CODES & STANDARDS

IPEX COR-LINE ENT USE IN CANADA

IPEX Cor-Line Electrical Nonmetallic Tubing (ENT) and Kwikon Fittings can be used in a wide range of applications as defined in the 2005 National Building Code of Canada (NBC) and the 2006 Canadian Electrical Code, Part 1 – C22.1-02 (CEC).

IPEX Corline ENT and Kwikon Fittings are CSA certified to CSA Standards C22.2, No. 227.1 and C22.2 No. 85 under file numbers 083255-0-000, 083258-0-000, and 060286-0-000. Detailed listings can be viewed at www.csa-international.org.

IPEX Cor-Line ENT and Kwikon Fittings are permitted in the following applications:

USE FOR DIRECT BURIAL

The applicable sections of the CEC related to Direct Burial include 12-012, 12-1500, 12-1502 and 12-1510

The 2005 CEC clause 12-1500 states that IPEX COR-LINE ENT can be installed underground in accordance with clause 12-012.

Clause 12-012 lists requirements for cover and mechanical protection for all direct buried conductors, cables or raceways.

Clause 12-1510 states when placed underground, ENT must have solvent cemented joints.

IPEX Cor-line ENT is approved for Direct Burial provided that the joints are solvent cemented or if there are no buried joints.

USE FOR ENCASED IN CONCRETE

The Code does not list any restrictions on the use of ENT encased in concrete. ENT is permitted to be encased in concrete.

USE IN FRAMEWALL CONSTRUCTION

IPEX COR-LINE ENT is permitted in all Framewall construction and enclosed in insulation.

USE IN BUILDINGS OF NON-COMBUSTIBLE CONSTRUCTION

The applicable clauses of the NBC include 3.1.5.18, 3.1.5.20 and 3.1.9.3.

Clause 3.1.5.18 - Optical fibre cables and electrical wires and cables are permitted for use in a building required to be of non combustible construction in a number of different installation scenarios including totally enclosed IPEX Cor-Line ENT.

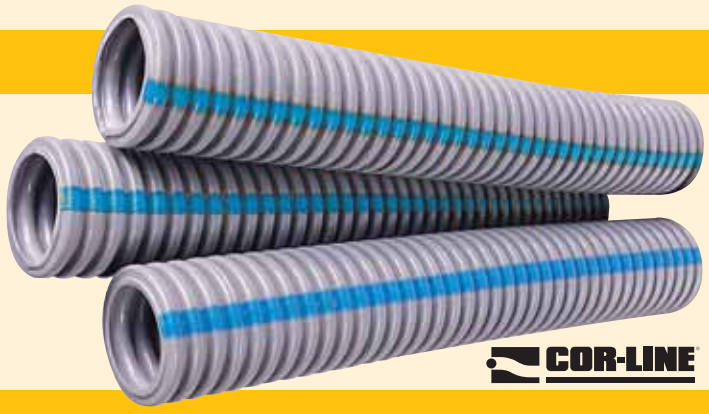
Clause 3.1.5.20 - IPEX Cor-Line ENT is FT-4 rated in accordance with CSA C22.2 No. 211.0 and is permitted to be used in buildings required to be of non combustible construction in sizes up to 175mm (6"). IPEX Cor-Line ENT can be used exposed or concealed in a wall or a concrete slab for any height (high-rise) non-combustible building. IPEX Cor-Line ENT can be used in a plenum air handling space except in British Columbia and Ontario due to local codes that require FT-6 rated (plenum) products.

Clause 3.1.9.3 - IPEX Cor-Line ENT, up to 25mm (1") diameter, enclosing optical fibre cables, and electrical wires and cables is permitted to penetrate an assembly required to have a fire resistance rating without being incorporated into the assembly at the time of testing.

The above noted requirements are applicable in most Provinces. All code requirements are not listed. In addition, there are some exceptions and local code authorities should be consulted to confirm permitted uses.

SUGGESTED SPECIFICATIONS

Section 16110 Electrical Raceway Systems



PART 1: GENERAL

1.1 REFERENCES

A. Standards referred to in this section are:
   1. CSA Standards C22.2, No. 227.1 and C22.2 No. 85.
   2. NEMA TC-13 Electrical Nonmetallic Tubing.

PART 2: PRODUCTS

2.1 MANUFACTURERS

A. Acceptable manufacturers are listed below
   1. Electrical Nonmetallic Tubing:
      a. Cor-Line by IPEX
   2. Electrical Nonmetallic Tubing Fittings:
      a. Kwikon by IPEX
   3. Electrical Nonmetallic Tubing Boxes:
      a. Kwikon by IPEX

B. All ENT tubing, ENT fittings, ENT boxes and accessories shall be manufactured by the same company so as to form a complete ENT system.

C. ENT systems shall be approved for use in fire resistance rated concrete floor-ceiling assemblies with fire resistance ratings up to 4 hours.

2.2 RACEWAYS

B. ENT raceway shall be listed to CSA C22.2 No. 227.1 and manufactured in accordance with NEMA TC-13.

2.3 FITTINGS

A. ENT Fittings shall be manufactured of high-impact PVC

B. ENT Fittings shall meet the following requirements:
   1. Six locking tabs located every 60° providing 360° contact.
   2. Locking tabs shall provide a conduit pullout of a minimum 175 ft-lb force.
   3. Concrete tight without the need for taping.
   4. When transitioning to EMT conduit, the transition fitting shall have six locking tabs for ENT connection and set-screw connection for EMT.

2.4 BOXES

A. ENT boxes shall be manufactured of high-impact PVC

B. ENT Slab Box and Wall Box requirements:
   1. Slab Boxes shall be approved for the purpose and concrete-tight.
   2. Round Slab Boxes shall be approved for use with luminaires up to 50 lbs and ceiling fans up to 35 lbs.
   3. Round Slab Boxes shall have threaded brass inserts for the attachment of luminaires or ceiling fans.
   4. Slab Boxes shall have eight (8) integrally molded ENT hub connectors with six locking tabs for ENT raceway connection.

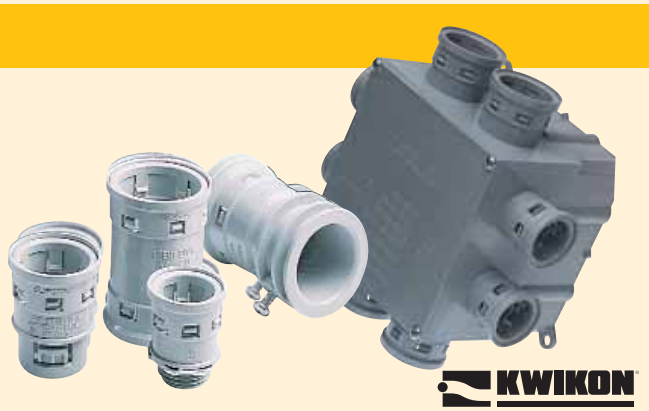
PART 3: INSTALLATION

3.1 INSTALLATION

A. ENT raceways, fittings, boxes and accessories shall be installed in accordance with the 2002 Canadian Electrical Code, Part 1 – C22.1-02 (CEC) and the 1995 National Building Code of Canada (NBC).

B. Where ENT penetrates a fire-rated wall, floor or ceiling assembly, an approved firestop system is CSA certified to CSA Standards C22.2, No. 211.0.

See Codes & Standards for additional installation information.



COR-LINE ENT TUBING

Cor-Line ENT Coils – Blue Stripe

Size (inches)	ID (inches)	OD (inches)	Length (feet)	Product Code
1/2	0.578	0.840	370	012000
3/4	0.778	1.050	240	012008
1	1.000	1.315	160	012018
1-1/4	1.345	1.660	500	012046
1-1/2	1.574	1.900	300	012032
2	2.025	2.375	225	012043

Cor-Line ENT Reels – Blue Stripe

Size (inches)	ID (inches)	OD (inches)	Length (feet)	Product Code
1/2	0.578	0.840	1500	012004
3/4	0.778	1.050	1000	012009
1	1.000	1.315	750	012019
1-1/4	1.345	1.660	1000	012047
1-1/2	1.574	1.900	750	012033
2	2.025	2.375	500	012044

Cor-Line ENT 10' Sticks – Blue Stripe

Size (inches)	Length (feet)	Product Code	Crate Size
1/2	10	012005	3600
3/4	10	012006	2200
1	10	012007	1800

Storage of Cor-Line ENT Tubing

Manufacturer recommends that ENT tubing should not be stored outdoors where subjected to direct sunlight without protective covering, i.e. packaging or tarps.

KWIKON ENT FORM STUBBIES

Ease and convenience were a priority in the design of Kwikon ENT form stubbies. Contractors use our stubbies to create conduit stub-downs in concrete without needing to drill holes in the plywood form. Available in the original stubby design, the angled version and the Multi-Link, Kwikon form stubbies also protect the ENT from potential damage during the removal of wood forms.

The angled stubby gives you the advantage of positioning the ENT at a lower profile within the slab. It's available in all sizes of ENT up to 1-1/2".

The Multi-Link form stubby is designed in convenient rows of three and feature a snap-together design which enables them to be configured in a variety of tightly grouped formations. It also features a thin removable film over the drop opening that prevents concrete slurry from seeping under the stubby during the concrete pour.

Kwikon ENT Multi-Link Form Stubby

Size (inches)	Part Number	Product Code
1/2	MSTB-10	089031
3/4	MSTB-15	089026
1	MSTB-20	089025

Kwikon ENT Form Stubby

Size (inches)	Part Number	Product Code
1/2	KSTB-10	089330
3/4	KSTB-15	089331
1	KSTB-20	089332
1-1/4	KSTB-25	089333

Kwikon ENT Angled Form Stubby

Size (inches)	Part Number	Product Code
1/2	KASTB-10	089233
3/4	KASTB-15	089234
1	KASTB-20	089235
1-1/4	KASTB-25	089236
1-1/2	KASTB-30	089238