

## **FIREX®-II TECK90 (XLPE) -40°C 1 kV**

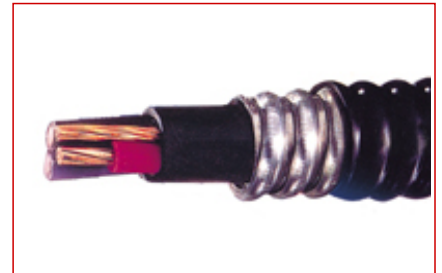
**FIREX®-II TECK90 (XLPE) 1 kV 4C****Nexans ref.: 1 kV 4C**

Nexans FIREX®-II TECK90 Cables are intended for use in various primary and secondary industries, including chemical processing plants, refineries and general factory environments.

### **Description**

Even in the most demanding industrial and resource industry applications, Nexans FIREX®-II TECK90 cables have proven to have a superior service and maintenance record.

FIREX®-II TECK90 Cables utilize low acid gas, low flame spread PVC jacket compounds to ensure maximum safety to personnel and equipment in the event of fire.



### **Applications**

FIREX®-II TECK90 Cables, originally developed for use in Canadian mines, are flexible, resistant to mechanical abuse, corrosion resistant, compact and reliable. They are suitable for a wide range of applications, including ALL hazardous locations.

Industries such as pulp and paper, chemical, petroleum and other primary and secondary manufacturing industries have used FIREX®-II TECK90 Cables, particularly in areas where cables are subject to the risk of mechanical damage and chemical attack.

Commercial applications for FIREX®-II TECK90 Cables include apartment buildings and commercial complexes.

FIREX®-II TECK90 Cables can be relocated easily because they are rugged and flexible. They can be used in both dry and wet locations in open wiring, in ventilated, non-ventilated and ladder-type cable troughs, in ventilated flexible cableways, and for direct burial.

TECK90 Cables are also suitable for service entrance installations - above and below ground.

### **Highlights**

Nexans FIREX®-II TECK90 Cables are:

- Available from stock
- Versatile
- Flexible
- Resistant to Mechanical Abuse and Corrosion
- Compact and Reliable
- "HL" and "FT4" Rated per CSA
- 90°C to -40°C
- Low Acid Gas (AG14)
- Inner and outer jackets are sunlight resistant
- LEAD FREE
- RoHS compliant

### **Standards**

**National CSA C22.2 N° 131**

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#### Marking and Identification

The inner jackets of Nexans FIREX ®-II TECK90 cables are printed: SUN RES.

The outer jackets of Nexans FIREX®-II TECK90 cables are printed: (mon/year) NEXANS FIREX®-II TECK90 XLPE (-40°C) CSA LL19376 F HL FT4 AG14 SUN RES along with conductor size, number of conductors and sequential metre marking.

#### Conductor Identification:

Red, Black, Blue, White

- 14 AWG to 2 AWG: Coloured Insulation
- 1 AWG to 500 kcmil: Coloured Stripes

#### Characteristics

Construction characteristics	
Conductor material	Copper
Electrical characteristics	
Maximum operating voltage	1 kV
Usage characteristics	
Maximum operating temperature	90 °C

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**4C 1 kV TECK90**

Conductor Size		Insulation Thickness		Inner Jacket Thickness		Nominal Diameters						Approximate Net Cable Weight With Aluminum Armour		Approximate Copper Content
Power AWG or kcmil	Bonding AWG	inches	mm	inches	mm	Inner Jacket		Armour		Outer Covering		lb/kft	kg/km	kg/km
						inches	mm	inches	mm	inches	mm			
14	14	0.045	1.14	0.045	1.14	0.493	12.52	0.733	18.61	0.827	21.00	282	420	96
12	14	0.045	1.14	0.060	1.52	0.569	14.46	0.809	20.33	0.903	22.94	356	530	141
10	12	0.045	1.14	0.060	1.52	0.632	16.04	0.878	22.30	0.965	24.51	436	649	225
8	10	0.045	1.14	0.060	1.52	0.694	17.62	0.921	23.39	1.028	26.11	583	867	358
6	8	0.060	1.52	0.080	1.52	0.895	22.73	1.170	29.71	1.280	32.51	838	1247	569
4	8	0.060	1.52	0.080	2.03	0.995	25.27	1.270	32.26	1.351	34.31	1122	1669	861
3	6	0.060	1.52	0.080	2.03	1.085	27.55	1.360	34.54	1.441	36.60	1359	2022	1114
2	6	0.060	1.52	0.080	2.03	1.145	29.09	1.420	36.07	1.501	38.13	1580	2351	1369
1	6	0.080	2.03	0.080	2.03	1.303	33.11	1.578	39.50	1.663	42.24	1927	2868	1697
1/0	6	0.080	2.03	0.080	2.03	1.394	35.40	1.669	42.39	1.774	45.06	2295	3415	2105
2/0	6	0.080	2.03	0.080	2.03	1.488	37.81	1.757	44.63	1.865	47.37	2711	4034	2621
3/0	4	0.080	2.03	0.080	2.03	1.607	40.81	1.852	47.04	1.960	49.78	3395	5053	3345
4/0	4	0.080	2.03	0.110	2.79	1.793	45.55	2.033	51.64	2.141	54.38	4197	6239	4166
250	4	0.090	2.29	0.110	2.79	1.952	49.57	2.302	58.52	2.417	59.59	4828	7230	4889
300	4	0.090	2.29	0.110	2.79	2.077	52.76	2.427	61.65	2.542	65.57	5630	8378	5820
350	3	0.090	2.29	0.110	2.79	2.189	55.60	2.539	64.49	2.654	67.41	6399	9522	6813
400	3	0.090	2.29	0.110	2.79	2.294	58.26	2.644	67.16	2.833	71.96	7132	10613	7761
500	3	0.090	2.29	0.110	2.79	2.481	63.02	2.831	71.91	3.020	76.71	8555	12732	9622

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#### 4C 1 kV TECK90 Fitting Sizes and Ampacity

Conductor Size		Ampacity (A) 30°C Ambient (Notes 2, 4)			Fittings			
Power	Bonding				Appleton	T & B	CMP Products	Cooper Crouse-Hinds
AWG or kcmil	AWG	60°C	75°C	90°C				
14 (Note 3)	14	15	15	15	TMC5099	10465-TB/ST050-465	TMC075A	TECK050-3
12 (Note 3)	14	20	20	20	TMC5099	10466/ST050-466	TMC075A	TECK050-4
10 (Note 3)	12	30	30	30	TMC75121	10467/ST075-467	TMC075A	TECK050-4
8	10	40	50	55	TMC75121	10467/ST075-467	TMC100A	TECK075-5
6	8	55	65	75	TMC100138	10469/ST100-469	TMC125A	TECK100-7
4	8	70	85	95	TMC125163	10469/ST100-469	TMC125A	TECK125-8
3	6	85	100	115	TMC125163	10470/ST125-470	TMC150A	TECK125-8
2	6	95	115	130	TMC125163	10470/ST125-470	TMC150A	TECK125-8
1	6	110	130	145	TMC125188	10471/ST125-471	TMC150A	TECK125-10
1/0	6	125	150	170	TMC125188	10472/ST150-472	TMC200SA	TECK125-10
2/0	6	145	175	195	TMC150200	10472/ST150-472	TMC200SA	TECK125-11
3/0	4	165	200	225	TMC150220	10473/ST200-551	TMC200A	TECK150-12
4/0	4	195	230	260	TMC150220	10551/ST200-474	TMC200A	TECK150-12
250	4	215	255	290	TMC200275	10475/ST200-475	TMC250A	TECK200-15
300	4	240	285	320	TMC200275	10552/ST250-477	TMC250A	TECK200-16
350	3	260	310	350	TMC200275	10553/ST250-478	TMC300A	TECK200-16
400	3	280	335	380	TMC300A	10477/ST300-479	TMC300A	TECK250-18
500	3	320	380	430	TMC300A	10554/ST300-480	TMC300A	TECK300-19

**Notes:**

- 1) Where stated, "nominal" and "approximate" values are provided for information purposes only and are subject to standard manufacturing tolerances.
- 2) Based on 2012 CEC Table 2, for not more than 3 current carrying conductors in a cable or raceway, where the fourth conductor is the neutral of a three phase, four-wire system. Otherwise 80% of these values (2012 CEC Rule 4-004(3)).
- 3) The overcurrent protection shall not exceed 15 amperes for 14 AWG, 20 amperes for 12 AWG, and 30 amperes for 10 AWG after any corrections factors for ambient temperature and number of conductors have been applied (2012 CEC Rule 14-104(2)), or as provided for by other Rules of the 2012 CEC.
- 4) The maximum conductor temperature (used to determine the maximum conductor ampacity) shall be based on the lowest temperature rating of the electrical equipment, any wire connector, or cable (2012 CEC Rule 4-006).

#### Selling information

#### Caution Notice

In case of fire, well maintained early warning smoke detectors will give an alarm long before non-metallic coverings become combustible.

However, in spite of the widespread and long-standing use of PVC in residential and commercial buildings, all purchasers of PVC insulated/ jacketed products should be aware of the following:

- Non-metallic coverings of electrical cables can burn and may transmit fire when ignited.
- Burning non-metallic coverings may emit acid gases which are toxic and may generate dense smoke.
- Emission of acid gases may corrode metal in the vicinity; e.g. sensitive instruments and reinforcing rods in cement.