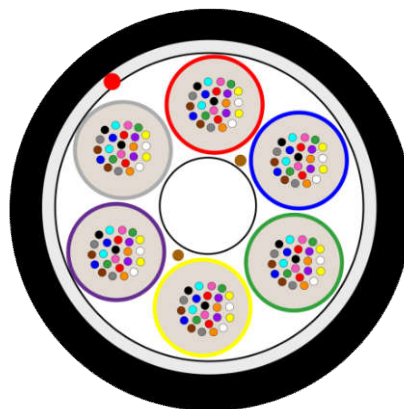


## Outdoor Microcable

Type: Microcable 144/M24 G.652D SJ HDPE 1kN D7.8



### Application

- ~ For access, distribution, City network and FTTx applications.
- ~ Fully dielectric cable
- ~ Designed to be rapidly installed by blowing.
- ~ High blowing distance due to the excellent friction properties of the outer sheath.
- ~ IEC 60794-1-2 - Basic optical cable test procedures

### Cable Construction

- ~ **Central Strength Member (CSM)**- glass fiber reinforced plastic rod (FRP);
- ~ **PBT Loose Tube** filled with a suitable water tightness compound;
- ~ **Optical Fibers**;
- ~ **Fillers** (nature plastic rods when needed);
- ~ **Dry core** with water swellable elements for longitudinal water tightness;
- ~ **Ripcord** under jacket;
- ~ **Outer Jacket** (HDPE);

**Stranding:** Loose tube and fillers, SZ stranded around CSM;

## Technical Characteristics

Optical Fiber Performance - G.652D	
Characteristic	Specified Value
Attenuation Coefficient: at 1310 nm Max :	≤ 0.35 dB/km

at 1550 nm Max :	$\leq 0.21 \text{ dB/km}$
Mode Field Diameter :	
at 1310 nm	$9.2 \pm 0.4 \mu\text{m}$
at 1550 nm	$10.4 \pm 0.8 \mu\text{m}$
Chromatic Dispersion:	
at 1310 nm	$\leq 3.5 \text{ ps}/(\text{nm}\cdot\text{km})$
at 1550 nm	$\leq 17 \text{ ps}/(\text{nm}\cdot\text{km})$
at 1625 nm	$\leq 22 \text{ ps}/(\text{nm}\cdot\text{km})$
Zero-Dispersion wavelength	$1300\text{nm} \div 1324\text{nm}$
Cable Cut off Wavelength ( $\lambda_{cc}$ )	$\leq 1260 \text{ nm}$
Cladding Diameter	$125 \pm 1.0 \mu\text{m}$
Cladding Non-Circularity	$\leq 1.0\%$
Core / Cladding Concentricity error	$\leq 0.6 \mu\text{m}$
Proof Test	$\geq 0.69\text{GPa}$ (100kpsi)
Dynamic Fatigue	$\geq 20$

Fiber Optic Cable Parameters	
Characteristic	Specified Value
Core Type *	G.652D
Fiber Count	144
Tube Count	6
Tube Diameter (mm)	2.2
Filler Count	0
Cable Diameter	7.8
Cable Weight (kg/km) - Approx.	48
Short Term Tensile Strength	1000 N
Minimum Bending Radius (Load)	$20 \times D$
Minimum Bending Radius (Unload)	$10 \times D$
Temperature (Operation)	$-30^{\circ}\text{C} \sim +70^{\circ}\text{C}$
Temperature (Transportation and Storage)	$-30^{\circ}\text{C} \sim +70^{\circ}\text{C}$
Packing	Wooden drum with protection
Delivery Lengths	To be confirmed, $\pm 5\%$ tolerance
Marking	<OPTIVINE> + <MICROCABLE> + <fiber count and type> + <manufacturing date> + <length marking>

Mechanical and Environmental Characteristics			
Test	Test Standard	Specified Value	Acceptance Criteria
Tensile	IEC 60794-1-2-E1	Tensile Force, 1 min.	$\Delta\alpha$ reversible, fiber strain $\leq$ 0.6%
Crush	IEC 60794-1-2-E3	700N/100mm, 5 min., 3 ponts	$\Delta\alpha$ reversible, no damage
Impact	IEC 60794-1-2-E4	2J, R=300mm, 3 impacts	$\Delta\alpha$ reversible, no damage
Repeated Bending	IEC 60794-1-2-E6	R=20D, 40N, 35cycles	$\Delta\alpha$ reversible, no damage
Torsion	IEC 60794-1-2-E7	45N, 5cycles, $\pm 180^\circ$	$\Delta\alpha\leq 0.10\text{dB/km}$ , no damage
Temperature Cycling	IEC 60794-1-2-F1	-30°C ÷ +70°C, 6h, 2 cycles	$\Delta\alpha\leq 0.10\text{dB/km}$ , no damage
Water Penetration	IEC 60794-1-2-F5	3m cable, 1m water, 24h	No water leakage

Fiber Color Identification**												
No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Red	Blue	Green	Yellow	Purple	White	Orange	Grey	Brown	Black	Turquoise	Pink

Tube Color Identification												
No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Red	Blue	Green	Yellow	Purple	White	Orange	Grey	Brown	Black	Turquoise	Pink

\* Other fiber types can be used upon request.

\*\* When tubes go beyond 12 fibers, the colors repeat but use black rings to distinguish fibers.

\*\*\* Customized solutions can be offered upon request.