

## **Tight-Buffered Fiber Optic Cable. Fast, easy, economical termination with no chemical cleaning required.**

### **Optical Cable Corporation's Tight-Buffered Fiber Optic Cables Are the Answer**

Optical Cable Corporation is committed to tight-buffered construction as the best proven state-of-the-art design for nearly all commercial communications applications demanding the high performance of optical fibers. Such applications include moderate distance transmission for telco local loop, LANs, SANs, COLOs, and point-to-point links in cities, buildings, factories, office parks and on campuses. Tight-buffered cables offer the flexibility, direct connectability and design versatility necessary to satisfy the diverse requirements existing in high performance fiber optic applications.

### **Loose-Tube Gel-Filled Construction Falls Short**

In loose-tube gel-filled cable construction, the fibers are contained in small, rigid tubes, generally flooded with gel, stranded together, again flooded with gel and covered in an outer cable jacket. Even in the relatively long straight runs for which they were designed, these cable types may experience problems in water penetration and chemical interaction of gel with fiber — buffers causing weakening and brittling of the fibers with time.

Although loose-tube gel-filled fiber optic cables are used for high-fiber-count, long-distance telco applications, they are an inferior design for the Local Area (Private) Network applications where reliability, attenuation stability over a wide temperature range and low installed cost are the priorities. With the loose-tube gel-filled cables, terminations and any required splices demand extensive cleaning of the messy gel. Also, being relatively inflexible, loose-tube gel-filled cables can develop stress cracks and pinholes, which can allow water penetration and damage to the optical fiber.

### **Tight-Buffered Construction is the Clear Advantage**

Tight-buffered fiber optic cables from Optical Cable Corporation incorporate the following attributes most important in networking applications:

- Excellent fiber protection: maximum moisture and mechanical protection provided by multiple fiber buffers and advanced jacket design
- Easy handling: dense fiber packaging for smaller cable diameter, tight bend radius and easier pulling with Core-Locked™ jacket
- No messy gel
- Ease of termination: direct termination of fibers reduces mess and expense of installation by eliminating steps and materials required
- A built-in ripcord speeds the stripping process
- Flame-retardant and UL-listed
- Indoor/outdoor versatility: exceptional moisture resistance, UV resistance, material durability and extended temperature range make the cables suitable for outdoor runs
- Water-blocking available to meet relevant standards without the use of messy gel filling compound
- Higher survivability standards: based on military technology for survival under mechanical and environmental stress

## TIGHT-BUFFERED CABLES VS. LOOSE-TUBE GEL-FILLED CABLES



### Cable Construction Comparison

| OPTICAL CABLE CORPORATION'S TIGHT-BUFFERED CABLE                                                                                                           | LOOSE-TUBE GEL-FILLED CABLE                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| One fiber per buffer — excellent mechanical and environmental protection                                                                                   | Multiple fibers per buffer                                                                                           |
| No gel filling needed — exceptional tight-buffered cable construction and aramid strength members provide excellent protection for every inch of the cable | Gel filling needed to prevent moisture collection in tubes                                                           |
| No cleaning needed — no gel, easy to handle, install and terminate, saving time and costs, and improving reliability                                       | Gel filling must be chemically cleaned — messy, costly and time consuming                                            |
| No stiff strength member needed, more flexible cable — easier to handle                                                                                    | Requires stiff cable strength member — more difficult to handle and install                                          |
| Cable is “tightbound” and can be pulled around multiple bends or hung vertically (no fiber axial migration)                                                | Should not be pulled around multiple bends or hung vertically (fiber axial migration) — installation limitations     |
| Easy to terminate, no breakout kits or splicing required                                                                                                   | Difficult to terminate, breakout kits or splicing required — time consuming, requires expensive equipment and skills |
| Lower total installed costs                                                                                                                                | Cable purchase cost may be slightly lower                                                                            |
| This tight-buffered cable is the CLEAR ADVANTAGE                                                                                                           |                                                                                                                      |

### Optical Cable Corporation - A Heritage of Industry "Firsts"

- **FIRST** used 100 kpsi proof-tested fibers in commercial fiber optic cables many years before industry standard was established
- **FIRST** gel-free fiber optic cable for outdoor commercial applications
- **FIRST** dry water-blocked fiber optic cable designs
- **FIRST** indoor/outdoor fiber optic cables to eliminate transition from outdoor to indoor rated cables
- **FIRST** Core-Locked™ outer cable jacket technology
- **FIRST** outdoor fiber optic cables not requiring fanout/breakout kits to terminate
- **FIRST** easy to dispense box with decreasing cable length markings, OptiReel™