



# TROMPETER

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*An ISO9001 Company*

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## TECHNICAL NOTE

### #24

Trompeter offers 4 types of cable to its customers. They are PVC, Plenum, Low Smoke/Zero Halogen, and High Temperature. This Technical Note will discuss some of the properties and applications associated with each.

#### **PVC**

PVC is the acronym for Polyvinyl Chloride. PVC is a widely used material in the manufacture of cable insulation. It is economical, and possesses good physical qualities such as flexibility. PVC cables are also Halogenated to give it fire retardant qualities. When PVC cables are heated to combustion, they give off a considerable amount of smoke, as well as Halogen gases such as fluorine, chlorine, bromine, and iodine. These gases are extremely toxic and corrosive when mixed with moisture. PVC jacketed cables, when melting, also serves as a wick that can help in the spread of a fire. PVC cables should be limited to general purpose applications.

#### **Plenum**

Plenum rated cables are used in applications where high temperature requirements are necessary. Plenum cables are less flexible than PVC, but more fire resistant and give off less smoke. Plenum cable is also less prone to wick and spread a fire. Because Plenum cables are Halogenated, the smoke is toxic. CL2P (class 2 data/signaling, no voltage rating assigned) and CMP (data/signaling, and/or voice communications, voltage rated for 300 volts) rated plenum cables are listed as suitable for use in ducts, plenums, and other spaces used for environmental air. Plenum cables available from Trompeter are TWCP-78-1/2 (CL2P), TWCP-124-2 (CL2P), TWCP-124-3/5 (CMP).

#### **Low Smoke/Zero Halogen**

Halogen free cables produce very little smoke and are non-toxic. One of the drawbacks is that Halogen free cables exhibit less of the fire retardant characteristics of Plenum, or PVC. Halogen free cable is more flexible than plenum cable. Trompeter halogen free cable is made of the material Polyolefin. Polyolefin allows the cable to be flame retardant, yet at the same time limits the toxic smoke and corrosive gases associated with

Halogenated cables. Applications for Low Smoke/Zero Halogen cables are commercial buildings, computer rooms, telecommunications, high risk buildings (hospitals, theaters and hotels), industrial applications (control centers), subways and ships. Low Smoke/Zero Halogen cable available from Trompeter is the TWCH-78-2.

### **High Temperature**

Trompeter High Temperature cable consists of the material PFA, or Perfluoroalkoxy. It has a higher temperature rating than Trompeter's plenum cables, but is not Plenum rated. While this cable has a low smoke capability when burning, the smoke is toxic. High temperature cable available from Trompeter is TWAC-78-1F2.

If you need any further amplification, or your customer asks a question that is not addressed, contact Bill Berger in Technical Support at (818) 865-6534, or e-mail at [bill.berger@trompeter.com](mailto:bill.berger@trompeter.com). We look forward to your questions.