

Cable selection challenges

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Cables are often the last component considered during system design. In many situations, cables are really the system lifeline. Selecting the wrong type of cable can lead to a cable system that cost more than it needs or as a worst scenario it can result a fail in system. Each element in the cable construction plays a unique role. In addition, the environments in which cable systems are being used today are becoming more challenging. Client, contractor, consultation, project contractor and cable manufacturer are the main partners who select the cable based on his experience and knowledge which leads to conflict in selecting cable construction and materials. For example some customers are requesting for:

1. Aluminum conductor with fire resistant cables properties.
2. PE Sheath with flame retardancy.
3. Steel Tape armour with LSZH/LSOH/LSHF (low smoke zero halogen) sheath.

As a result of this selection the cable may not operate correctly or as required, unreliable and subject to continual failures can happen.

Choosing the right cables type in right place will ensure optimum solution:

- Long-Better life for cable.
- Saving cost.
- Reliable system.

This paper focuses on cable selection with respect to material used in cable and application requirement. Additionally, this will assist the customer to select the cable with correct combination, without conflict in the properties and avoiding confusing of these selections.

Many literature and articles are available for cables selections. However, there is no enough information available on “non-preferred combination of materials” or “Cable Constructions – to be avoided”. We propose to have such guideline published from international forum for selecting cables for particular application and specifying advantages and limitations for materials used in cables.