



Nexans
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Plain Annealed Copper conductor (Flexible), X-HF-110 (XLPE) insulation, Low Fire Hazard HFS-110-TP sheath. 0.6/1 kV. Made to AS/NZS 5000.1

STANDARDS

Product AS/NZS 5000.1

Test IEC 60754-1

APPLICATIONS

ENVIROLEX® flexible single core cable is part of the Nexans Fire Safety Offer. As a Low Fire Hazard (LFH) range, ENVIROLEX® is PVC-free, made with flame retardant compound and reduces toxic smoke emissions in the event of fire, allowing time for safe evacuation.

ENVIROLEX® single core cable has multiple applications including switchboard wiring, pumps, power supplies, transformer LV switches, battery connections.

BENEFITS

- Flame Retardant, Non Hazardous, No Heavy Metals
- Low Smoke, Low Calorific Value
- Gross heat of combustion ISO:1716
- Halogen free, PVC Best Practice (As per Green Building Council requirements)
- Flexible: easy to handle and install
- 110°C continuous operating temperature.
- Flexible conductor (to be used in fixed application).
- Submersible to 500m

CHARACTERISTICS

Construction characteristics

Conductor material	Copper
Type of conductor	Stranded flexible
Insulation	X-HF-110
Sheath colour	Black
Outer sheath	HFS-110-TP
Conductor flexibility	Class 5
Conductor shape	Circular



Conductor flexibility
Class 5



Rated Voltage Uo/U
 (Um)
 0.6/1 (1.2) kV



Cable flexibility
Flexible for fixed application



Mechanical
 resistance to
 impacts
Very good



Max. conductor
 temp. in service
 110 °C



Smoke density
Low



U.V. resistance
Yes



Maximum operating
 temperature
 110 °C

Construction characteristics

With Green/Yellow core	No
With smaller neutral conductor	No

Dimensional characteristics

Conductor cross-section	120 mm²
Maximum diameter of wires	0.51 mm
Nominal overall diameter	20.7 mm
Approximate weight	1.25 kg/m
Neutral conductor section (when smaller)	- mm²
Number of cores	1

Electrical characteristics

Conductor AC resistance at 50 Hz	0.219 Ohm/km
Inductive reactance at 50Hz - flat touching	0.098 Ohm/km
Inductive reactance at 50Hz - trefoil	0.0828 Ohm/km
Insulation resistance at 20°C	190 MOhm.km
Max. DC resistance of the conductor at 20°C	0.161 Ohm/km
Rated Voltage U ₀ /U (U _m)	0.6/ 1 (1.2) kV

Mechanical characteristics

Cable flexibility	Flexible for fixed application
Maximum Pulling Tension	6 kN
Mechanical resistance to impacts	Very good

Usage characteristics

Fire safety	-
Max. conductor temperature in service	110 °C
Smoke density	Low
U.V resistance	Yes
Minimum Bending Radius during installation	9 (xD)
Bending factor when installed	D>25mm: 6 (xD); D<25mm: 4 (xD)
Maximum operating temperature	110 °C
Minimum operating temperature	-25 °C



Conductor flexibility
Class 5



Rated Voltage U₀/U (U_m)
0.6/ 1 (1.2) kV



Cable flexibility
Flexible for fixed application



Mechanical resistance to impacts
Very good



Max. conductor temp. in service
110 °C



Smoke density
Low



U.V resistance
Yes



Maximum operating temperature
110 °C

CURRENT CARRYING CAPACITIES SINGLE PHASE (IN AMPS) - SINGLE CORE CU ENVIROLEX 110°C

Copper conductor - Circular Flexible stranded conductor Insulation X-HF-110 - Max. Conductor Temperature 110C

Conductor cross-section [mm²]	 Cu	 Cu	 Cu	 Cu	 Cu	 Cu	 Cu
120	499	417	389	501	381	381	-
 Unenclosed spaced from surface	 Unenclosed touching		 Enclosed conduit in air		 Buried direct		 Buried in multi-way duct
 Buried direct	 Buried in multi-way duct		 Buried in single-way duct		 Cable surrounded by thermal insulation, unenclosed		

CURRENT CARRYING CAPACITIES THREE PHASE (IN AMPS) - SINGLE CORE CU ENVIROLEX 110°C

Copper conductor - Circular Flexible stranded conductor Insulation X-HF-110 Max. Conductor Temperature 110C

Conductor cross-section [mm²]	 Cu	 Cu	 Cu	 Cu	 Cu	 Cu	 Cu
120	447	417	354	420	335	335	-
 Unenclosed spaced from surface	 Unenclosed touching		 Enclosed conduit in air		 Buried direct		 Buried in multi-way duct
 Buried direct	 Buried in multi-way duct		 Buried in single-way duct		 Cable surrounded by thermal insulation, unenclosed		



Conductor flexibility
Class 5



Rated Voltage Uo/U
(Um)
0.6/ 1 (1.2) kV



Cable flexibility
Flexible for fixed
application



Mechanical
resistance to
impacts
Very good



Max. conductor
temp. in service
110 °C



Smoke density
Low



U.V. resistance
Yes



Maximum operating
temperature
110 °C

NOTE

1. Content from AS/NZS 3008.1.2:2010 has been reproduced with the permission from Standards New Zealand under Copyright Licence 00926. Please see the standard for full details.
2. The current ratings in the above tables are only for flexible cables installed in a fixed installation
3. The values in the above table are based on typical New Zealand conditions of:-
Ambient Air Temperature 30°C
Soil Temperature 15°C
Soil Thermal resistivity 1.2 K.m/W
Depth of Burial 0.5 m

SELLING AND DELIVERY INFORMATION

Nexans Fire Safety Offer ENVIROLEX® Low Fire Hazard Cables PVC-free Red List Free and Declare Labelled Green Star Flexible conductor