

MISSION-CRITICAL
INTERCONNECT
SOLUTIONS



Glenair
SIGNATURE SERIES

TurboFlex® Ultra-Flexible Power Distribution Cable

Signature Interconnect Technology for Urban Air Mobility

ELECTRICAL POWER
PROPULSION SYSTEM
CONNECTORS,
CABLES, AND
ACCESSORIES



The ultra
flexible and
rugged power
cable solution



TurboFlex® power distribution cables are constructed from highly flexible conductors and high-performance insulation to produce cables ideally suited for applications where flexibility, durability, and weight reduction are required. Amazingly durable and flexible—especially in cold weather—the 16 AWG to 450 MCM TurboFlex cable features high strand-count rope-lay inner conductors made with tin-, nickel- and silver-plated copper. TurboFlex is jacketed with Glenair's unique Duraelectric™ compound that provides outstanding flexibility and resistance to environmental and chemical exposure. Duraelectric is also low smoke, zero halogen. Long life and performance are critical in power distribution applications. TurboFlex, with its flexible conductors and durable jacket delivers both.



Available in a broad
range of gages,
16 AWG to 450 MCM



◀ Duraelectric™ is the high-performance TurboFlex® jacketing material perfectly suited for immersion, chemical or caustic fluid exposure, temperature extremes, UV radiation and more—available in a broad range of colors including safety orange



Many sizes In-stock and available for
immediate, same-day shipment. No
minimums!

TURBOFLEX CABLE APPLICATION EXAMPLE



This multibranch TurboFlex power and data interconnect assembly for a ruggedized defense application demonstrates the remarkable flexibility and minimal bend radius of large form-factor (up to 450 MCM) TurboFlex cable. Example shown features UV- and chemical-resistant Duralectric jacketing in FED-STD 595C Safety Orange.



Ultra flexible rope lay construction
TurboFlex bend radius is 3X the
outer diameter

Voltage Ratings			
P/N	Jacket Wall Thickness	AC Voltage Rating, RMS	DC Voltage Rating
961-004	.032"	2000	2800
961-003	.062"	3000	4200
961-002	.093"	3500	4900
961-001	.125"	4500	6300

Standard catalog product is available with either Tin/Copper, Silver/Copper, or Nickel/Copper conductors, with standard Duralectric™ jacketing in four wall thicknesses. Consult factory for special formula Duralectric™ K, F, and C configurations

Jacketing Options	
Weatherproof, halogen free, flame resistant, functional to 260°C	
0 Black	Fed-Std-595C #17038
1 Desert Tan	Fed-Std-595C #33446
2 Red	Fed-Std-595C #11120
3 Orange	Fed-Std-595C #12300
4 Yellow	Fed-Std-595C #13591
5 Green	Fed-Std-595C #14193
6 Blue	Fed-Std-595C #15125
7 Violet	Fed-Std-595C #17142
8 Gray	Fed-Std-595C #26270
9 White	Fed-Std-595C #17875
Consult factory for other specific Fed Std colors	

Abrasion Resistance	Good
Wear Resistance	Good
Flame Resistance	Excellent
Sunlight Resistance	Excellent
Flex Resistance	Excellent

TURBOFLEX® WITH DURALECTRIC™ JACKETING: ENVIRONMENTAL PERFORMANCE

Temperature rating: -60°C to 260°C

Halogen free per IEC 60614-1

Accelerated weathering and simulated solar radiation at ground level per IEC 60068-2-5; 56 Days exposure, suitable for greater than 50 years of service in direct sunlight

Flame resistant per IEC 60614-1

Flame resistant per UL 1685, section 12 (FT4/IEEE120), vertical-tray fire-propagation and smoke release test

Flame resistant per FAR 25.853 (A) amendment 25-116, appendix Fpart I (A) (1) (i), 60 second vertical burn test

Limiting oxygen index of 45 per ISO 4589-2:1999

Low smoke per NES 711, smoke density of 11.75

Smoke density class F1 per NF F 16-101 IAW DIN EN 60695-2-11:2011

Low smoke toxicity per NES 713, tested value of 1.9

Fungus rating of 0 per MIL-STD-810G method 508.5. Does not support fungal growth

ASTM D624, die B tear strength, 150 pounds per inch minimum on jacket material

Low outgassing per ASTM e595 after post curing, TML .06%, CVM .006%, WVR .02%

Resistant to fluids per MIL-STD-810F, method 504

JP-8 per MIL-DTL-8133 (NATO type 34)

MIL-H-5606 hydraulic fluid

MIL-PRF-23699 lubricating oil

MIL-C-85570 cleaner

TT-I-735 Isopropyl alcohol

AMS 1432 potassium acetate deicing/anti-icing fluid

MIL-C-87252 coolant

Amerex AFF fire extinguishing foam

Duraelectric™ D performance specifications

Duraelectric™ D is a high-performance elastomeric material for use as wire insulation, cable jacketing, conduit jacketing, cable/conduit overmolding, and molded boots.

NOTABLE ATTRIBUTES

- **Service Temperature Range: -65°C to 225°C**
- **Fire Resistant and Low Smoke-Zero Halogen (LSZH)**
- **Resistant to common aerospace, military and industrial fluids**

Duraelectric™ D Physical Properties		
Property	Typical Result	Test Method
Hardness, Shore A	60	ASTM D2240
Tensile Strength, psi	1100	ASTM D412
Elongation, %	500	ASTM D412
Tear Strength, Die B, ppi	150	ASTM D624
Low Temperature Impact at -65°C	Pass/No Cracks	ASTM D2137
Accelerated UV/Sunlight Resistance, 53 Year Equivalent Exposure	Pass/Excellent	IEC 60068-2-5
Ozone Resistance	Pass/No Cracks	ASTM D1149
Zero Halogen	Pass	IEC 754-1

Duraelectric™ D Electrical Properties		
Property	Typical Result	Test Method
Dielectric Strength, kV/mm	19	ASTM D419
Comparative Tracking Index, VAC	> 600	ASTM D3638

Duraelectric™ D Fire Resistance Properties	
Property	Typical Result
Flammability	
Oxygen Index, %	45
FAR 25.853, 12 Second Vertical	Pass
FAR 25.853, 60 Degree	Pass
FAR 27.1365 b,c	Pass
BSS7230 Method F2	Pass
IEC60614-1	Pass
EN60695-2-12, 850°C Glow-Wire	Pass
UL1685 FT4/IEEE1202	Pass
Smoke Density	
BSS7238	Pass
NES 711	Pass
EN 60695-2-11	Pass
UL1685 FT4/IEEE1202	Pass
Combustion Toxicity	
BSS7239	Pass
NES 713	Pass
SMP800 C	Pass

Duralectric™ L performance specifications

Duralectric™ L (light) is a high-performance elastomeric material for use as lightweight wire insulation, cable jacketing, conduit jacketing, and cable/conduit overmolding.

NOTABLE ATTRIBUTES

- **Service Temperature Range: -65°C to 200°C**
- **Fire Resistant and Low Smoke-Zero Halogen (LSZH)**
- **Excellent abrasion resistance**
- **30% lighter than original Duralectric™**
- **50% lighter than Teflon**

Duralectric™ L - Physical Properties		
Property	Typical Result	Test Method
Hardness, Shore A	60	ASTM D2240
Tensile Strength, psi	850	ASTM D412
Elongation, %	300	ASTM D412
Tear Strength, Die B, ppi	125	ASTM D624
Low Temperature Impact at -65°C	Pass/No Cracks	ASTM D2137
Ozone Resistance	Pass/No Cracks	ASTM D518
Zero Halogen	Pass	IEC 754-1
Density, g/cm ³	0.96	ASTM D297
Taber Abrasion, 1500 cycles, weight loss mg/cycle	<.005	ASTM D3389

Duralectric™ L - Electrical Properties		
Property	Typical Result	Test Method
Dielectric Strength, kV/mm	16	ASTM D419
Insulation resistance, GOhm	> 100	ASTM D257
Dielectric constant	2.47	ASTM D150

Duralectric™ L - Fire Resistance Properties	
Property	Typical Result
Flammability	
Oxygen Index, %	36
FAR 25.853, 60 Second Vertical	Pass
BSS7230 Method F6	Pass
Smoke Density	
BSS7238	Pass
Combustion Toxicity	
BSS7239	Pass
SMP800 C	Pass

IMPORTANT NOTE

Data are generated in accordance with prevailing national and international test standards and should be used only for material comparison. Actual property values are highly dependent on part geometry, mold configuration, and processing conditions. Please contact the factory to discuss the use of Duralectric™ L in specific applications or environments.

Duraelectric™ K performance specifications

Duraelectric™ K is a high-performance elastomeric material for use as wire insulation, cable jacketing, conduit jacketing, and cable/conduit overmolding.

NOTABLE ATTRIBUTES

- **Service Temperature Range: -110°C to 200°C**
- **Fire Resistant and Low Smoke-Zero Halogen (LSZH)**
- **Resistant to common aerospace, military and industrial fluids**
- **Resistant to gamma radiation**

Duraelectric™ K Physical Properties		
Property	Typical Result	Test Method
Hardness, Shore A	55	ASTM D2240
Tensile Strength, psi	1000	ASTM D412
Elongation, %	500	ASTM D412
Tear Strength, Die B, pli	225	ASTM D624
Low Temperature Impact at -110°C	Pass/No Cracks	ASTM D2137
Ozone Resistance	Pass/No Cracks	ASTM D518
Zero Halogen	Pass	IEC 754-1
Gamma Radiation Resistance, Max Total Lifetime Dose, MRad	100	ASTM D412

Duraelectric™ K Electrical Properties		
Property	Typical Result	Test Method
Dielectric Strength, kV/mm	15	ASTM D419

Duraelectric™ K Fluid Resistance MIL-STD-810G, Method 504, Procedure II	
A-A-52624A Type I and Type II	MIL-L-23699 Gas Turbine Engine Oil
Amerex AFFF Fire Extinguishing Foam	MIBK
AMS 1432 Potassium Acetate De-Icer	Propylene Glycol Antifreeze
Calla 855 Aircraft Cleaner	R-134 Refrigerant
Coolanol 25R Silicate Ester Fluid	Royco 500 Gas Turbine Engine Oil
E36 Runway De-Icer	Royco 756 Hydraulic Fluid
Isopropyl Alcohol	MIL-H-5606 Hydraulic Fluid
JP-8	TT-I-735
MIL-C-85570 Aircraft Cleaner	Boiling Water
MIL-C-87252 Coolant	
Duraelectric™ K is not recommended for continuous immersion in petroleum based fuels, solvents, crude oil, or Type V phosphate ester fluids.	

IMPORTANT NOTE

Data are generated in accordance with prevailing national and international test standards and should be used only for material comparison. Actual property values are highly dependent on part geometry, mold configuration, and processing conditions. Please contact the factory to discuss the use of Duraelectric™ K in specific applications or environments.

Duralectric™ F performance specifications

Duralectric™ F is a high-performance elastomeric material for use as cable jacketing, conduit jacketing, cable/conduit overmolding, and molded boots.

NOTABLE ATTRIBUTES

- **Service Temperature Range: -65°C to 200°C**
- **Fire Resistant and suitable for immersion in jet fuel, diesel, lubricants, and solvents**

Duralectric™ F Physical Properties		
Property	Typical Result	Test Method
Hardness, Shore A	55	ASTM D2240
Tensile Strength, psi	1200	ASTM D412
Elongation, %	400	ASTM D412
Tear Strength, Die B, ppi	200	ASTM D624
Low Temperature Impact at -65°C	Pass/No Cracks	ASTM D2137
Ozone Resistance	Pass/No Cracks	ASTM D518

Duralectric™ F Electrical Properties		
Property	Typical Result	Test Method
Dielectric Strength, kV/mm	14	ASTM D149

Duralectric™ F Fluid Resistance ASTM D471 Immersion		
A-A-52624A Type I and Type II	2-Ethylhexyl Sebacate	MIL-L-23699 Gas Turbine Engine Oil
Amerex AFFF Fire Extinguishing Foam	Isooctane	Plexol 201
AMS 1432 Potassium Acetate De-Icer	70/30 Isooctane / Toluene	Polyol Esters
AMS 2629	Isopropyl Alcohol	Propylene Glycol Antifreeze
AMS3021	Jet A	Royco 500 Gas Turbine Engine Oil
Boiling Water	JET Oil	Royco 756 Hydraulic Fluid
Calla 855 Aircraft Cleaner	JP-8	TT-I-735
Coolanol 25R Silicate Ester Fluid	MIL-C-85570 Aircraft Cleaner	TTS-735 TY I & III
Diesel #2	MIL-C-87252 Coolant	
E36 Runway De-Icer	MIL-H-5606 Hydraulic Fluid	
Duralectric™ F is not recommended for continuous immersion in phosphate ester fluids such as Skydrol or HyJet.		

IMPORTANT NOTE

Data are generated in accordance with prevailing national and international test standards and should be used only for material comparison. Actual property values are highly dependent on part geometry, mold configuration, and processing conditions. Please contact the factory to discuss the use of Duralectric™ F in specific applications or environments.



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