



Naval High Temperature Insulated Buspipe Development



Objectives:

1. Perform 3 hour flame test on promising single phase HTIBP sample.
2. Certification program approved by SEA 05 TWH
3. Parallel effort to investigate/evaluate connector types.
4. Business case analysis performed

Importance:

- Provide Navy Shipbuilders a high temp, high current, 90 degree bend radii, alternative to paralleling multiple cables for electric high power medium voltage applications where cable is deemed unsuitable
 - ✓ Directed energy weapon loads
 - ✓ Increased surveillance system loads
 - ✓ EMALS loads
 - ✓ Hybrid Ship Propulsion loads

Accomplishments:

- FY14 –
- Heat rejecting fabric investigated
 - Vendors contacted to request providing samples for analysis. Tefelen agreed and shipped two samples.
 - Aero Nav Test Lab contracted to perform testing
 - Sample successfully 3 hour flame tested at Aero Nav Labs
 - Draft Test Report Issued for Review

FY15 Deliverables:

- Provided results of high temp rated insulating material investigation
- Provide test results of thermal & electrical analysis testing
- Provide plan to transition investigation into Swampworks (now NSRP/PEO Ships) effort

Last Updated: 06 -Feb-2015

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.



3 phase Cast Resin Bus Bar with high temp resin

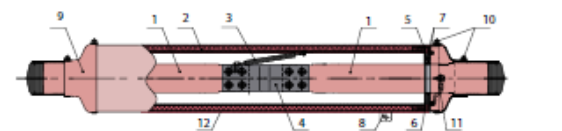


Figure 3. The bus bar elements connection

1. Element of the bus bar	5. Flat washer	9. Protective housing
2. Connection sleeve	6. Sealing ring	10. Clamp
3. Contact spring	7. Half flange	11. The element's earthing point
4. Flexible	8. The connection sleeve's grounding	12. Protective sleeve

Single phase Insulated Bus Pipe with high temp resin

GAME PLAN:

- FY15 – NSRP/PEO Ships HTIBP Qualification, Connector investigation/evaluation and NSRP Special Project for Business Case Analysis
- FY16 – Shipboard and/or Landbased Demonstration
- FY17 – Develop additional Shipboard maintenance and installation methods

POC:

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