

*Cable excellence engineered through quality*

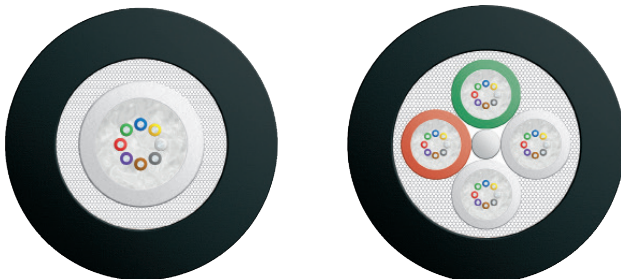
# **Informational** Loose-Tube versus Tight-Buffered Fibre Optic Cable



# Loose Tube

Loose tube cables are manufactured using dual layer 250µm fibres often surrounded by a thixotropic gel contained within a single tube or in multiple tubes around a central strength member. A layer of E-Glass yarns between the fibre tube(s) and the outer jacket gives rodent protection as this splinters when severed whilst also adding mechanical pull strength and longitudinal water tightness. Central loose tube is commonly constructed to carry up to 24 fibres whereas multi-loose tube is normally reserved for larger core counts from 36 to 144 fibres. An outer jacket of FireFighter® LSZH material means cables can be used within external ducts whilst also being able to continue the run inside the building. Other materials such as PE, PUR or FR-PVC can be used depending on specific project requirements meaning loose tube cables are better suited, but not limited to, outdoor conditions and here why;

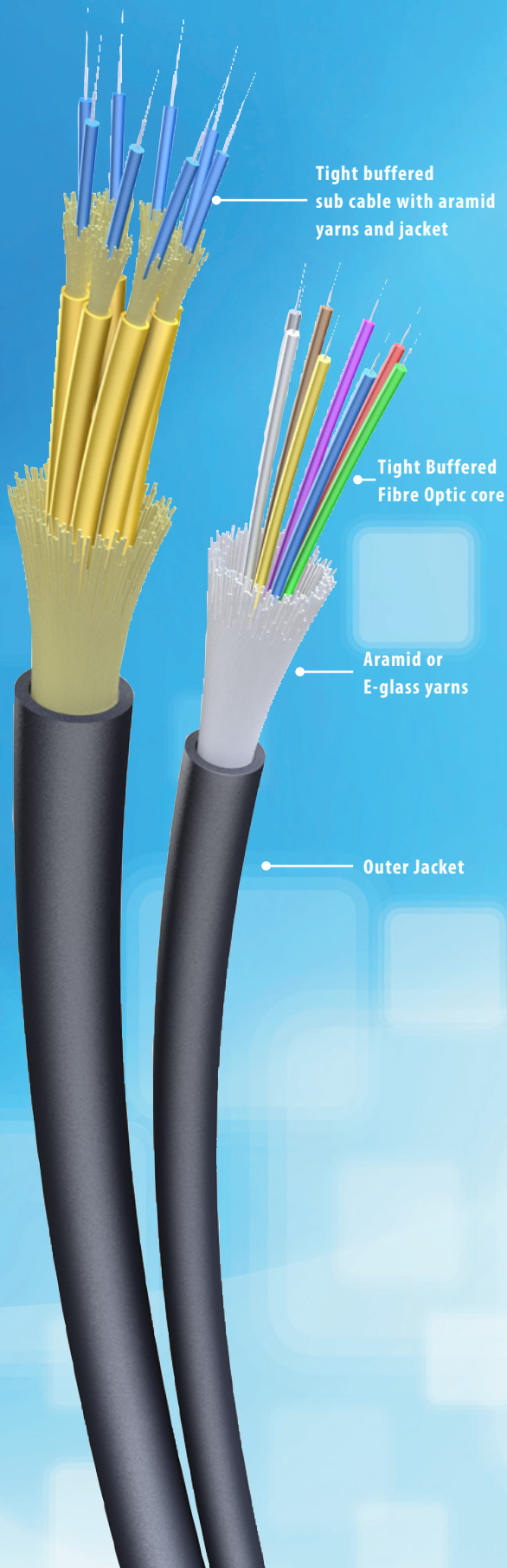
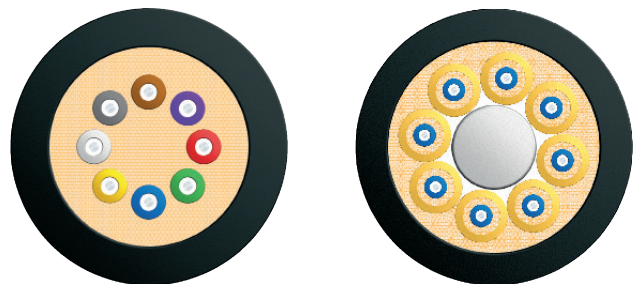
- **Water Resistant** - Gel filled tubes, water swelling yarns and water blocking tapes give maximum protection against water penetration and migration.
- **UV Resistant** - Outer jacket materials designed to provide UV protection to exacting IEC or UL standards for applications with exposure to direct sunlight.
- **Mechanical Resistant** - Additional protection in the form of DataGuard® armouring whether it be GSWA (Galvanised Steel Wire Armour), GSWB (Galvanised Steel Wire Braid) or CSTA (Corrugated Steel Tape Armour will allow the cables to be protected in more arduous environments making them suitable for installation on tray or direct in the ground.



# Tight Buffered

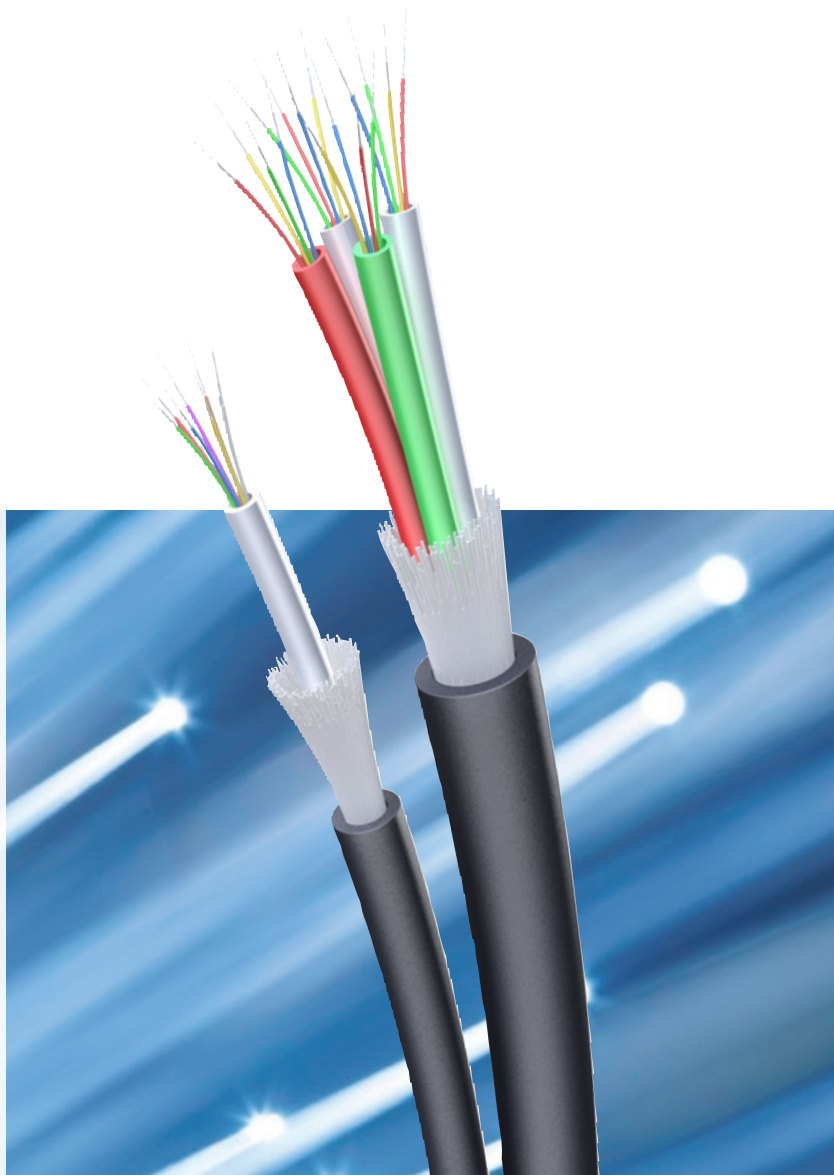
Tight buffered cables contain up to 24 fibre cores which are bundled together and surrounded by a layer of Aramid or E-Glass yarn before an outer sheath of FireFighter® LSZH is applied. Distribution cables are manufactured with a 900µm buffer to enable direct termination of the relevant connector type whereas Breakout cables use the same 900µm fibres with an extra layer of yarn sandwiched between the fibre and an individual sub cable jacket thus giving extra protection and making suitable for direct connection to a device. Tight buffered cables are best suited, but not limited to, indoor applications and here's why;

- **Gel Free** - Indoor applications eliminates the need to use water protective gel and the necessity to "loop" loose tube cables in vertical installations without fear of axial migration.
- **Flexibility** - Bundled construction without tubes or a stiff central strength members gives a smaller bend radius meaning tighter bends during installation in tricky areas can be achieved.
- **Aramid Yarns** - Aramid Yarns are primarily used in Tight Buffered cables as the material is light in weight and can offer excellent protection against crushing.

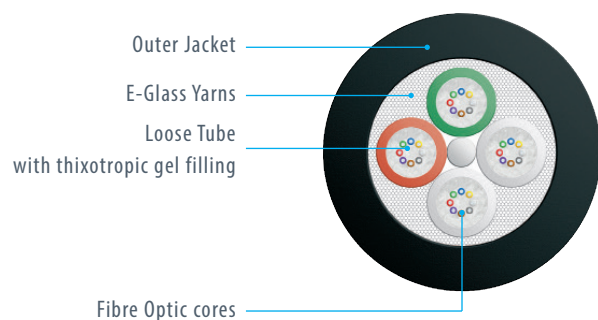
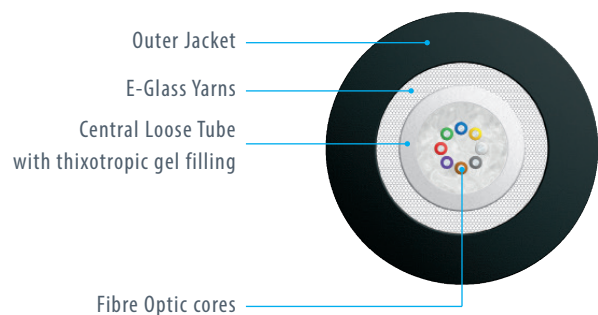


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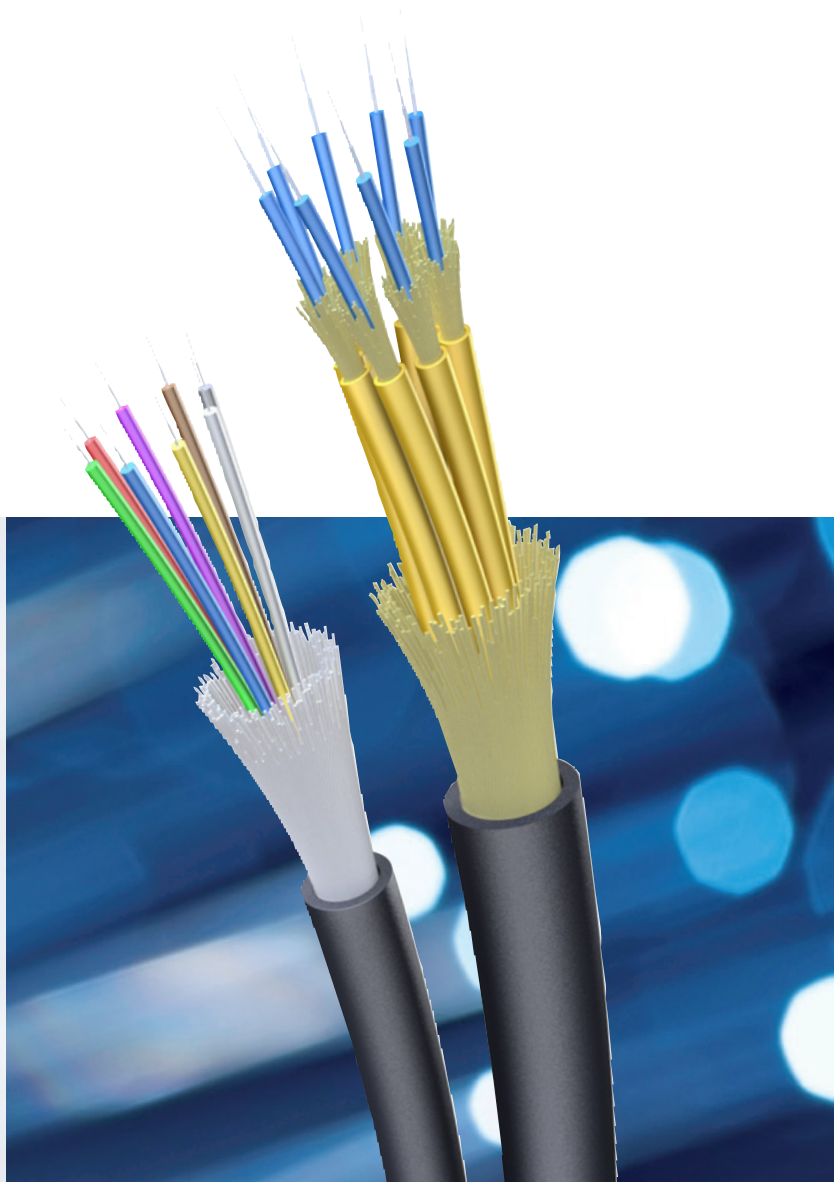


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