



DEPARTMENT OF THE NAVY

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IN REPLY REFER TO

3910
Ser W60/011

JUL 09 2014

From: Commander, Naval Surface Warfare Center, Dahlgren Division

Subj: POLICY FOR THE USE OF SINGLE-TUBE BLOWN OPTICAL FIBER
CABLE

Ref: (a) MIL-PRF-85045/26A, Cable, Fiber Optic, One Tube,
Blown Optical Fiber, Standard And Enhanced
Performance, Cable Configuration Type 5 (Tube),
Application B (Shipboard), Cable Class SM AND MM
(Metric), 19 Jan 10
(b) MIL-STD-2042B, Fiber Optic Cable Topology
Installation Standard Methods For Naval Ships,
25 Jul 02

1. Purpose. This letter clarifies the requirements for the use of single-tube Blown Optical Fiber (BOF) cable for Navy-specific shipboard applications.

2. Background. Single-tube BOF cable was originally designed for intra-compartment use only to accommodate network system equipment that integrated BOF directly to the equipment versus passing through a fiber optic interconnection box and utilizing local conventional fiber optic cable. Due to the lack of structural strength compared to the 7-tube BOF cable, single-tube BOF cable is extremely sensitive to the weight of other cables around it (either installed or being installed) and can be crushed with very little effort. In addition, the "Intended use" statement, in reference (a) states: "This cable is intended for use as a local cable and is not intended for installation in the cableways."

3. Design and use of single-tube BOF cable. When designing BOF tube paths and BOF system links, single-tube BOF cables shall only be designed and installed within compartments or just outside of compartments requiring interface with the single-tube BOF cable. Figures 1 and 2, below provide direction on the use of single-tube BOF cables. The asterisk "*" below indicates that single-tube BOF cables shall be installed within a compartment or

Subj: POLICY FOR THE USE OF SINGLE-TUBE BLOWN OPTICAL FIBER CABLE

installed just outside of a compartment. Additionally, the furcation area in Figure 1, below, shall be contained within a compartment.

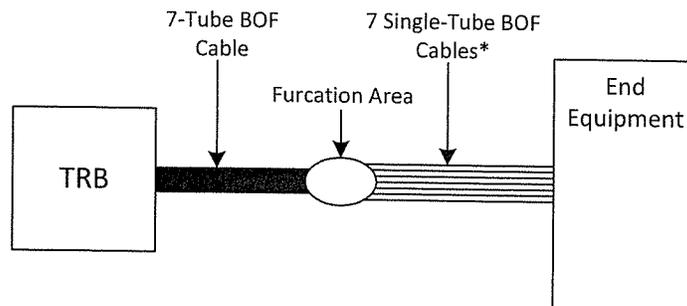


Figure 1. BOF Cable Furcation per MIL-STD-2042B, Method 1D1

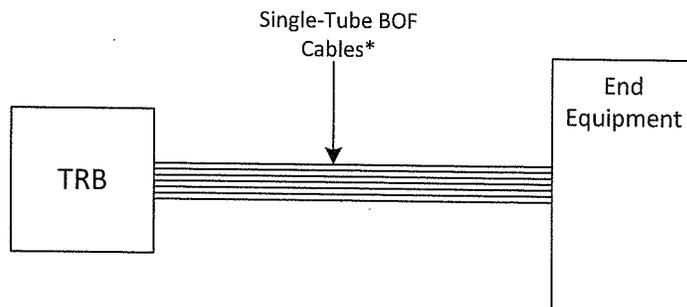


Figure 2. Tube Routing from a Tube Routing Box (TRB)

4. Installation of single-tube BOF cable. Single-tube BOF cables shall be installed within a compartment or installed just outside of a compartment if a TRB is not available within the designated compartment. When installed just outside a compartment, a single-tube BOF cable shall not be installed in the primary cableways. An existing secondary cableway shall be utilized or installed for only single-tube BOF cable, per reference (b). This method will prevent single-tube cable from being crushed by other cabling. If installing a single-tube BOF cable in a secondary cableway is not practicable and requires deviation from this policy, the proposed deviation shall be reviewed and approved by the Navy Shipboard Fiber Optic Technical Direction Agent, Naval Surface Warfare Center Dahlgren Fiber Optics Section, prior to installation.

5. The requirements addressed in this letter will be incorporated into the next formal revision to MIL-STD-2042.

Subj: POLICY FOR THE USE OF SINGLE-TUBE BLOWN OPTICAL FIBER
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6. If you have any questions, please contact
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