Installation Guidelines

Engineering & Design Infomation

Product Warranty

Authorized Distribution Policy

Additional Information

Scope: For the purpose of general use and installation information, conduit is defined as a PVC tube in nominal sizes of ½" through 8", to be used in non-pressure applications to provide containment of raceways for electrical power wire and cable, communications wiring or fiber optic cables. Conduit products are not intended for the transport of potable water, sewage or drain water, air or other gases or corrosive liquids.

1.0 Transportation, Handling and Storage

1.1 Transportation: CANTEX conduit should be transported in modules or bundles in a straight and level position. When possible, larger diameter and heavy walled conduit should be loaded first on the truck or trailer when multiple modules must be loaded. Each vertical stack of modules should be secured with at least two nylon straps or slings at least 4" in width with only enough tightening pressure on the straps to ensure a secure load. Chains and metal strapping should be avoided to secure conduit loads to the transporting vehicle.

1.2 Handling: Conduit should be unloaded one module at a time with a fork lift or backhoe equipped with forks. If unloaded using slings, two slings should be used and positioned so that the center of gravity of the module is centered on the lifting equipment. Personnel on the ground around the unloading site should be kept clear of the load to prevent injury in the event of an equipment failure or shifting of the load. Do not push modules from the vehicle to the ground as damage to the conduit may result. Do not break bundles on the vehicle and allow the conduit to fall to the ground as personal injury or product damage may result.

1.3 Storage: Conduit should be stored in a straight and level position and stacks should not exceed 8 feet in height. Thin walled conduit or small modules of conduit should not be stacked over 6 feet in height. For short-term storage (up to 6 months), the conduit need not be covered for sunlight damage protection. For altitudes of 3-4,000 feet and longer term storage, coverage with an opaque tarp or UV resistant sheeting should be considered to prevent fading or color changing from UV exposure. The storage site should be as free as possible from dirt, dust or other airborne contaminants. The ends of the conduit modules should not be covered in order to allow air passage and prevent heat buildup within the modules. Internal module temperatures should not exceed 140°F. (60°C)

2.0 Installation

2.1 Preparation: The conduit should be clean and dry before installation is attempted. Dirt and dust or other contaminants should be wiped clean from the bell and spigot joint areas. When possible, the conduit temperature should be normalized to the ambient temperature or the expected service environment temperature before installation in order to minimize expansion or contraction difficulties with the project.

2.2 Cutting: PVC conduit should be cut to length using a hacksaw, fine toothed saw or a rotating pipe cutter. Rigid, smooth walled conduit up through 1" may be successfully cut with a shear type cutting tool. Corrugated EZ FLEX® ENT, Opti-Flex fiber optic conduit and Enviro-Flex liquid tight flexible conduit may also be cut with a knife of shear-type cutter. Larger pipe may require the use of a miter box to ensure square cuts. All cuts should be clean and square with the barrel of the conduit. Cut ends should be de-burred with a pocket knife or rasp with no burrs remaining on the O.D. and I.D. of the conduit. A slight chamfering of the O.D. or I.D. cut end may be desirable to facilitate joining or to prevent cable damage and to facilitate rope pulling through the conduit.

3.0 Solvent Cement Joints

CAUTION: ALL PVC CEMENTS ARE HIGHLY FLAMMABLE AND SHOULD BE CONSIDERED AS HAZARDOUS MATERIALS. AVOID USING IN THE PRESENCE OF OPEN FLAME, ELECTRICAL SPARKS, WELDING OR LIT SMOKING MATERIAL. AVOID BREATHING CONCENTRATED FUMES AND PROVIDE ADEQUATE VENTILATION IN CONFINED AREAS. READ AND FOLLOW ALL PRECAUTIONS ON THE CEMENT CONTAINER. MATERIAL SAFETY DATA SHEETS ARE AVAILABLE UPON REQUEST FROM CANTEX INC. TELEPHONE (817) 215-7000 OR ON-LINE AT www.cantexinc.com

3.1 Joint Requirements: There are two types of bell fits, interference fit or clearance fit, depending on the specification of the conduit to be used. An interference fit means that the spigot will not dry fit to the base of the bell and will lodge about two-thirds deep into the bell. A clearance fit means that the spigot will slide all the way to the base of the bell without application of cement. Interference fits, therefore are tighter and provide watertight joints easily; clearance fits will leave small gaps between the inside of the bell and the spigot and may require extra cement in jointing if watertight joints are required.

3.2 Solvent Cement: Select the proper type of cement to fit the job requirements. The cement should meet the requirements of ASTM D 2564. Three types of cement are available, based on the viscosity, regular bodied, medium bodied and heavy bodied. Regular bodied cement, such as **CANTEX** #99, is suitable for most conduit applications up through 6" size.

For cement joints in corrugated ENT or corrugated fiber optic conduit, cement such as **CANTEX** #50 ENT ce ment should be used.

3.3 Solvent Cement Storage: Store sealed cement containers in temperature between 40°F (5°C) to 70°F (31°C) when not in use. Before use, check to see that the cement is fluid and not lumpy or gelled. If lumpy or gelled, discard the cement by approved means; don't attempt to liquefy or dilute with cement primer.

DO NOT USE OPEN FLAME OR ELECTRIC HEATERS TO WARM CEMENT.

3.4 Surface Preparation: Wipe joint surfaces clean of dirt, moisture or other contaminants. If the joining surfaces are extremely dirty or coated with oil, wipe thoroughly and do not attempt to make a cement application until all evidence of moisture is gone. Extremely hot jointing areas (90°F or above) should be cooled by shading or application of a damp cloth. If a damp cloth is used, area should be allowed to dry before applying cement. Hot surfaces dry the cement rapidly and can cause insufficient welding if liquid cement is not evident on the surface when the bell and spigot are joined. Use of a heavier, slower drying cement may be appropriate when it is impractical to cool the joints.

3.5 Application of Cement: For most conduit joints, a single application of cement on the spigot to a length equal to the bell depth is sufficient. On conduit of 1" or smaller, use a dauber applicator which is supplied in the lid of the cement container. On larger sizes, use a small natural bristle paint brush of a width approximately one-half the diameter of the pipe. (Example: For 4" pipe, use a 2" wide brush.) Apply the cement quickly and evenly around the spigot and insert into the bell or fitting while the cement is still liquid.

3.6 Makeup: Insert the spigot fully into the bell and apply a one-quarter twist on the spigot section as insertion is being made. Hold the joint firmly together for 10 to 20 seconds without movement. If the spigot section backs out upon release, pull the joint apart and reapply another coat of cement and reassemble and hold until the joint does not back out upon release. Cold weather applications may require a longer holding time. A small bead of cement should appear around the lip of the bell if adequate cement has been applied. Wipe off excess bead after the joint has set.

3.7 Set Time: Handle the newly assembled joints carefully until the cement has gone through an adequate set time. Recommended set time is related to temperature of the joint follows:

30 minutes minimum at 60 to 100°F ((15 to 40°C)
1 hour minimum at 40 to 60°F (5 to 15°C)
2 hours minimum at 20 to 40°F (-5 to 5°C)
4 hours minimum at 0 to 20°F (-20 to -5C)

Note: Joint damage or loosening may occur up to 48 hours after assembly in temperatures below 40°F if the joints are severely stressed.

4.0 Expansion and Contraction Considerations

Thermal expansion and contraction of the PVC conduit system must be considered in all projects. PVC conduit expands or contracts at a rate of 3 x 10 -5 in./in./°F, or about 3/8" per 100 feet per 10°F temperature change. The total change in length of the conduit run can be calculated by the following equation:

(Eq.1) Length change, Lc=C (Conduit Length, inches) (AT)
Where: C=Coefficient of Expansion = 3 x 10 -5 in./in./°F
AT = Temperature change, °F
Lc = (.00003 in./in./°F) (500 ft.)(12 in./ft.)(30°) = 5.4 inches

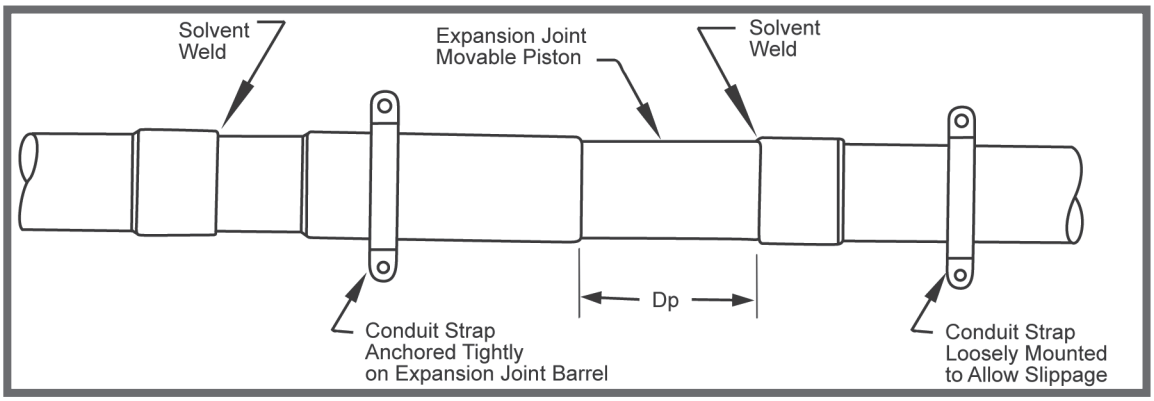
The most common effect of expansion is to create unsightly warpage or sagging in the conduit run although larger conduit may create damage to the terminations. Contraction is usually more damaging than expansion as it can create joint separation or pullouts at the termination. Design consideration must be given to both conditions.

For underground installations, expansion or contraction can usually be accommodated by "snaking" the conduit in the trench. It is desirable to allow the conduit run to normalize with the ground temperature before backfilling or making end connections such as at a manhole. Once the pipe in a trench has normalized and is backfilled, expansion and contraction is minimized due to the relatively constant earth temperature and the friction of the soil on the conduit

In above ground installations, expansion/contraction can be accommodated by the use of change of direction fittings or by expansion joints. The conduit should be secured by hangers or straps which are tightened only to the point that slippage through the supports is possible. In long straight runs where bending or change of direction cannot be allowed and where the conduit ends must be securely terminated, expansion joints should be used (example: conduit suspended under a bridge). The number of expansion joints required can be calculated as follows (according to N.E.C. Table 352.44):

1. Determine the total change in length, Lc, anticipated due to the maximum and minimum temperatures to when the conduit run will be exposed.
2. Use the following equation to determine the number of expansion joints required:
   Eq.2) N=Lc Where: N = number of expansion joints required
   EA EA = expansion allowance in each expansion joint

Install the expansion joints at equal intervals along the run. The movable section of the expansion joints must be set at the time of installation according to the installation temperature such that both expansion and contraction may be accommodated. Refer to the drawing shown below.



The correct piston setting, Dp, can be determined for any installation temperature by using the following equation:

(Eq. 3) $Dp = ((T\ max)/(+T)-(T\ installed)/2!)EA$

Where: Dp = Distance of piston from fully closed position

T max = Maximum temperature, °F, to which the conduit will be exposed

T min = Minimum temperature, °F, to which the conduit will be exposed

$+T = T_{max} - T_{min}$

EA = Expansion allowance, in inches, for each expansion joint

Example: A 500 ft. run of conduit will be installed under a bridge and exposed to a direct sunlight temperature of 140°F and winter temperature of 0°F.

a) Determine the total length change by Eq. 1:

Lc = (.00003)(500)(12)(140) = 25.2 inches

b) Using an expansion joint that allows 3 inches of travel each way (total piston travel = 6 inches), determine the number of expansion joints required by Eq. 2:

N = 25.2max/3=(8.4 (Use 9 joints)

c) If the conduit was installed at 80°F, determine the piston setting, Dp by Eq. 3:

Dp=((140-80)/140)(3=1.28 inches)

The nine expansion joints should be installed 50 feet apart in the conduit run with each expansion joint barrel tightened securely and the rest of the hangers tightened loosely to allow slippage.

4.1 Expansion/Contraction in Concrete Encasement: When encased in concrete, PVC conduit is immobilized by the concrete and will expand and contract at the expansion coefficient rate of the concrete.

5.0 Support Spacing:

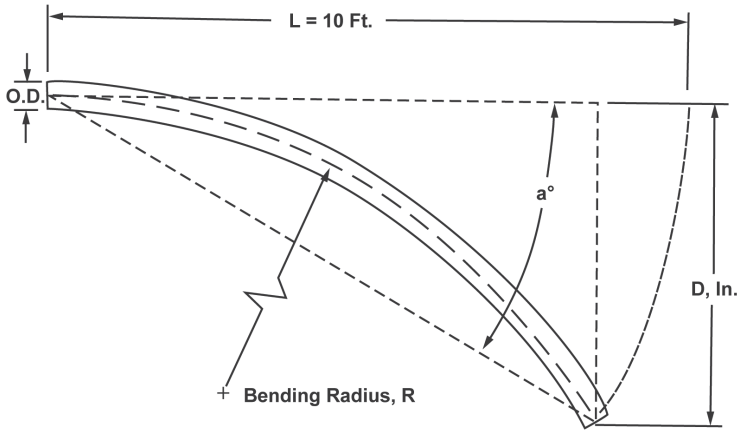
Supports for PVC conduit may be somewhat lighter than for metallic conduit due to its lighter weight. The following support chart is based on the National Electric Code, Table 352.30, assuming a maximum air temperature of 122°F (50°C) and conductor temperature of 194°F (90°C).

Conduit Size (Inches)	Maximum Spacing Between Supports (Feet)
1/2 thru 1	3
1-1/4 thru 2	5
2-1/2 thru 3	6
3-1/2 thru 5	7
6 thru 8	8

Latest NEC code and local codes are subject to change and should be consulted.

6.0 Bending

One of the advantages of PVC conduit is the ability to easily make changes in direction by bending with the use of mechanical benders. In underground or above ground installations, the conduit path may be deviated to change directions or avoid obstacles. The following diagram and table offers a guideline to a safe allowance for bending in one ten foot section conduit. Conduit bent to these maximum allowances will have a maximum fiber stress of 2000 psi which is a safe level for non-pressure conduits. Bending beyond these values may result in buckling of the conduit. Force required for bending varies with the size of the conduit and temperature. For bends shorter than the minimum bending radius, Rb, it is recommended that factory made bends be used. These bends are available in 11-1/4°, 22-1/2°, 30°, 45° and 90° increments and are available from stock in standard radii. Special degree bends or special radii are available on request to **CANTEX** in most sizes.



BENDING ALLOWANCE PER 10' LENGTH OF CONDUIT				
Conduit Size (Inches)	O.D.	Rb, Ft.	A°	Deflection D (Inches)
1/2	.840	9	33.0	61.4
3/4	1.050	11	26.0	51.1
1	1.315	14	21.0	41.9
1-1/4	1.660	17	16.5	33.7
1-1/2	1.900	20	14.5	29.7
2	2.375	25	11.6	23.9
2-1/2	2.875	30	9.6	19.9
3	3.500	36	7.9	16.4
3-1/2	4.000	42	6.9	14.3
*4	4.350	45	6.3	13.2
4	4.500	47	6.1	12.8
5	5.563	58	4.9	10.3
6	6.625	69	4.2	8.7
8	8.625	90	3.2	6.7
* Telephone Conduit				

The radii of long curves using multiple joints of conduit should be limited to the values shown in the table for minimum radii. The joints to be bent should be allowed to thoroughly set (See Sec. 3.7) before bending and placement.

7.0 Direct Burial

7.1 Trench Width: Trench width at the ground level may vary depending on soil types, equipment used, position of surface structures, etc. Where compacting of the initial backfill is required, the trench should be a minimum of 5 pipe diameters. In very wide trenches, sub-ditching should be considered to provide maximum side support for the conduit. Shoring or trench boxes should be used for workman protection in loose soil or very deep trenches.

7.2 Trench Bottom: The trench bottom should be constructed to provide a firm, stable and uniform support for the conduit for the full lengths of the conduit. Unless specified, line and grade is not required provided that the conduit will conform to the trench bottom and bending does not exceed the values given in Sec. 3.7. Large rocks and boulders, frozen lumps of soil, large lumps of clay, etc. should be removed before the conduit is installed. Rocky or uneven trench bottoms should be bedded with loose backfill or sand to provide a soft, even cushion for the conduit.

7.3 Initial Backfill: Initial backfill should be dry and free flowing and contain rock not to exceed 1" in. diameter. Initial backfill should be applied in light layers of 3" to 6" and spread uniformly. Tamping should be done layer by layer of initial backfill up to the springline of the conduit. In multiple conduit installations, the initial backfill should be worked carefully between the ducts and under the haunches. Tamping should be done between the edges of the ditch over the springline of the conduit, but no tamping should be done over the top of the conduit. Initial backfill should be placed loosely over the top of the conduit to a depth of 6". All compaction by either tamping or flooding should be completed before the final backfill if placed.

7.4 Final Backfill: After placement and compaction of conduit embedded materials, the balance of backfill materials may be machine placed and should contain no large rocks or stones, frozen material or other debris. Proper compaction procedures should be exercised to provide required soil densities.

8.0 Concrete Encasement:

8.1 Tie and fasten all conduit to prevent floating. If concrete is required in the trench bottom, allow at least 2" freeboard between conduit and tie down equipment.

8.2 Spacers, if used, should be spaced at the intervals shown below or less.

Conduit Size Size (Inches)	Spacing (Feet)
½ thru 2	4 thru 6
3 thru 3 ½	5 thru 8
4 thru 8	6 thru 10

A 1" minimum spacing should be allowed for all conduit and a concrete mix using pea gravel should be used for encasement. If complete encasement is required at areas requiring bends in making freeway or water crossings, use a 2" minimum spacing.

8.3 Coverage: Minimum concrete coverage should be 2" on top, bottom and sides of conduit. Firm soil conditions may eliminate need for concrete at the trench bottom.

8.4 Backfilling: Backfilling can be done as soon as the concrete has cured to withstand the weight of a man.

8.5 Temperature Considerations: The temperature rise of the concrete as it cures may cause some expansion of the conduit. Concrete should be poured from the center of the run toward each free end or from one tie-in point toward the free end of the conduit. Make permanent terminal tie-ins after the temperature has normalized.

Schedule 40 and Schedule 80 Conduit - Approximate Weight per 10 Feet (Lbs.)

Nom. Size (Inch)	CANTEX Sch. 40	CANTEX Sch. 80	Aluminum	Electrical Metallic Tubing (EMT)	Intermediate Metal Conduit (IMC)	Rigid Steel (GALV)
1/2	16	21	27	30	57	79
3/4	22	28	36	78	78	105
1	32	41	53	112	112	153
1-1/4	44	57	70	114	114	201
1-1/2	52	69	86	176	176	246
2	77	105	116	230	230	334
2-1/2	122	160	183	270	393	527
3	159	215	239	350	483	690
3-1/2	191		288	400	561	831
4	227	311	340	--	625	982
5	307	437	468	--	--	1,344
6	400	600	612	--	--	1,770
8	600	--	--	--	--	--

Thermal Properties

	ASTM Test	Typical Values
Coefficient of Thermal Expansion, in./in/.°F @73.4°F	D696	3.0 X 10 -5
Heat Distortion °F at 264psi	D696	172°F
Thermal Conductivity BTU (hr)(ft2)°F/in)	D648	1.3
Water Absorption % by weight	D570	1.03% max.

Mechanical Properties

	ASTM Test	Typical Values
Specific Gravity	D 792	1.42 - 160
Tensile Strength, psi @ 73.4°F	D 638	5 - 6,500
Izod Impact Ft. lbs./in. of notch	D 256	.65 - 1.5
Flexural Strength, psi	D 790	11,000
Compressive Strength psi	D 695	8,500
Hardness (Durometer D)	D 2240	77 min

Electrical Properties

	ASTM Test	Typical Values
Dielectric Strength Volts/Mil	D 149	1,100
Dielectric Constant 60 COS @30°c	D 150	4.5
Power Factor 60 CPS @ 30°c	D 150	1.9

Impedance (Volts lost per ampere per 100 ft.)

	30 90% P.F.	80% P.F.	10 90% P.F.	80% P.F.
Steel Conduit	.0118	.0123	.0136	---
PVC Conduit	.0105	.0106	.0121	.0122

Maximum Number of Conductors in Nonmetallic PVC Schedule 40 PVC Conduit

Table C.11 (Based on Table 1, 4 & 5 Chapter 9 of the N.E.C.)

Conductor Size AWG, MCM		Conduit Trade Size										
		1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	5"	6"
14	THW	8	14	24	42	57	94	135	209	361	568	822
	THHN	11	21	34	60	82	135	193	299	517	815	1178
12	THW	6	11	18	32	54	72	103	160	277	436	631
	THHN	8	15	25	43	59	99	141	218	377	594	859
10	THW	4	8	13	24	32	54	77	119	206	325	470
	THHN	5	9	15	27	37	62	89	137	238	374	541
8	THW	2	4	7	13	18	30	43	66	115	181	261
	THHN	3	5	9	16	21	36	51	79	137	216	312
6	THW	1	2	4	8	11	18	26	40	69	109	157
	THHN	1	4	6	11	15	26	37	57	99	156	225
4	THW	1	1	3	6	8	13	19	30	51	81	117
	THHN	1	2	4	7	9	16	22	35	61	96	138
3	THW	1	1	3	5	7	11	16	25	44	69	100
	THHN	1	1	3	6	8	13	19	30	51	81	117
2	THW	1	1	2	4	6	10	14	22	37	59	85
	THHN	1	1	3	5	7	11	16	25	43	68	98
1	THW	0	1	1	3	4	7	10	15	26	41	60
	THHN	1	1	1	3	5	8	12	18	32	50	73
1/0	THW	0	1	1	2	3	6	8	13	22	35	51
	THHN	1	1	1	3	4	7	10	15	27	42	61
2/0	THW	0	1	1	1	3	5	7	11	19	30	43
	THHN	0	1	1	2	3	6	8	13	22	35	51
3/0	THW	0	1	1	1	2	4	6	9	16	25	36
	THHN	0	1	1	1	3	5	7	11	18	29	42
4/0	THW	0	0	1	1	1	3	5	8	13	21	30
	THHN	0	1	1	1	2	4	6	9	15	24	35
250	THW	0	0	1	1	1	3	4	6	11	17	25
	THHN	0	0	1	1	1	3	4	7	12	20	28
300	THW	0	0	1	1	1	2	3	5	9	15	21
	THHN	0	0	1	1	1	3	4	6	11	17	24
350	THW	0	0	0	1	1	1	35	5	8	13	19
	THHN	0	0	1	1	1	2	3	5	9	15	21
400	THW	0	0	0	1	1	1	3	4	7	12	17
	THHN	0	0	0	1	1	1	3	5	8	13	19
500	THW	0	0	0	1	1	1	2	3	6	10	14
	THHN	0	0	0	1	1	1	2	4	7	11	16
600	THW	0	0	0	0	1	1	1	3	5	8	11
	THHN	0	0	0	1	1	1	1	3	5	9	13
700	THW	0	0	0	0	1	1	1	2	4	7	10
	THHN	0	0	0	0	1	1	1	3	5	8	11

Maximum Number of Conductors in Nonmetallic PVC Schedule 80 PVC Conduit

Table C.10 (Based on Table 1, 4 & 5, Chapter 9 of the N.E.C.)

Conductor Size AWG, MCM		Conduit Trade Size										
		1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	5"	6"
14	THW	6	11	19	35	49	82	118	185	324	514	736
	THHN	9	17	28	51	70	118	170	265	464	736	1055
12	THW	4	9	15	27	38	63	91	142	248	394	565
	THHN	6	12	20	37	51	86	124	193	338	537	770
10	THW	3	6	11	20	28	47	68	106	185	294	421
	THHN	4	7	13	23	32	54	78	122	213	338	485
8	THW	1	3	6	11	15	26	37	59	103	163	234
	THHN	4	7	13	23	32	54	78	122	213	338	485
6	THW	1	1	3	7	9	16	22	35	62	98	141
	THHN	1	3	5	9	13	22	32	51	89	141	202
4	THW	1	1	3	5	7	12	17	26	46	73	105
	THHN	1	1	3	6	8	14	20	31	54	86	124
3	THW	1	1	2	4	6	10	14	22	39	63	90
	THHN	1	1	3	5	7	12	17	26	46	73	105
2	THW	1	1	1	3	5	8	12	19	33	53	77
	THHN	1	1	2	4	6	10	14	22	39	61	88
1	THW	0	1	1	2	3	6	8	13	23	37	54
	THHN	0	1	1	3	4	7	10	16	29	45	65
1/0	THW	0	1	1	1	3	5	7	11	20	32	46
	THHN	0	1	1	2	3	6	9	14	24	38	55
2/0	THW	0	1	1	1	2	4	6	10	17	27	39
	THHN	0	1	1	1	3	5	7	11	20	32	46
3/0	THW	0	0	1	1	1	3	5	8	14	23	33
	THHN	0	1	1	1	2	4	6	9	17	26	38
4/0	THW	0	0	1	1	1	3	4	7	12	19	27
	THHN	0	0	1	1	1	3	5	8	14	22	31
250	THW	0	0	0	1	1	2	3	5	9	15	22
	THHN	0	0	1	1	1	3	4	6	11	18	25
300	THW	0	0	0	1	1	1	3	5	8	13	19
	THHN	0	0	0	1	1	2	3	5	9	15	22
350	THW	0	0	0	1	1	1	2	4	7	12	17
	THHN	0	0	0	1	1	1	3	5	8	13	19
400	THW	0	0	0	1	1	1	2	4	7	10	15
	THHN	0	0	0	1	1	1	3	4	7	12	17
500	THW	0	0	0	1	1	1	1	3	5	9	13
	THHN	0	0	0	1	1	1	2	3	6	10	14
600	THW	0	0	0	0	1	1	1	2	4	7	10
	THHN	0	0	0	0	1	1	1	3	5	8	12
700	THW	0	0	0	0	1	1	1	2	4	6	9
	THHN	0	0	0	0	1	1	1	2	4	7	10

Maximum Conductors in Nonmetallic PVC Schedule 80 PVC Conduit

Table C.9 (Based on Table 1, Chapter 9 of the N.E.C.)

Type Letters	Conductor Size AWG, kcmil	Conduit Trade Size (Inches)											
		1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	5"	6"
THWN	14	9	17	28	51	70	118	170	265	358	464	736	1055
	12	6	12	20	37	51	86	124	193	261	338	537	770
	10	4	7	13	23	32	54	78	122	164	213	338	485
	8	2	4	7	13	18	31	45	70	95	123	195	279
THHN FEP (14 through 8)	6	1	3	5	9	13	22	32	51	68	89	141	202
	4	1	1	3	6	8	14	20	31	42	54	86	124
	3	1	1	3	5	7	12	17	26	35	46	73	105
	2	1	1	2	4	6	10	14	22	30	39	61	88
	1	0	1	1	3	4	7	10	16	22	29	45	65
PFA (14 through 4/0)	1/0	0	1	1	3	4	7	10	15	20	27	42	61
	2/0	0	1	1	2	3	5	8	12	17	22	35	50
	3/0	0	1	1	1	2	4	6	10	14	18	29	41
	4/0	0	0	1	1	1	4	5	8	11	15	24	34
Z (14 through 4/0)	250	0	0	1	1	1	3	4	6	9	11	18	26
	300	0	0	1	1	1	2	3	5	7	10	15	22
	350	0	0	0	1	1	1	3	5	6	8	14	20
	400	0	0	0	1	1	1	3	4	6	7	12	17
XHHW (4 through 55 kcmil)	500	0	0	0	1	1	1	2	3	5	6	10	14
	600	0	0	0	0	1	1	1	3	4	5	8	11
	700	0	0	0	0	1	1	1	2	3	4	7	10
	750	0	0	0	0	1	1	1	2	3	4	6	9
XHHW	6	1	2	4	8	11	19	28	43	59	76	121	173
	600	0	0	0	0	1	1	1	3	4	5	8	11
	700	0	0	0	0	1	1	1	2	3	4	7	10
	750	0	0	0	0	1	1	1	2	3	4	6	9

Schedule 40 and Schedule 80 Conduit

Size Inches	Feet per Bundle	10' Lengths			20' Lengths		
		Feet per Pack	Approx. Weight per Pack		Feet per Pack	Approx Weight per Pack	
			Sch. 40	Sch. 80		Sch. 40	Sch. 80
1/2	100	6,000	1044	1314	12,000	2088	--
3/4	100	4,400	1016	1309	8,000	2032	--
1	100	3,600	1234	1579	7,200	2468	3155
1-1/4	0	3,300	1521	2007	6,600	2042	4010
1-1/2	0	2,250	1242	1660	4,500	2484	2855
2	--	1,400	1039	1426	2,800	2078	2892
2-1/2	--	930	1094	1448	1,860	2188	2892
3	--	880	1448	1977	1,760	2896	3667
3-1/2	--	630	1248	1605	1,260	2496	--
4	--	570	1337	1854	1,140	2674	3474
5	--	380	1208	1715	760	2416	3216
6	--	260	1075	1616	520	2150	3025
8	--	180	1076	--	360	2152	--

EB & DB Utility Duct - 20' Lengths

Size Inches	Feet per Bundle	Feet per Pack	Approx. Weight per Pack			
			DB60	EB20	DB120	EB35
1	100	7,200	--	--	1176	--
1-1/2	100	4,500	--	--	1142	--
2	--	2,800	944	907	1079	--
3	--	1,760	1464	862	1529	--
4	--	1,140	1567	1056	1907	1171
5	--	760	1579	1064	1919	1281
6	--	520	1560	1026	1833	1195

Telephone Conduit - 20' Lengths

Spec	Size (Inch)	Feet per Pack	Approx Weight per Pack		
			Type B	Type C	Type D
CAO	4	1,260	1272	2030	1885
Commercial	4	1,260	--	1703	--

Product	Size Inches	Pieces per Pack	Feet per Pack	Pack Value
Sch. 40 & Sch. 80 conduit 10' lengths (For 20' lengths, double the 10' pack value shown)	1/2	600	6,000	8
	3/4	440	4,400	10
	1	360	3,600	13
	1-1/4	330	3,300	16
	1-1/2	225	2,250	16
	2	140	1,400	13
	2-1/2	93	930	13
	3	88	880	20
	3-1/2	63	630	20
	4	57	570	20
	5	38	380	20
	6	26	260	20
	8	18	180	27
EB & DB Utility Duct 20' lengths	1	360	7,200	26
	1-1/2	225	4,500	32
	2	140	2,800	26
	3	88	1,760	40
	4	57	1,140	40
	5	38	760	40
	6	26	520	40
EZ Flex® ENT 10' Lengths	1/2	360	3,600	10
	3/4	400	4,000	10
	1	240	2,400	10
Telephone Conduit - CAO 20' lengths	4	63	1,260	53
Telephone Conduit - Commercial 20' lengths	4	63	1,260	53

Limited Warranty

The Seller, **CANTEX INC**., warrants its PVC plastic pipe, conduit, fittings, accessories, residential electrical boxes and solvents against defective workmanship and material for a period of one year from date of applicable invoice. Seller's liability hereunder, either for breach of warranty or for negligence, is expressly limited, at Seller's option, to:

A) Replacement at the agreed point of delivery, at no cost to the Purchaser, of any product found by the Seller to be defective of found not to conform to the applicable industry manufacturing standards, or

B) to refund or credit to the Purchaser of the purchase price of such products, provided the Seller is notified immediately upon the discovery of any claimed defect and that representative samples of the allegedly defective product are returned, transportation prepaid, to Seller, F.O.B. shipping point, at Seller's request. No claim under this Limited Warranty will be considered until the product and representative samplings thereof have been examined by Seller.

The above warranty constitutes the entire liability of Seller. Seller shall not be liable for any incidental consequential damages directly or indirectly arising or resulting from the sale, transportation, handling, installation or use of the products sold, nor for product loss, re-installation or labor cost.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATION OR LIABILITY ON THE PART OF THE SELLER.

Situations that void this Limited Warranty:

1. **Excessive temperature combination during test of operation.**
2. **Use of the product under conditions for which the product was not designed.**
3. **Failure to adhere to Seller's General Instruction Sheets concerning the proper handling, installation and testing of the product. General Instruction sheets are available on request: Call 817-215-7000.**
4. **Use of non-suitable solvent cement. Suitable solvent cement shall be cement made in accordance with ASTM D 2564 and of the proper grade (viscosity) for the size of pipe being joined. CANTEX solvent cements meet these requirements.**

CANTEX

817-215-7000 · 301 Commerce Ste. 2700
Fort Worth, Texas 76102

940-325-3344 · 2101 NE 1st Street
Mineral Wells, Texas 76067

330-995-3665m · 101 Gandy Road
Auburndale, Florida 33823

330-995-3665 · 11444 Chamberlain Rd. #1
Aurora, Ohio 44202

928-681-3301 · 4045 Bonanza Drive
Kingman, Arizona 86401

1. BUYER'S ACCEPTANCE

No waiver, alteration or modification of these conditions will be binding unless in writing signed by an authorized employee of **CANTEX** INC.

2. PAYMENT TERMS

All prices are F.O.B. shipping point with freight costs being collect, prepaid or allowed and do not include local, state or Federal taxes. Taxes are for the account of Buyer. Payment terms appear on the face of Buyers invoice. All orders are subject to credit approval.

3. DELINQUENCY FEEDS

If any invoice or part thereof is not paid within 30 days of date of invoice, **CANTEX** will impose as Delinquency Fees a charge of one (1%) percent per month or the maximum applicable legal amount upon any overdue amount to offset **CANTEX**'s anticipated damages including collection and accounting costs. Buyer agrees that the law of the State of Buyer's location will govern the construction and validity of this Contract and all other legal aspects of this sale.

4. CANCELLATION

Buyer may cancel prior to shipment subject to Delinquency Fees of the cost of labor, overhead and materials used plus ten (10%) percent of the sales price. Special orders may not be canceled.

5. RETURNS

No material may be returned for credit without the Seller's written consent.

6. SHIPMENT / DELIVERY

CANTEX will ship common carrier. Errors for breakage of product delivered by common carrier are Buyer's responsibility. Buyer is responsible for prompt unloading of trucks and/or freight cars. If delivery of products is delayed by Buyer more than 60 days, Buyer will pay **CANTEX** eighty (80%) percent of total cost of products.

7. INSTALLATION

Supervision of installation not included unless specifically requested. **CANTEX** will not be responsible for any delay in performance due to acts of God, war, riots, embargoes, acts of civil or military authorities, fires, floods, accidents, quarantine restrictions, supplier conditions, strikes, differences with workmen, cessation of plant operations, delays in transportation, nuclear incident, shortage of cars, fuel, labor or materials, or any cause beyond the reasonable control of **CANTEX**.

9. COMPLIANCE

CANTEX states its intentions to comply with all Federal laws applicable to **CANTEX**'s performance.

Terms and Conditions of Sale are available for download.
Click the link on the Terms & Conditions Page of our website.

https://www.cantexinc.com/resources/legal-information-terms