

TIA-598-C Optical Fiber Cable Color Coding,

by [The Telecommunications Industry Association's / THE FOA](#)

Users have been installing hybrid (MM+SM) cables in the backbone for years. With the premises fiber optic cabling now including two varieties of 50/125 fiber, 62.5/125 and singlemode fibers, managing the cable plant is more difficult. We have already seen instances of users and installers being confused and getting bad test results, as well as having problems with networks operating when connected over the wrong fiber type.

There is a color code standard in process, TIA-598C that addresses this issue, which we could adopt and reference. Here is what it recommends:

Colored outer jackets or print may be used on Premises Distribution Cable, Premises Interconnect Cable or Interconnect Cord, or Premises Breakout Cable to identify the classification and fiber sizes of the fiber.

When colored jackets are used to identify the type of fiber in cable containing only one fiber type, the colors shall be as indicated in Table 3. Other colors may be used providing that the print on the outer jacket identifies fiber classifications in accordance with subclause 4.3.3.

Such colors should be as agreed upon between manufacturer and user.

Unless otherwise specified, the outer jacket of premises cable containing more than one fiber type shall use a printed legend to identify the quantities and types of fibers within the cable.

Table 3 shows the preferred nomenclature for the various fiber types, for example "12 Fiber 8 x 50/125, 4 x 62.5/125."

When the print on the outer jacket of premises cable is used to identify the types and classifications of the fiber, the nomenclature of Table 3 is preferred for the various fiber types. Distinctive print characters for other fiber types may be considered for addition to Table 3 at some future date.

Features And Benefits

Fiber Type	Color Code	#	#
	Non-military Applications(3)	Military Applications	Suggested Print Nomenclature
Multimode (50/125) (TIA-492AAAB) (OM2)	Orange	Orange	50/125
Multimode (50/125) (850 nm Laser-optimized)(TIA-492AAAC) (OM3, OM4)	Aqua	Undefined	850 LO 50 /125
Multimode (62.5/125)(TIA-492AAAA) (OM1)	Orange	Slate	62.5/125
Multimode (100/140)	Orange	Green	100/140
Single-mode(TIA-492C000 / TIA-492E000) (OS1, OS2)	Yellow	Yellow	SM/NZDS, SM
Polarization Maintaining Single-mode	Blue	Undefined	Undefined (2)

NOTES:

- 1) Natural jackets with colored tracers may be used instead of solid-color jackets.
- 2) Because of the limited number of applications for these fibers, print nomenclature are to be agreed upon between manufacturer and enduser
- 3) Other colors may be used providing that the print on the outer jacket identifies fiber classifications per subclause 4.3.3.
- 4) For some Premises Cable functional types (e.g., plenum cables), colored jacketing material may not be available. Distinctive jacket colors for other fiber types may be considered for addition to Table 3 at some future date.

Fiber Color Codes:

Inside the cable or inside each tube in a loose tube cable, individual fibers will be color coded for identification. Fibers follow the convention created for telephone wires except fibers are identified individually, not in pairs. For splicing, like color fibers are spliced to ensure continuity of color codes throughout a cable run.

Fiber Number	Color
1	Blue
2	Orange
3	Green
4	Brown
5	Slate
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Rose/ Pink
12	Aqua

There is a publicly available document that defines the twelve TIA/EIA colors for fiber conductors: <http://munsell.com/color-blog/color-codingchart-wire-color-coding/>