

G62.5/125 · G50/125 · E9/125 Heavy-Duty Crane & Spreader Fiber-Optic Cable (6–24 Fibers)

G62.5/125, G50/125 & E9/125 Fiber-Optic Spreader & Crane Cable is an all-dielectric polychloroprene (PCP) rubber optical cable built for continuous dynamic flexing, reversed S-bends, and torsional stress (±50 °/m) on STS/RTG/RMG container cranes, automated stacking cranes, cable tenders, and bulk-material reclaimers.

1. CABLE CONSTRUCTION

1. Optical Fibers	Primary-coated silica glass fibers (250 μm coating / 125 μm cladding) in graded-index multimode G62.5/125 μm, G50/125 μm, or singlemode E9/125 μm
2. Central Support Element	Dielectric fiberglass-reinforced plastic (GFK / GRP) rod absorbing thermal contraction and preventing optical fiber buckling during sub-zero flexing
3. Core Arrangement	Six buffered optical elements (housing 1, 2, 3, or 4 fibers per element for 6, 12, 18, or 24 total fibers) laid up in a single torsion-balanced layer around the GFK rod
4. Inner Bedding	Flexible elastomeric inner bedding sheath isolating optical buffer elements from radial drum-crushing forces
5. Anti-Torsion Reinforcement	High-tenacity special polyester braid (~80% surface coverage) vulcanized between inner bedding and outer sheath for ±50 °/m torsional stability
6. Outer Sheath	Heavy-duty black polychloroprene (PCP) rubber compound — resistant to mineral oils, ozone, UV radiation, salt mist, and moisture

Cross-Section Reference



All-dielectric crane optical design: 6 stranded buffer elements around a central GFK rod, ~80% polyester anti-torsion braid, and black PCP jacket.

2. ELECTRICAL, MECHANICAL & ENVIRONMENTAL DATA

Reference Standards	Based on DIN VDE 0888, FDDI, and ISO/IEC 9314 Part 3
Fiber Core / Cladding / Coating	62.5 μm, 50 μm, or 9 μm core / 125 μm cladding / 250 μm primary acrylate coating
Ambient Temperature (Flexible)	-35°C to +80°C (reeling, festoon trolleys & spreader cable tenders)
Ambient Temperature (Fixed)	-40°C to +80°C
Max. Dynamic Tensile Load	500 N
Permissible Torsional Stress	±50 °/m
Min. Bending Radius	125 mm (fixed installation & festoon loops) 250 mm (dynamic reeling)
Min. S-Type Guide Distance	20 × D between counter-bending sheaves
Max. Travel Speed	Up to 120 m/min (gantry reel) Up to 240 m/min (crane trolley / festoon)
Environmental Resistance	Oil, ozone, UV, and moisture resistant; 100% metal-free dielectric immunity to lightning & EMI

TEBAOFLEX CABLE

3. DIMENSIONAL, WEIGHT & PERFORMANCE SPECIFICATIONS

1. G62.5/125 Multimode Graded-Index Series (850 nm / 1300 nm)								
Configuration	Min. OD (mm)	Max. OD (mm)	Weight (kg/km)	Atten. 850 nm (dB/km)	Atten. 1300 nm (dB/km)	BW 850 nm (MHz·km)	BW 1300 nm (MHz·km)	Numerical Aperture
6G62.5/125	14.9	17.0	280	≤ 3.3	≤ 0.9	≥ 400	≥ 600	0.275
12G62.5/125	14.9	17.0	280	≤ 3.3	≤ 0.9	≥ 400	≥ 600	0.275
18G62.5/125	14.9	17.0	280	≤ 3.3	≤ 0.9	≥ 400	≥ 600	0.275
24G62.5/125	14.9	17.0	280	≤ 3.3	≤ 0.9	≥ 400	≥ 600	0.275

2. G50/125 Multimode Graded-Index Series (850 nm / 1300 nm)								
Configuration	Min. OD (mm)	Max. OD (mm)	Weight (kg/km)	Atten. 850 nm (dB/km)	Atten. 1300 nm (dB/km)	BW 850 nm (MHz·km)	BW 1300 nm (MHz·km)	Numerical Aperture
6G50/125	14.9	17.0	280	≤ 2.8	≤ 0.8	≥ 400	≥ 1,200	0.20
12G50/125	14.9	17.0	280	≤ 2.8	≤ 0.8	≥ 400	≥ 1,200	0.20
18G50/125	14.9	17.0	280	≤ 2.8	≤ 0.8	≥ 400	≥ 1,200	0.20
24G50/125	14.9	17.0	280	≤ 2.8	≤ 0.8	≥ 400	≥ 1,200	0.20

3. E9/125 Singlemode Series (1300 nm / 1550 nm Long-Run Port Telemetry)								
Configuration	Min. OD (mm)	Max. OD (mm)	Weight (kg/km)	Atten. 1300 nm (dB/km)	Atten. 1550 nm (dB/km)	Dispersion 1300 nm ps/(nm·km)	Dispersion 1550 nm ps/(nm·km)	Numerical Aperture
6E9/125	14.9	17.0	280	≤ 0.4	≤ 0.3	≤ 3.5	≤ 18.0	0.14
12E9/125	14.9	17.0	280	≤ 0.4	≤ 0.3	≤ 3.5	≤ 18.0	0.14
18E9/125	14.9	17.0	280	≤ 0.4	≤ 0.3	≤ 3.5	≤ 18.0	0.14
24E9/125	14.9	17.0	280	≤ 0.4	≤ 0.3	≤ 3.5	≤ 18.0	0.14

Optical Grade Customization: In addition to standard G62.5/125 (OM1), G50/125 (OM2), and E9/125 (OS2 / ITU-T G.652.D / bend-insensitive G.657.A1), laser-optimized OM3 and OM4 50/125 μm 10G/40G fibers and factory pre-terminated LC/SC/ST breakout assemblies are available on request.