FIRE-LITE ALARMS
by Honeywell

July 2015 – Webinar Questions and Answers
Myth Busting Fiber II - Life Safety Applications and Best Practices

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The recorded webinar along with copy of the presentation used can be found on webinar section of Fire-Lite's website.

1. Will we all get a PDF of the presentation in the future?
    a. Yes, attendees of the webinar receive a copy of the presentation via email.

2. Can you mix 62.5uM and 50uM fiber?
    a. Yes, you can mix 50 uM & 62.5uM multimode fiber. There are adapters and couplers available to accommodate this. It is important, however, to make certain of the signal loss of each adapter and/or coupler in the system and account for this loss when calculating your fiber optic system power budget. Power budget was discussed in our July webinar.

3. Are there certificates for attending this program to be provided?
    a. Yes, attendees of the webinar receive certificates via email.

4. Does temperature cause additional loss of power, or shut down?
    a. Extreme temperature can cause a breakdown in the material of the fiber optic cable compounds resulting in a system loss of power or failure. Extreme temperatures may include fiber optic cables exposed to fire and other extreme temperatures. You should also consult your fiber optic transmission equipment manufacture for operating temperature parameters of the transmitters and receivers. Fiber optic cable manufactures will also generally provide operating temperatures.

5. Regarding budgeting, is there a recommended safety margin to account to potentially damaged lines that during the repair adds additional dB consuming connectors?
    a. Yes, potential and imminent changes in the systems configuration including repair or modification should be accounted for in advance. This will prevent the need to replace the transmission equipment with higher performance, and more expensive equipment after the initial installation.

6. Is there a tool to measure the actual dB loss?
    a. Yes, OTDR Optical Time-Domain Reflectometer is the best device to measure loss. This device may also have features that pin point where the loss is occurring or reflection problems that may have occurred during install or termination. An OTDR can cost from $600 - $16,000 depending on your needs.

7. Is the equipment listed for fire alarm use? If yes, does it fall under "other transmission technologies" in NFPA 72 or something else?
    a. Fire-Lite Alarms' fiber solution, Lite-Connect™, is UL 864 listed.

8. Are the safety glasses specifically listed for protection when working with fiber optic light frequencies or will sun glasses for uvA and uvB be acceptable?
    a. The safety glasses provided with most termination kits are NOT designed to protect against eye damaging light. It is important to consult with the transmission equipment manufacture to understand how to use best safety practices. One should avoid direct contact with the invisible light emitted from a fiber transmitter.

9. What and how is the fiber link monitored or supervise in cases where the application is for a Fire and Security System?
    a. The fiber link is monitored by the fire or security system, such as in the case of Lite-Connect™, and a break in any connection is annunciated.

10. Can you touch on minimum bend radius?
    a. Minimum bend radius is typically 10 x the nominal OD of the cable. This stands true for copper cable, and fiber optic cable. .250" nominal OD cable = 2.25" minimum bend radius. The arc or loop in the cable should not be smaller than 2.5"

11. Can fiber entering a building be terminated and connected directly to fire alarm equipment or does it need to be terminated into a patch panel then use patch cables for connection to the fire alarm equipment?
    a. There are many varieties of cable which are designed for outdoor and indoor use without transitioning. If you are using an outdoor cable not designed for indoor, or rated accordingly, you will need to transition to the appropriate indoor rating such as rise, or plenum.

12. What is dark fiber?
    a. Dark fiber is a strand of fiber within a bundle that is transmitting signal either by design or by failure. Often, extra fibers are installed, but not used in preparation for future expansion.

13. What about cold conditions?
    a. Cold conditions generally do not effect fiber optic transmission. However, being certain of the operating perimeters of both the fiber transmission equipment and cable is important.

14. DOES FIRELITE WORK WITH BOTH SINGLE AND MULTI MODE FIBER?
    a. Fire-Lite Alarms' fiber solution, Lite-Connect™, is compatible with multi-mode fiber.

15. Where do we get training on termination? Also, how much does the termination equipment cost?
    a. Please contact West Penn Wire for information on fiber optic termination training. West Penn Wire phone (724) 222-7060

16. Is the fiber limited to dialer communications or can this be used for IAC and NAC also?
    a. Yes, the fiber in the applications for Fire-Lite is used solely for connecting the fire alarm control panels for centralized central station communications.

17. Can you break the fiber with too tight of a bend?
    a. It is very difficult to break a fiber optic cable with a tight bend. The fiber core, cladding, and coating make for a very flexible design. Tight minimum bend along with extreme cable tension may break the fiber core.

18. This appears to be for interconnection in network systems are there plans for device interconnection?
    a. In regards to Fire-Lite and Lite-Connect, this is used solely for connecting the fire alarm control panels for centralized central station communications.

19. is new fiber stronger than the fiber from 20 years ago?
    a. Yes, improvements in compounds and overall fiber optic cable design have dramatically improved resilience, durability, and performance.

20. How does the fiber hold up with a fire situation?
    a. Unless the fiber optic cable is specifically designed and intended for use in an environment to withstand exposure to fire, it is not. Consult the specifications of the fiber optic cables operating perimeters. Be specific with your fiber suppliers as to the survivability you require before purchasing.

21. Can vibration affect dB or cause communication problems?
    a. Vibration generally will not affect the fiber cables performance. However vibration could compromise fiber terminations, and certainly affect the transmission equipment. Consult your fiber equipment manufacture for durability features.

22. Possible scenario - a buried cable system with several cables is severed by a backhoe and takes out 5 feet of cables. How do you repair the cables and does this increase the dB loss?
    a. Yes, this will affect your power budget / dB loss. There are multiple methods of splicing or repairing fiber optic cables in the field. There are mechanical, epoxy, and fusion splicing systems available. Some mechanical splicing systems can be done quickly in the field. These will certainly introduce dB loss into thesystem. Consult your fiber optic cable manufacture for the best method of splicing based on the environment, application, and power budget.