

Technical Specification
Nx9/125μ SM G.652.D MLT Dry Core CSA SJ Outdoor FO Cable
Part Number: U94-xxx42-xx7
Revision 17/23 Date: 25 July 2023



The cable drawing is for reference purpose only and may be different or out of scale

Color coded G.652.D Single mode optical fibers are buffered in gel-filled loose tubes, cabled around a dielectric strength member and wrapped with swellable tapes and swellable aramid yarn. A corrugated bonded steel tape and an additional heavy-duty, black PE jacket render the cable suitable for outdoor installations in harsh environments. The cable is design to be used in conduits, ducts or for direct burial installations for local and long distance telecommunication networks and offers a good protection against rodents.

Basic fibers

Optical fibers	9/125μm Single mode conforming to ITU-T G.652.D
Core diameter (MFD)	9.2±0.4 μm @ 1310nm
Clad diameter	125±1.0 μm
Primary coating diameter (not including color layer)	245±10 μm
Max Attenuation @ 1310nm (cabled)	0.36 dB/km
Max Attenuation @ 1550nm (cabled)	0.22 dB/km

Cable Construction

Central strength element	Dielectric FRP
Buffer coating	PBT Loose tube filled with Thixotropic gel
Tube I.D./O.D.	15.2, 1 mm
Core construction	Loose tubes are cabled around the central strength member with fillers and wrapped with swellable tapes
Tubes color code	see table below
Fibers color code	Blue, Orange, Green, Brown, Grey, White, Red, Black, Yellow, Violet, Pink, Aqua
Core filling	Water blocking yarn
Strength members	Aramid yarn
Core wrap	Water blocking tape
Rip-cords	Two Polyester cords laid in 180° orientation for easy armor & jacket removal. Red, DTX6000
Inner jacket	None
Armor	150 micron corrugated steel tape laid longitudinally, bonded to the outer jacket
Outer jacket	UV resistant PE compound
Outer jacket thickness	1.6 mm nom., 1.4 mm min.
Color	Black, RAL 9005
Surface marking	HCS U94-xxx42 MLT Nx9/125μ ITU-T G.652.D SM FO CABLE CSA SJ DC CE 2011/65/EU (RoHS-2) [Month, Year] [Batch No.] [Meter Mark] METER
Surface marking - example	HCS U94-04842 MLT 48x9/125μ ITU-T G.652.D SM FO CABLE CSA SJ DC CE 2011/65/EU (RoHS-2) 10/2021 GB1234 0001 METER

Note: The surface marking by hot-foil stamping

Optional Constructions

P/N	Tubes	Fillers	Fibers per Tube	Cable nom. OD mm	Weight kg/km
U94-00642	3	3	2	11.2	127
U94-01242	2	4	6	11.2	128
U94-02442	4	2	6	11.2	129
U94-03642	6	0	6	11.2	130
U94-04842	4	2	12	11.2	161
U94-07242	6	0	12	11.2	165
U94-09642	8	0	12	12.7	191
U94-14442	12	0	12	15.3	215
U94-28842	24	0	12	18.0	260

Tubes 1-12 color code - SOLID color

1 Blue	2 Orange	3 Green	4 Brown	5 Grey	6 White	7 Red	8 Black	9 Yellow	10 Violet	11 Pink	12 Aqua
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Tubes 13-24 color code - SOLID color with a Black tracer*

13 Blue	14 Orange	15 Green	16 Brown	17 Grey	18 White	19 Red	20* Black	21 Yellow	22 Violet	23 Pink	24 Aqua
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* Black tube with white tracer

Performance

Test	Value	Specification	Test method
Tensile strength	Short-term load: 2700N ,Time: 1 minute	Loss change after test £ 0.05dB@1550 nm ,Fiber strain £ 0.60 % ,No sheath damage	IEC 60794-1-21-E1
	Long-term load:1500N ,Time: 1 minute	Loss change after test £ 0.05 dB@1550 nm ,Fiber strain £ 0.20 % ,No sheath damage	
Crush resistance	Load: 4400 N /100mm ,Time: 1 minute, Length: 100 mm	No fiber break ,No sheath damage	IEC 60794-1-21-E3
Impact resistance	Impact height: 1m ,Impact weight:450g ,Points of impact: 3 ,Times of per point: 1	No fiber break ,No sheath damage	IEC 60794-1-21-E4
Repeated bending	Bending radius.: 20 × D, Load: 150N ,Flexing rate: 2sec/cycle ,No. of cycle: 25	Loss change after test£ 0.05dB@1550 nm, No sheath damage	IEC 60794-1-21-E6
Water penetration	Height of water: 1m, Sample length: 3 m ,Time: 24 hr	No drip through the cable core assembly	IEC 60794-1-22-F5
Twist	Length: 1 m, Load: 150N, Twist rate: ≤60sec/cycle, Twist angle: ±90°, No. of cycle: 5	No fiber break, No sheath damage	IEC 60794-1-21-E7
Temperature Cycling	Temperature step: +20oC→-40oC→+80oC→+20oC, Number of cycle: 2 turns, Time per each step: 12 hrs	Loss change after test£ 0.15dB/km@1550 nm, No sheath damage	IEC 60794-1-22-F1

Physical Properties

Storage & Installation temperature range	-5 to +60C
Operating temperature range	-40 to +80C
Bend radius during installation	20xD min. per IEC 60794-1-21-E11
Bend radius during operation	10xD min. per IEC 60794-1-21-E11

This cable fully conforms to EU Directive 2011/65/EU (RoHS-2)