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 "Trusted advisors to the American Maritime Industry"



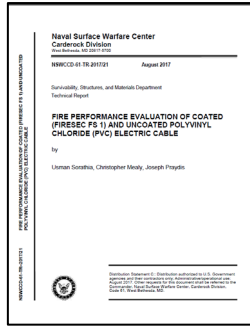
TECHNOLOGY FACT SHEET – Cable Fire Protection

TECHNICAL CHALLENGE

- Cable coatings burn off in first minutes of high temp space fires
- Shipboard cables fuel fire above 1000°C
- Fires propagate in minutes on uncoated cables
- Electrical cables and cableways provide conduit for fire-spread
- Legacy Polyvinyl Chloride (PVC) cabling, still present on older ships, releases hydrogen chloride acid gas when aflame
- Some Ship Availabilities face supply challenge for Low Smoke Cables to replace PVC cabling on older ships



Vertical Cableway Fire Test
 NSWCCD (Uncoated Cable)



TECHNOLOGY OVERVIEW

- FS1 is Mature/High TRL passive fire protection - Ready TODAY
- >20 years deployed on offshore platforms and cruise ships - Proven high ROI
- FS1 intumescent coating system contains hydrates which release water vapor when coating exposed to fire
- FS1 significantly reduces release of toxic gases and fire-spread from cabling
- FS1 improves fire survivability and decreases fire-spread of MIL-DTL-24643 compliant cables
- FS1 coated cable life is 60 years vs uncoated cable life of 20 years

Navy and Commercial Shipyard Testing and Implementation Studies



Class and Regulatory Approvals

BENEFIT TO THE WARFIGHTER

- Potentially saves \$100s millions/billions in fire damage and lost operational availability of U.S. Navy warships
- Enables shipboard firefighting by limiting fuel and giving more time for teams to employ active measures
- Reduces personnel injury due to toxicity and/or fire spread
- Works 100% of the time



U.S. Navy photo

100%

Passive cable fire protection is always available

>20 years

Since First Commercial Use

3+ years

Recommended for Fleet Use by NSWC CD and approved submarine application test plan

31

Gas & Oil Platforms
 Worldwide

230+

Civilian Cruise Liners
 Worldwide

3

Major U.S. Navy
 Testing Efforts

NSWC/NMCPHC/BUMED

9

Technology Readiness
 Level

~\$500K

Typical Warship
 Application Cost