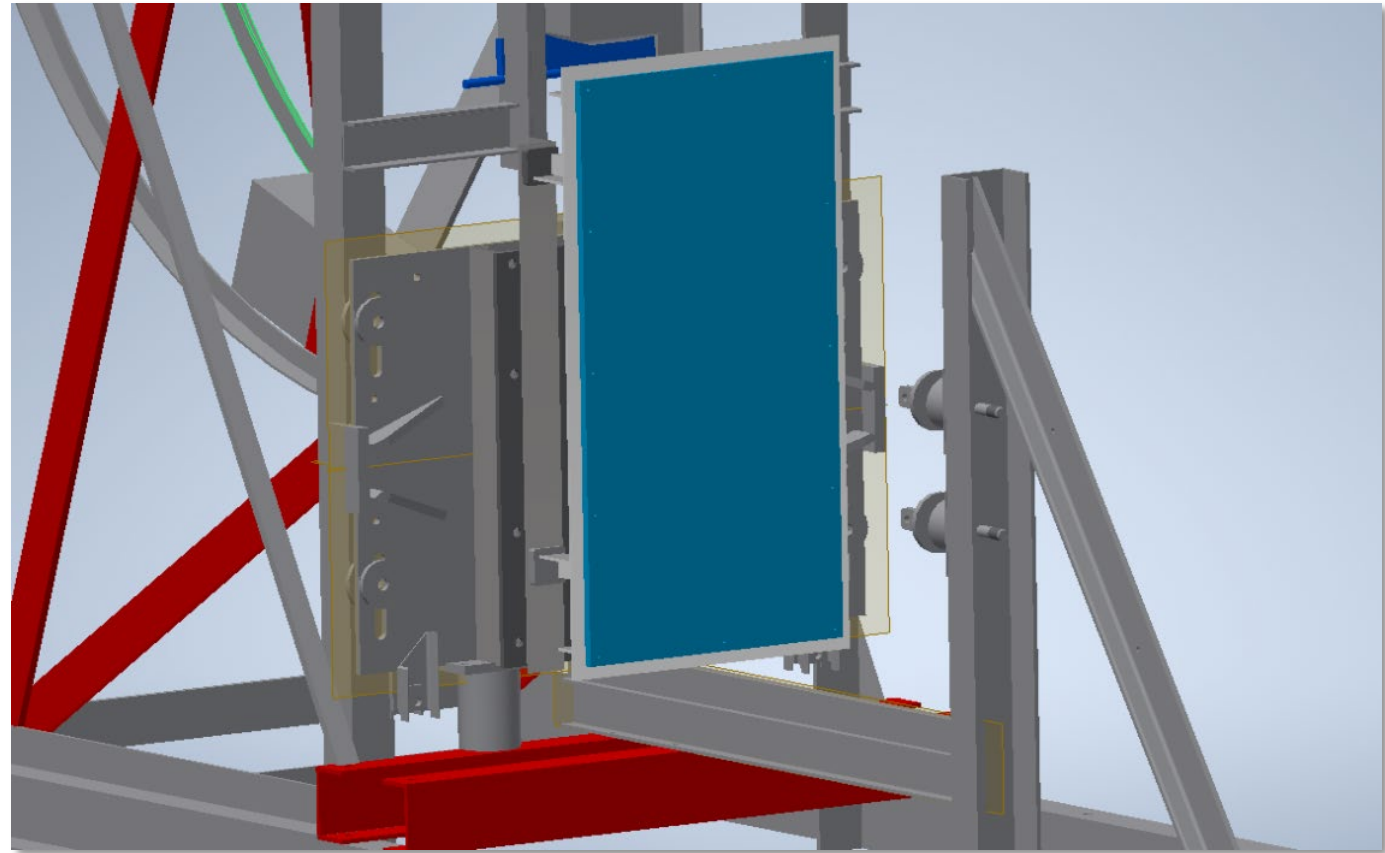
Full Size Panel 2' x 4'

Full Size Panel	
Panel Size	2' x4'
Number ofFaster	12
Faster Spacing	11.719" and 11.437"
Panel Area	1151.411 in^2
Load Per Bolt	416.45 lbs.



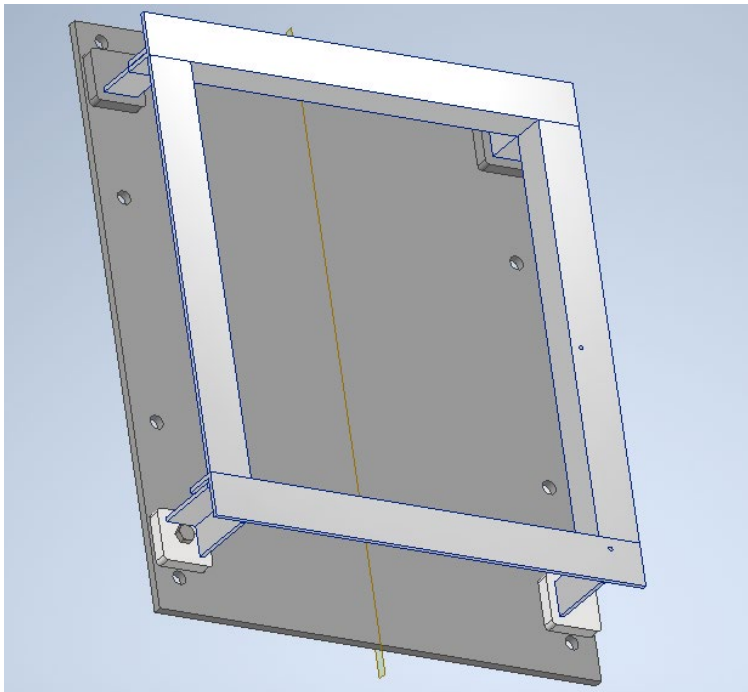
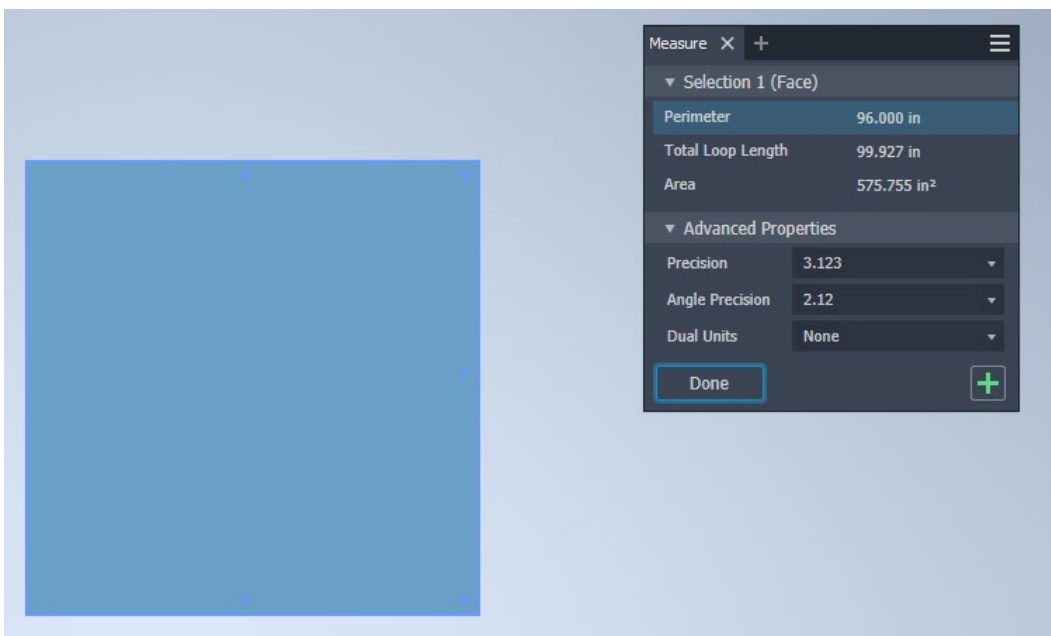
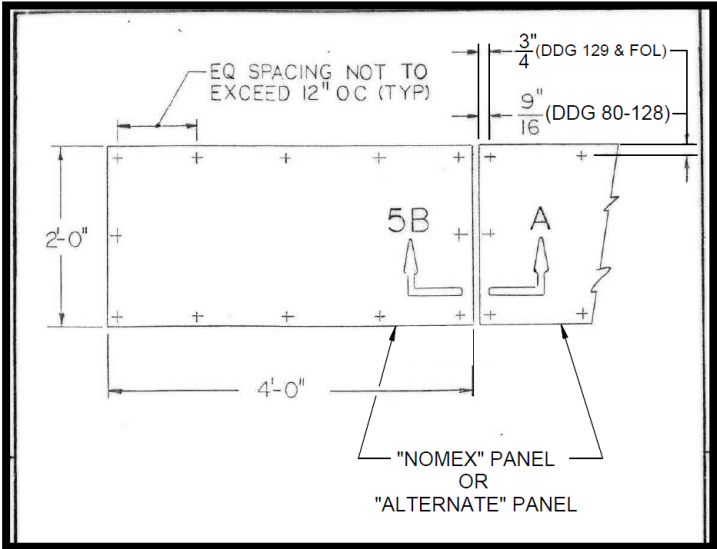
Design Non-Standard Test Fixture

- Light Weight Shock Machine
 - On site to support rapid & frequent testing

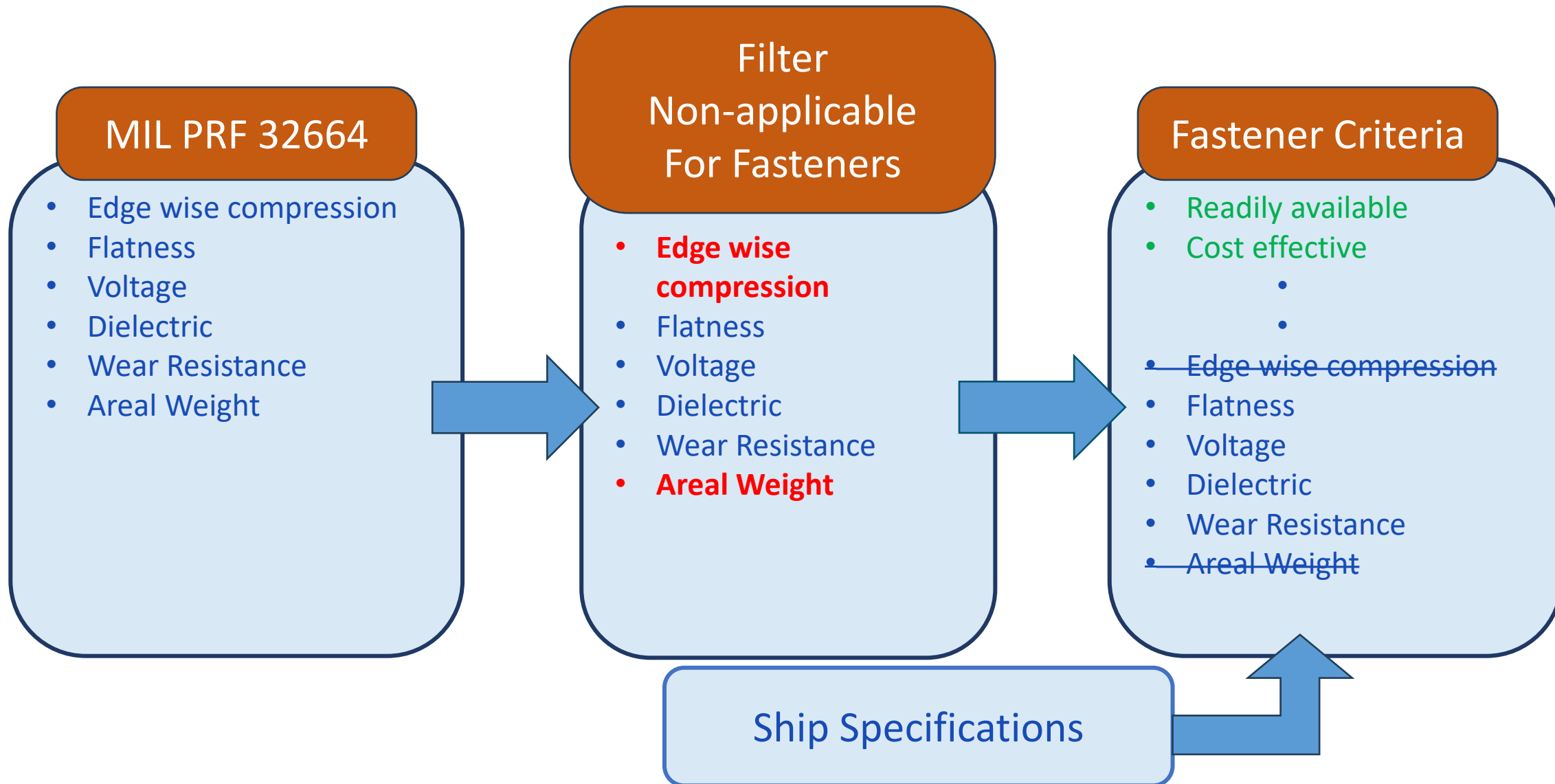


Half Size Panel 2' x 2'

Half Size Panel	
Panel Size	2' x2'
Number ofFaster	8
Faster Spacing	11.4375" and 11.437"
Panel Area	575.755in^2
Load Per Bolt	312.36 lbs.
Dummy Mass	3.33 lbs.
Load per Bolt with Dummy Mass	416.45 lbs.



Fastener Criteria & Metrics



Testing Approach

Market Research

- Criteria & Metrics

Pull Test

- First threshold test
- Less material required

Confidence Testing

- Lightweight Shock Test



M4 M5 M6 Neoprene Well Nuts Set

- Neoprene rubber and 304 stainless steel bolts – durable for long-lasting use



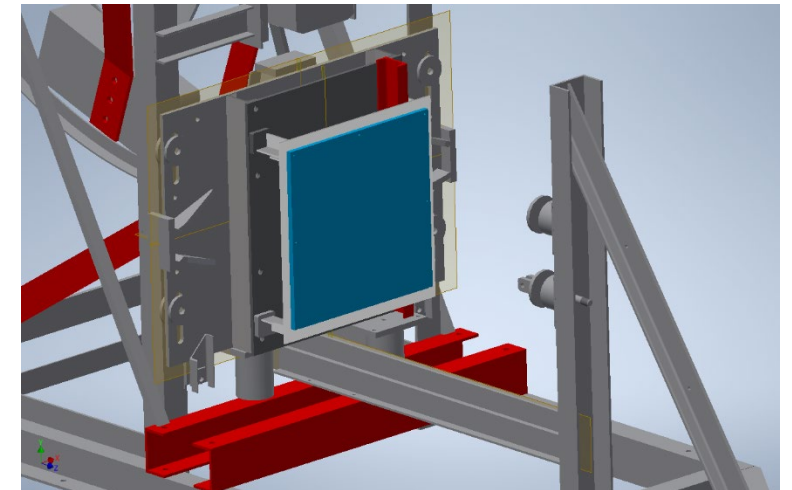
M5 Bugle Well nuts & M5 Long Well Nuts

- 3-Step Installation, No Extra Tools Needed
Deliver a consistent hold for all outdoor use



M4 M5 M6 Kayak Well Nuts Kits

- Brass Insert – stronger holding power for secure fastening



Questions?