CORFLEX* II Aluminum Sheathed Cables

600 Volts 90°C

CORFLEX* II RA90 (–40°C) XLPE

Description
Single or multi copper or compact ACM aluminum conductors with EXELENE* cross-linked polyethylene insulation (RW90 XLPE) enclosed in a liquid- and vapour-tight solid corrugated aluminum sheath. An overall low temperature, low acid gas, low flame spread, sunlight resistant PVC jacket (LAG/LFS) with FT4 and AG14 rating.
Unjacketed CORFLEX with FT4 and AG14 ratings is also available.
Ratetd 600 volts. Lead Free.
CSA Spec C22.2 No. 123-96 (R2005)
CSA File #LL19376 Class 5812 01 – Cable
CSA File #LL19376 Class 5818 01 – Hazardous Location Cable

Application
For exposed and concealed wiring in dry or wet locations and where exposed to the weather. Nexans cables are marked "SUN RES" for sunlight resistant.
For use in ventilated, non-ventilated, and ladder type cabletroughs and ventilated flexible cableways in dry or wet locations.
For direct earth burial (with protection as required by Inspection Authority).
For direct embedding in concrete, masonry or plaster (with permission as required by Local Inspection Authority).
For service entrance above or below ground.
CORFLEX* cable certified for use in hazardous locations with approved connectors. Nexans Type W connectors are approved for Class II Divisions 1 and 2 (Groups E, F and G) and Class III Divisions 1 and 2.

Installation Notes

1. CORFLEX* cables should be installed using only the approved Nexans wet and dry type connectors. For installation of connectors, see pages 29 and 30.

2. **Ampacity for single conductor CORFLEX**
   – for cables to qualify for Table 1 and 3 (2006 C.E. Code) free air ampacity ratings, cables are required to be spaced one cable diameter (two diameters centre to centre) apart. These are the ampacities shown in the following tables.
   – for cables in direct burial, see rule 4-004 and the notes for rule 4-004 in Appendix B & D (2006 C.E. Code). Also see pages 37 and 38 in this catalogue.

3. **Ampacity for multi-conductor CORFLEX**
   – for cables to qualify for Table 2 and 4 (2006 C.E. Code) free air ampacity ratings, cables are required to be spaced one cable diameter (two diameters centre to centre) apart. These are the ampacities shown in the following tables.
   – for cables in direct burial, see rule 4-004 and the notes for rule 4-004 in Appendix B & D (2006 C.E. Code). Also see pages 41 and 42 in this catalogue.

4. The CORFLEX* sheath and connector may be used as an EQUIPMENT Bonding Conductor (not as a SYSTEM ground) and is sized to meet the requirements of the C.E. Code Table 16 (Ref. Rules 10-812 and 10-814).

   When used as SERVICE ENTRANCE feeders, CORFLEX* cables should be fitted with non-ferrous grounding type bushings at the service equipment end (Ref. C.E. Code Rules 10-602 to 10-610).

   For other than service entrance circuits, bonding continuity of the sheath is established through the CORFLEX* connectors.

5. Installation of *any single conductor* metal sheathed or armoured cables should be made with due consideration of the effects of sheath currents and of induced eddy currents in ferrous end plates. (Refer to Rules 4-008, 10-302 and 12-3022 and the notes on these rules in Appendix 'B' of the C.E. Code.)

   Where sheath currents are allowed to flow in single conductor CORFLEX* cables (carrying above 425 amps), Nexans' recommended ratings are shown on pages 34 and 35 of this catalogue. Where sheaths are isolated, it may be necessary to install a supplementary equipment bonding wire.

   For single conductor cables carrying more than 200 amps, non–ferrous entrance plates, connectors, bushings, washers and clamps, etc., must be used.

6. **Minimum recommended bend radius**
   — see pages 24, 25, 26 and 27.

7. **Recommended spacing of supports:**

   Horizontal

   Single conductor cables up to 32mm diameter:
   0.91 - 1.22 m.

   Single conductor cables over 32mm diameter:
   1.22 - 1.52 m.

   Multiconductor Power Cable:
   1.22 - 1.52 m.

   5 or more conductors cable:
   0.91 - 1.22 m.

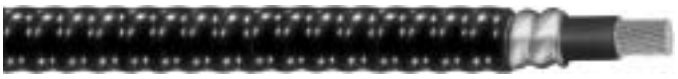
   Vertical

   All constructions: **1.82 - 2.44 m.**

   Spacing of supports for single conductor cables should be reduced from above if short circuit conditions are unusually severe.

8. Minimum recommended installation temperature minus 40°C (with suitable handling procedures).
   Maximum conductor temperature 90°C.

Copper CORFLEX* II



CORFLEX* II RA90 (–40°C) XLPE 600 Volts

Copper Conductors

Size AWG or kcmil		Approximate Diameter Over Sheath mm	Over Sheath in	Over PVC Jacket mm	Over PVC Jacket in	Approximate Net Cable Weight Without Jacket kg/km	Without Jacket lbs/kft	With PVC Jacket kg/km	With PVC Jacket lbs/kft	Connectors (Nexans Catalogue No.) Dry Location Type D	Wet or Hazardous Location Type W		Minimum# Bending Radius mm	Minimum# Bending Radius in	Ampacity 30°C Ambient (amps)
SINGLE COPPER CONDUCTOR															(CE Code Table 1**)
1	(19)	15.7	0.62	18.3	0.72	510	342	626	421	16D2	16W2		166	7	210
1/0	(19)	16.3	0.64	18.9	0.75	623	419	737	496	16D2	16W2		170	8	245
2/0	(19)	19.6	0.77	22.4	0.88	804	540	930	625	20D3	20W3		203	8	285
3/0	(19)	20.2	0.79	22.9	0.90	972	653	1107	744	20D3	20W3		210	9	330
4/0	(19)	21.1	0.83	23.7	0.93	1190	800	1320	887	20D3	20W3		215	9	385
250	(37)	23.8	0.94	26.4	1.04	1406	945	1562	1050	25D3	25W3		254	10	425
300	(37)	25.1	0.99	27.7	1.09	1640	1102	1801	1210	25D3	25W3		254	10	480
350	(37)	25.9	1.02	28.9	1.14	1870	1256	2052	1380	25D3	25W3		260	10	530
400	(37)	29.7	1.17	32.3	1.27	2208	1484	2396	1610	30D4	30W4		305	12	575
500	(37)	30.9	1.22	33.8	1.34	2690	1807	2895	1945	30D4	30W4		305	12	660
600	(61)	35.1	1.38	37.6	1.48	3246	2181	3467	2330	35D5	35W5		356	14	740
750	(61)	38.9	1.53	41.7	1.64	4044	2717	4293	2885	40D5	40W5		381	15	845
1000	(61)	42.4	1.67	45.2	1.78	5273	3543	5543	3725	45D6	45W6		432	17	1000
TWO COPPER CONDUCTORS															(CE Code Table 2)
14	(7)	11.9	.47	14.7	.58	126	85	134	90	13D2	13W2		152	6	15
12	(7)	13.0	.51	15.7	.62	164	110	238	160	13D2	13W2		152	6	20
10	(7)	14.0	.55	17.0	.67	201	135	283	190	13D2	13W2		178	7	30
8	(7)	19.2	.76	21.8	.86	324	218	446	300	20D3	20W3		203	8	45
6	(7)	20.1	.79	22.6	.89	422	283	551	370	20D3	20W3		229	9	65
4	(7)	23.4	.92	26.2	1.03	609	409	759	510	25D3	25W3		254	10	85
3	(7)	24.4	.96	26.9	1.06	715	480	871	585	25D3	25W3		254	10	105
2	(7)	25.4	1.00	27.9	1.10	850	571	1012	680	25D3	25W3		254	10	120
1	(19)	29.4	1.16	32.0	1.26	1069	719	1314	883	30D4	30W4		305	12	140
1/0	(19)	33.1	1.32	36.2	1.42	1387	932	1600	1075	35D5	35W5		330	13	155
2/0	(19)	35.2	1.37	37.7	1.48	1651	1109	1871	1257	35D5	35W5		356	14	185
3/0	(19)	39.0	1.53	41.8	1.64	2072	1392	2320	1560	40D5	40W5		381	15	210
4/0	(19)	40.8	1.60	43.6	1.71	2488	1672	2747	1846	40D5	40W5		406	16	235
250	(37)	44.5	1.75	47.0	1.85	3117	2095	3400	2285	45D6	45W6		432	17	265
300	(37)	48.5	1.91	51.3	2.02	3694	2482	4003	2690	50D8	50W8		483	19	295

See page 28 for accessories.

Insulation Colour Code:
1 Conductor – Black
2 Conductors – Black, White #14 to #2
Black insulation with white printed numbers #1 and larger

#CE Code Rule 12-712(3)

**See page 37 for direct buried ampacity.

Copper
CORFLEX* II

CORFLEX* II RA90 (–40°C) XLPE 600 Volts

Copper Conductors

Size AWG or kcmil		Approximate Diameter Over Sheath mm	in	Over PVC Jacket mm	in	Approximate Net Cable Weight Without Jacket kg/km	lbs/kft	With PVC Jacket kg/km	lbs/kft	Connectors (Nexans Catalogue No.) Dry Location Type D	Wet or Hazardous Location Type W	Minimum# Bending Radius mm	in	Ampacity** 30°C Ambient (amps)
THREE COPPER CONDUCTORS														(CE Code Table 2)
14	(7)	12.4	.49	15.5	.61	164	110	238	160	13D2	13W2	152	6	15
12	(7)	13.5	.53	16.5	.65	201	135	283	190	13D2	13W2	152	6	20
10	(7)	15.2	.60	18.3	.72	290	195	379	255	16D2	16W2	178	7	30
8	(7)	19.6	.77	22.6	.89	439	295	551	370	20D3	20W3	229	9	45
6	(7)	20.8	.82	23.4	.92	567	381	699	470	20D3	20W3	229	9	65
4	(7)	24.1	.95	26.9	1.06	834	561	990	665	25D3	25W3	254	10	85
3	(7)	25.1	.99	27.9	1.10	992	667	1153	775	25D3	25W3	254	10	105
2	(7)	29.2	1.15	31.8	1.25	1281	861	1466	985	30D4	30W4	304	12	120
1	(19)	30.7	1.21	33.4	1.31	1663	1117	1751	1177	30D4	30W4	330	13	140
1/0	(19)	34.3	1.35	37.1	1.46	1898	1275	2115	1421	35D5	35W5	356	14	155
2/0	(19)	38.7	1.43	42.0	1.53	2398	1611	2644	1777	40D5	40W5	381	15	185##
3/0	(19)	40.2	1.58	43.4	1.71	2873	1931	3128	2102	40D5	40W5	406	16	210
4/0	(19)	43.5	1.71	45.9	1.81	3569	2398	3845	2584	45D6	45W6	432	17	235
250	(37)	48.5	1.91	51.3	2.02	4394	2952	4703	3160	50D8	50W8	483	19	265
FOUR COPPER CONDUCTORS														(CE Code Table 2***)
14	(7)	13.3	.53	16.3	.64	195	130	270	180	13D2	13W2	125	5.0	15
12	(7)	15.1	.59	18.1	.71	275	185	360	240	16D2	16W2	135	5.5	20
10	(7)	16.0	.63	19.0	.75	350	235	445	300	16D2	16W2	145	6.0	30
8	(7)	20.6	.81	23.6	.93	536	360	655	440	20D3	20W3	229	9	45
6	(7)	23.9	.94	26.4	1.04	770	517	923	620	25D3	25W3	254	10	65
4	(7)	25.7	1.01	28.2	1.11	1086	730	1250	840	25D3	25W3	254	10	85
3	(7)	29.7	1.17	32.3	1.27	1397	939	1585	1065	30D4	30W4	305	12	105
2	(7)	33.0	1.30	36.1	1.42	1741	1170	1949	1310	35D5	35W5	330	13	120
1	(19)	34.4	1.36	37.1	1.46	2158	1450	2272	1530	35D5	35W5	356	14	140
1/0	(19)	40.0	1.57	42.4	1.67	2654	1783	2909	1955	40D5	40W5	381	15	155
2/0	(19)	40.6	1.60	43.2	1.70	3207	2155	3202	2152	40D5	40W5	406	16	185##
3/0	(19)	43.9	1.73	46.7	1.84	3874	2603	4155	2792	45D6	45W6	432	17	210
4/0	(19)	49.7	1.96	52.5	2.07	4934	3315	5252	3529	50D8	50W8	483	19	235

See page 28 for accessories.

Insulation Colour Code:
3 Conductors – Black, Red, White #14 to #2
4 Conductors – Black, Red, Blue, White #14 to #2
Black Insulation, white printed numbers #1 and larger

**See page 41 for direct buried ampacity.

***Assuming 4th conductor is the neutral of a balanced 3-phase 4 wire system.

#CE Code Rule 12-712(3)

For 3-wire 120/240 V and 120/208 V service conductors for single dwellings, or for feeder conductors supplying single dwelling units of row housing, of apartments and similar buildings, and sized in accordance with Rules 8-200(1), 8-200(2) and 8-202(1), the allowable ampacity for size No. 2/0 AWG shall be 200 A. In this case the 5% adjustment Rule 8-106(1) cannot be applied.