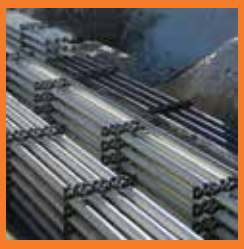
The premier ducting product on the market, IPEX Super Duct® is specifically engineered and quality manufactured to deliver the high-impact and crush strength demanded by today's utility companies, for underground ducting applications.

Made from a specially formulated compound, Super Duct can withstand high physical loads, while providing the natural flexibility for field bending to accommodate minor changes in elevation or direction. And Super Duct's smooth bore makes cable pulling easier.

Power & Communications Duct



SUPER DUCT POWER & COMMUNICATIONS DUCT

2" - 6" (50mm - 150mm)

SUPER® DUCT

Super Duct is recognized by major utilities, contractors and engineering firms as the premier ducting product available on the market.

Super Duct is manufactured with a specialized compound, and engineered for high impact and crush strength specifically required by utilities for underground duct. This compound also enhances the friction coefficient of Super Duct for easier pulling of conductors/ wires through long runs.

APPLICATIONS

- Utilities
- Communications
- Telecom
- Cable
- Hospitals / Medical Complexes
- Commercial Buildings

STANDARDS

ADVANTAGES

1. **Light Weight**
   Super Duct is easy to carry and install, reducing labour requirements and costs.
2. **Long Lengths**
   Super Duct is available in 10' (3m) and 20' (6.1m) lengths, minimizing the number of connections needed.
3. **Bell Ends**
   Super Duct is bell-ended, allowing for easy assembly in the field.
4. **High Compressive Strength**
   Super Duct's specially formulated compound is designed to withstand high loads.
5. **Low Coefficient of Friction**
   The smooth bore of Super Duct facilitates cable pulling and eliminates costly cable damage.
6. **Quality Control**
   Stringent, continuous testing ensures that Super Duct is a consistently high quality product.
7. **Field Bending**
   The natural flexibility of IPEX Super Duct allows field bending, to accommodate minor changes in elevation or direction.

SHORT FORM SPECIFICATIONS

PRODUCT

Duct shall be IPEX Super Duct or approved equal. Duct, fittings, spacers and solvent cement shall be provided by the same manufacturer to assure system integrity.

The duct is to be secured mechanically with vertical lock spacers to prevent disturbance to the alignment during installation.

INDENTIFICATION

Duct shall be identified for type and manufacturer and shall be traceable to plant location, date, shift and machine of manufacture. The markings shall be legible and permanent.

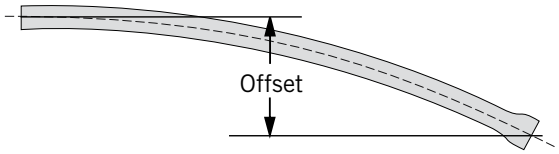
MATERIAL

Duct for use in underground, encased or direct burial applications shall be made from PVC compound that includes inert modifiers to give high modulus of elasticity, improved weatherability and deflection characteristics.

FIELD BENDING

Field bending can accommodate minor changes in elevation or direction without the use of special sweeps or fittings. the following table indicates typical maximum offset bends that can be achieved by cold bending.

ALLOWABLE OFFSET FOR SUPER DUCT



Size		Max Allowable Offset 10' Length		Max Allowable Offset 20' Length	
in.	mm	in.	mm	in.	mm
2	50	20	508	79	2 007
3	75	14	356	56	1 422
3-1/2	90	12	305	49	1 245
4	100	11	279	43	1 092
5	125	7	178	35	889
6	150	7	178	29	737

NOTES:
1. Axial deflection should not be attempted at the joints.
2. The above values were established for ambient temperatures above the freezing point. Increased radii may be desirable at below-freezing temperatures.

INSTALLATION

BENDS

Standard 90°, 45° and 22 1/2° bends are available from sizes 2" through to 6" in 24", 36", 42" and 60" radius. All bends are supplied with 6" (15.2cm) tangents. The centre line lay length (L) can be calculated using;

$$L = \left(\pi r \times \frac{\S}{180}\right) + 2 \text{ (tangent)}$$

Where: π = 3.14

L = centre line lay length

r = radius of bend

§ = angle of bend

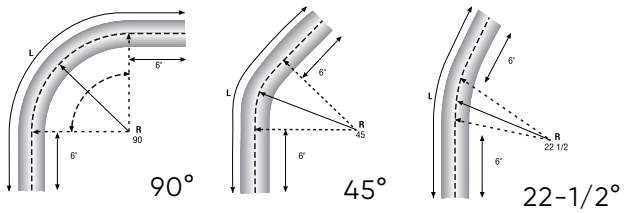
tangent = 6"

Example: for a 3" 90° bend with a 36" radius - calculate the lay length:

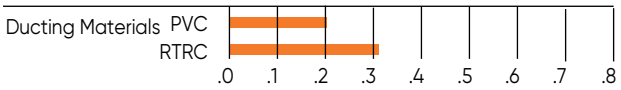
$$L = \left(3.14 \times 36 \times \frac{90^\circ}{180}\right) + 2\,(6)$$

$$L = 69 \text{ inches}$$

$$L \text{ (metres)} = \frac{L \text{ imperial}}{12 \times 3.281} = \frac{69"}{39.37} = 1.75\text{m}$$



STATIC FRICTION COEFFICIENT



SUPER DUCT DIMENSIONS

Dimension in	Minimum ID in	Nominal Wall in	Average OD in
2	2.001	.082	2.250
3	3.000	.097	3.250
3-1/2	3.480	.109	3.730
4	3.941	.120	4.216
5	4.974	.153	5.299
6	5.896	.180	6.275

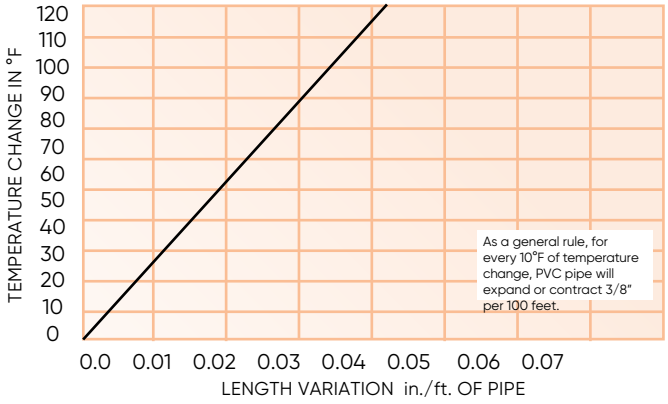
EXPANSION AND CONTRACTION

The following precautions should be exercised when extreme temperature variations are anticipated during the installation of IPEX Super Duct.

1. Allow extra duct footage at each tie-in for contraction when duct temperature is higher than soil temperature. Allow extra room for expansion if reverse condition exists.
2. Backfill from tie-in point toward end of duct run.

The coefficient of thermal expansion of IPEX Super Duct is 3 x 10^{-5} in./in./°F (5.4 x 10^{-5} mm/mm/°C). These charts show the expansion that can be expected at various temperature ranges for unburied (unrestrained) duct.

PVC Pipe Length Variation due to Temperature Change (°F)
Coefficient = 3.6 x 10^{-4} in./ft./°F



Dimension		Minimum ID		Nominal Wall		Average OD	
in	mm	in	mm	in	mm	in	mm
2	50	2.001	50.83	.082	2.08	2.250	57.15
3	75	3.000	76.20	.097	2.46	3.250	82.55
3-1/2	90	3.480	88.39	.109	2.77	3.730	94.74
4	100	3.941	100.10	.120	3.05	4.216	107.09
5	125	4.974	126.34	.153	3.89	5.299	134.60
6	150	5.896	149.76	.180	4.57	6.275	159.39

TELEPHONE DUCT

Type B, Type B(HW), Type C, Type D

Telephone Duct Type B and Type B – Heavy Wall are designed for use in concrete-encased installations.

Telephone Duct Type C is designed for direct burial applications.

Telephone Duct Type D is designed for exposed and special applications, and contains 6% titanium oxide for UV resistance.

Nominal Size	Product Code	Type	Avg OD	Min Wall	Min ID
PVC Telephone Duct - 20 foot Length, Belled One End					
4	008040	B	4.350	0.091	4.13
4	008041	B (HW)	4.350	0.101	4.11
4	008042	C	4.350	0.148	4.00
4	008043	C X 10'	4.350	0.148	4.00
4	008044	D	4.350	0.148	4.00

	Minimum Impact Resistance		Minimum Pipe Stiffness	Heat Distortion 48 hrs @ 140°F	
Type	@ 73.4°F	@ 32°F	lbs/in/in	Load	Max decr.
Performance Properties As indicated unter Telephone Standard 8546					
B	50 ft.lbs.	25 ft.lbs.	30	15	0.250"
B(HW)	50 ft.lbs.	25 ft.lbs.	40	15	0.250"
C	100 ft.lbs.	50 ft.lbs.	120	60	0.250"
D	150 ft.lbs.	75 ft.lbs.	120	60	0.250"

POWER AND COMMUNICATION DUCT

Rated for 90° cable

NEMA TC – 6 and 8, ASTM D1784 and ASTM F512

ENCASED BURIAL

Nominal Size	Product Code	Avg OD	Min Wall	ft/Pallet	Approx Wt/lbs
Type EB-20 Rated For 90°C Cable / 20-Foot Length, Belled One End					
2	008821	2.375	0.060	3,520	37
3	008831	3.500	0.061	1,560	56
*4	008841	4.500	0.082	1,200	93
*5	008851	5.563	0.103	460	142
*6	008861	6.625	0.125	520	202
Type EB-35 Rated For 90°C Cable / 20-Foot Length, Belled One End					
2	008921	2.375	0.060	3,520	33
3	008931	3.500	0.076	1,560	64
4	008941	4.500	0.100	1,200	105
5	008951	5.563	0.126	460	161
6	008961	6.625	0.152	520	230

* UL Listed

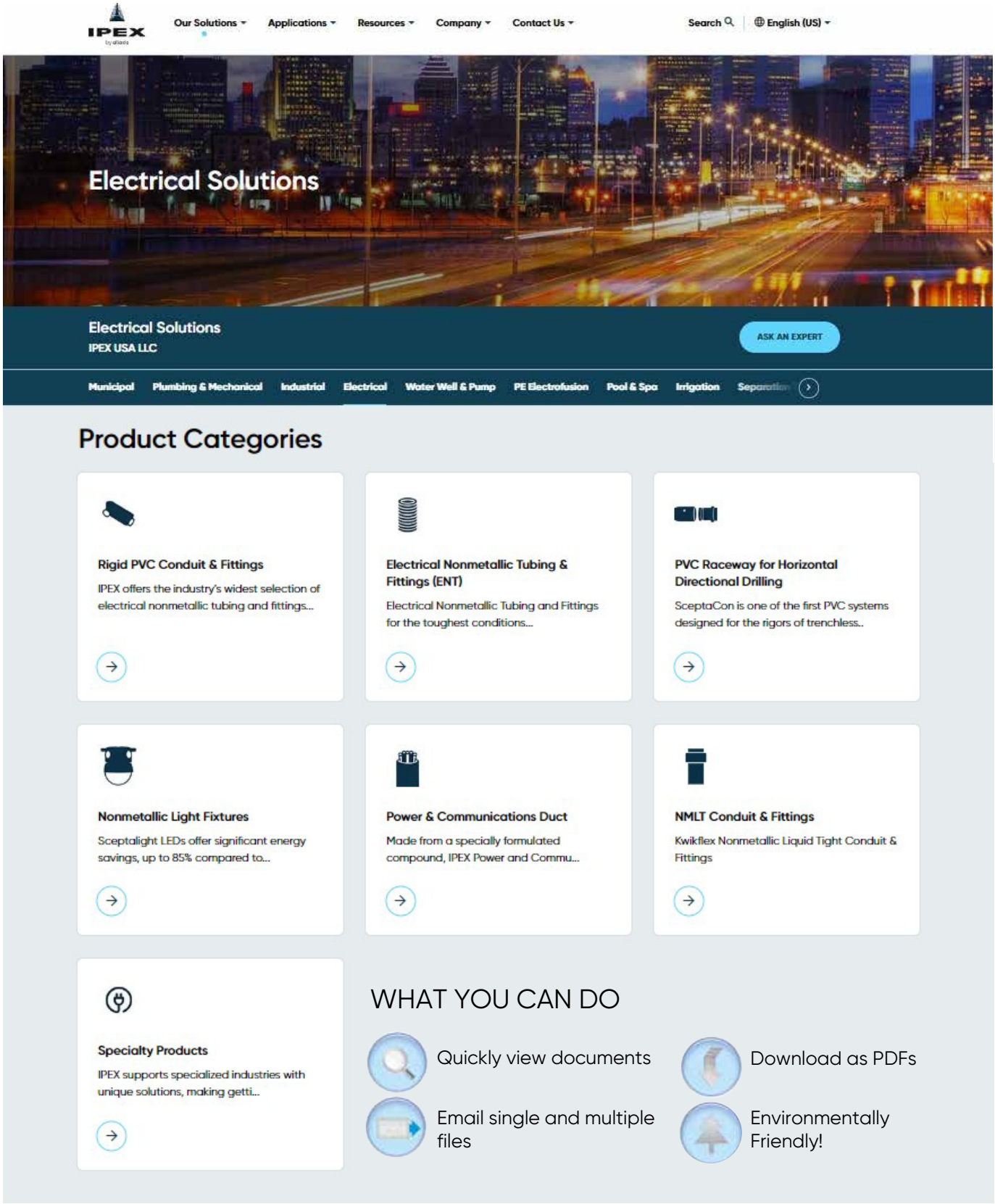
DIRECT BURIAL

Nominal Size	Product Code	Avg OD	Min Wall	ft/Pallet	Approx Wt/lbs
Type DB-60 Rated For 90°C Cable / 20-Foot Length, Belled One End					
2	008321	2.375	0.060	3,520	37
3	008731	3.500	0.092	1,560	80
4	008741	4.500	0.121	1,200	132
5	008751	5.563	0.152	460	202
6	008761	6.625	0.182	520	285
Type DB-120 Rated For 90°C Cable / 20-Foot Length, Belled One End					
2	008621	2.375	0.077	3,520	42
3	008631	3.500	0.118	1,560	96
4	008641	4.500	0.154	1,200	158
5	008651	5.563	0.191	460	240
6	008661	6.625	0.227	520	336

CONDUIT ELBOWS

Size inches	Degree Bend	18" Radius Product Code	24" Radius Product Code	36" Radius Product Code	48" Radius Product Code	150" Radius Product Code
2	90	029057	029321	029351	029401	#
	45	029124	029326	029356	029408	#
	30	029280	029331	029361	029415	#
	22-1/2	029286	029336	029366	029422	#
	11-1/4	029296	029346	029381	029429	#
3	90	029058	029322	029352	029402	#
	45	029125	029327	029357	029409	#
	30	029281	029332	029362	029416	#
	22-1/2	#	029337	029367	029423	#
	11-1/4	029297	029347	029382	029430	#
4	90	029059	029323	029353	029403	#
	45	029126	029328	029358	029410	#
	30	029282	029333	029363	029417	#
	22-1/2	029287	029338	029368	029424	#
	11-1/4	029298	029348	029383	029431	#
5	90	#	029324	029354	029404	029445
	45	#	029329	029359	029411	029460
	30	#	029334	029364	029418	029467
	22-1/2	#	029339	029369	029425	029511
	11-1/4	#	029349	029384	029432	029527
6	90	#	#	029355	029405	029446
	45	#	#	029360	029412	029461
	30	#	#	029365	029419	029468
	22-1/2	#	#	029374	029426	029512
	11-1/4	#	#	029385	029433	029528

Obtaining the most up-to-date information has never been easier... available at **ipexna.com**



UNDERGROUND DUCT SPACERS

2" - 8" (50mm - 200mm)

IPEX offers a wide range of conduit and duct spacers for concrete encased duct bank assemblies. Our spacers offer consistent operation, stability and relieve direct stress for duct materials.

APPLICATIONS

- Underground duct banks
- Medical campus
- University campus

VERTICAL-LOK SPACERS

IPEX's interlocking spacers provide uniform separation between the rows and columns of conduits and when assembled with conduit create a stable structure for the concrete. Spacers connect quickly and easily by sliding together horizontally and snapping together vertically and provide true customization for any configuration of duct bank. Superior features like the molded rebar slots for efficient drop-in installation of full length rebar and integral holes in base spacers for securing in place save time and effort.

Spacers are available in sizes to independently support 2", 3", 4", 5", 6" and 8" conduit and each size is offered a range of separation from 1" to 3".

MONOBLOC™ SPACERS

Monobloc spacers accommodate the specific dimensions of DB and EB duct and can be used as both a base spacer and an intermediate spacer for versatility. Monobloc spacers support DB/EB duct in sizes 2" – 5" and are available in a range of configurations that provide 1" to 3" separation between ducts. To minimize jobsite assembly these spacers are available as single, double, triple or quad run units (way). Any number of parallel conduit runs can be accommodated by combining Monobloc spacers (i.e. a 2-way and a 3-way create a 5-way).

Monobloc spacers are resilient at all temperatures, lightweight and easy to use. Readily available in 29 configurations, many with a molded-in rebar holder, theses spacers are an economical choice for virtually any duct bank installation.

ADVANTAGES

1. **Moulded Re-bar innovation**
   These provide better alignment and more uniform distribution of re-bar in a duct bank, making duct bank installation even faster and easier.
2. **Innovative design**
   Twenty-six of the 29 different Monobloc spacers can be used interchangeably as either a base or intermediate unit.
3. **Maximum flexibility**
   Different sized Monobloc spacers can be easily grouped to create the required width of duct bank.
4. **Tough and resilient**
   Made of resilient, high-density polyethylene, our Monobloc spacers easily withstand inclement weather and severe conditions normally found on a construction site.
5. **Integral holes** offer base spacer fastening and stabilization.

DID YOU KNOW?

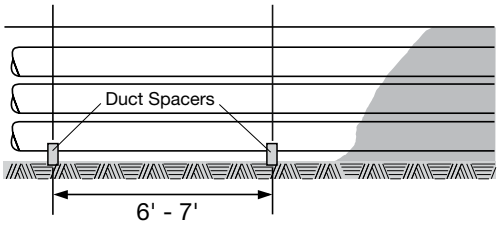
You can lower both material and labour costs with the 4x3x3x3 Monobloc base spacer. By reducing concrete requirements one inch in duct bank encasements, this base spacer can save four cubic yards of concrete in a 500-foot long, 30-inch wide duct bank.

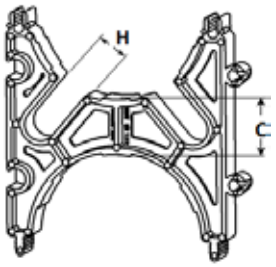
VERTICAL-LOK SPACERS

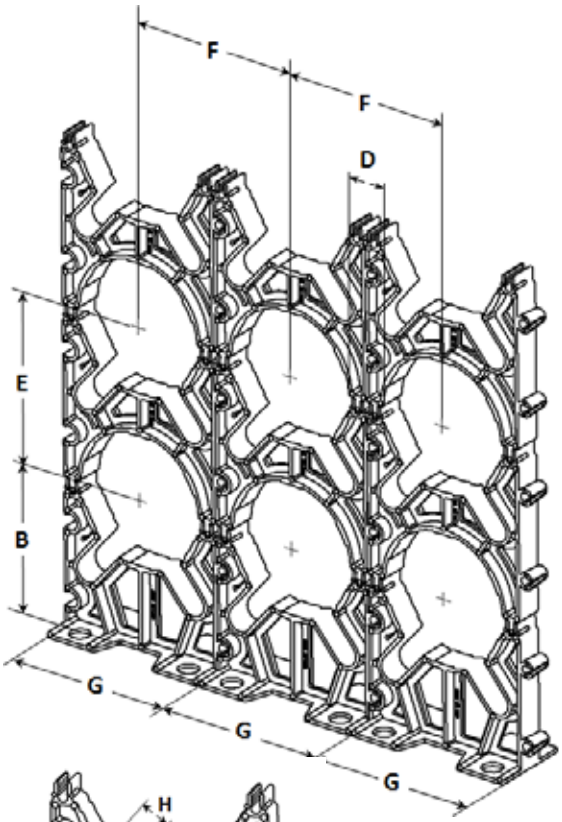
Size (inches)	Part Number	Product Code	Dimensions (inches) C	D	E	F	G	H
Intermediate Vertical-Lok Spacers								
2 x 1-1/2	IS3530	029550	1.52	1.50	3.95	3.95	3.94	0.63
2 x 2	IS3535	029551	2.03	2.06	4.48	4.48	4.47	0.63
2 x 3	IS3545	029552	3.00	3.03	5.45	5.45	5.44	0.63
3 x 1-1/2	IS4530	029582	1.50	1.45	5.15	5.12	5.12	0.88
3 x 2	IS4535	029554	2.00	1.88	5.64	5.63	5.63	0.88
3 x 3	IS4545	029555	3.00	2.88	6.66	6.63	6.63	0.88
4 x 1	IS5520	029583	1.00	1.03	5.66	5.63	5.63	0.88
4 x 1-1/2	IS5530	029557	1.50	1.39	6.13	6.14	6.13	0.88
4 x 2	IS5535	029558	2.00	1.88	6.64	6.63	6.63	0.88
4 x 3	IS5545	029559	3.00	2.90	7.64	7.64	7.63	0.88
5 x 1-1/2	IS6030	029584	1.68	1.69	7.37	7.37	7.37	0.88
5 x 2	IS6035	029561	2.25	2.15	7.89	7.89	7.88	0.88
5 x 3	IS6045	029562	3.06	2.96	8.70	8.70	8.69	0.88
6 x 1-1/2	IS6530	029563	1.50	1.38	8.24	8.22	8.21	0.88
6 x 2	IS6535	029564	2.00	1.89	8.74	8.73	8.72	0.88
6 x 3	IS6545	029565	3.00	2.90	9.77	9.77	9.75	0.88
* 8 x 2	IS8035	029294	2.06	2.00	10.58	10.80	10.80	*

* Do not have rebar slots

RECOMMENDED DISTANCE: 6' - 7'

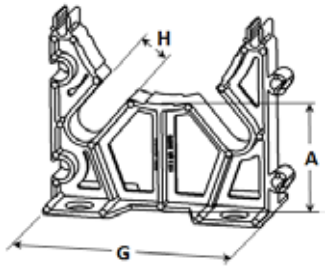




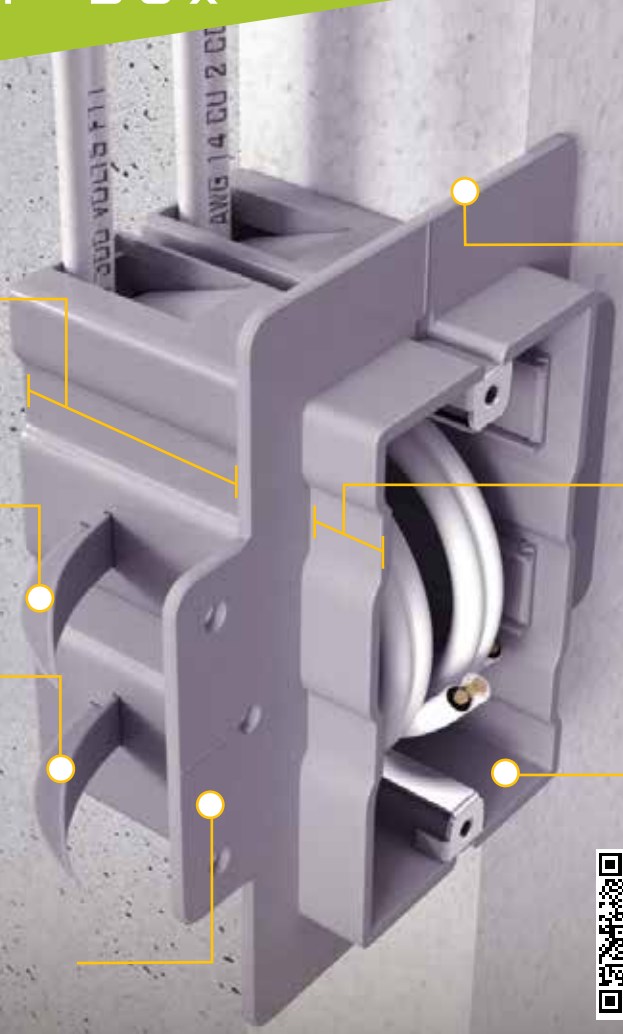


Size (inches)	Part Number	Product Code	Dimensions (inches) A	B	H	G
Base Vertical-Lok Spacers						
2 x 1-1/2	BS3530	029566	3.04	4.25	0.63	3.94
2 x 2	BS3535	029567	3.04	4.25	0.63	4.47
2 x 3	BS3545	029568	3.04	4.25	0.63	5.44
3 x 1-1/2	BS4530	029585	3.00	5.84	0.88	5.12
3 x 2	BS4535	029570	2.97	4.78	0.88	5.63
3 x 3	BS4545	029571	3.00	4.81	0.88	6.63
4 x 1	BS5520	029586	3.00	5.32	0.88	5.63
4 x 1-1/2	BS5530	029573	3.00	5.31	0.88	6.13
4 x 2	BS5535	029574	3.06	5.38	0.88	6.63
4 x 3	BS5545	029575	3.06	5.38	0.88	7.63
5 x 1-1/2	BS6030	029587	3.00	5.84	0.88	7.37
5 x 2	BS6035	029577	3.13	5.94	0.88	7.88
5 x 3	BS6045	029578	3.19	6.00	0.88	8.69
6 x 1-1/2	BS6530	029579	3.02	6.38	0.88	8.21
6 x 2	BS6535	029580	3.02	6.38	0.88	8.72
6 x 3	BS6545	029581	3.00	6.38	0.88	9.75
* 8 x 2	BS8035	029293	3.00	7.25	*	10.80

* Do not have rebar slots



INEXO®
THE ICF BOX



Insertion depth of 2-1/4"

'TEETH' can be easily removed and replaced.

'TEETH' lock in place providing a rigid hold in the EPS foam.

Greater installation versatility with 3 screw hole choices and flanges on both sides.

Full flange prevents box from twisting and sinking into foam if over-tightened

INEXO provides a 1/2" drywall setback resulting in a professional finish

Single gang box provides 19 cubic inch capacity

Scan to view our product demo video or visit our website

THE INNOVATIVE ELECTRICAL BOX FOR INSULATED CONCRETE FORM CONSTRUCTION

For complete product information, visit www.ipexna.com/inexo

In the past, there have been few choices for electrical box solutions for ICF construction, but INEXO's electrical box designed specifically for ICF provides the easy installation and finished look that installers and building owners appreciate.

INEXO's patented design allows the boxes to be easily installed anywhere on an ICF wall following concrete pour. With no special training or tools required, the INEXO electrical box is easily inserted into the ICF wall and the box's "teeth" are pushed into place with an audible click to ensure the box is secure.

Available in single, double and triple gang designs for both residential and commercial applications, the INEXO electrical box offers plenty of capacity for the latest applications.

Specialty Products

INEXO ICF BOXES

1/2", 3/4", 1" (12mm, 19mm, 25mm)

INEXO™

Until now there have been few choices when attempting to provide a truly professional electrical box solution for Insulated Concrete Form homes. Traditional electrical boxes are tedious to install and often require a fair amount of ingenuity and additional labour to provide a less than ideal finished product. Other boxes offered to ICF builders require installation before the concrete pour, throwing off your project time-line.

INEXO's patented[1] design provides a truly professional solution that works with your production schedule and provides the quality installation and finished look that builders require and owners appreciate. INEXO boxes link seamlessly with existing ICF materials, tools and methods. A complete offering designed for ICF walls allow builders to standardize on the use of electrical boxes throughout the building.

1 Patent No. 6,932,628 & Patent Pending

APPLICATIONS

- Insulated Concrete Form Buildings
- Schools
- Churches
- Hotels

STANDARDS

C SP US

ADVANTAGES

1. Installation after concrete pour allows you to follow traditional production schedules
2. Positioning – Boxes can be installed anywhere on the ICF wall allowing for more variety in box positioning as installers are no longer required to affix to the ICF ties or drill and secure to the concrete wall.
3. Availability – Residential boxes are available in single, double and triple gang options.
4. Certification – Boxes are fully CSA certified to UL standards for use in ICF and can resist pull forces exceeding 100 lbs – (twice the standard requirement).

FAST AND EASY INSTALLATION

Installing INEXO boxes requires no special training making the transition to a new solution seamless.

STEP 1:
Select the position for your box. Using a hot-knife or cutting tool, cut the opening in the EPS foam.

STEP 2:
Insert the INEXO box into your opening and push the 'teeth' into place until you hear the 'click' – so you know your box is secure. If you are positioned next to a tie, you can utilize two of the 'teeth' on the non-tie side and use the flange holes on the opposite side to screw into the plastic tie.

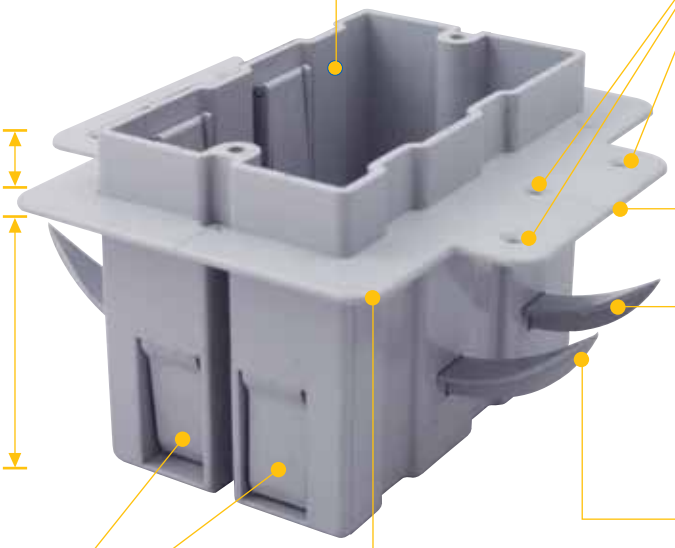
STEP 3:
Pull through your NMD cable and continue.

Single gang box provides 19 cubic inch capacity

Greater installation versatility with 3 screw hole choices and flanges on both sides.

INEXO provides a 1/2" drywall setback resulting in a professional finish.

With an insertion depth of 2-1/4" and a smooth back, the INEXO box is designed specifically for ICF.



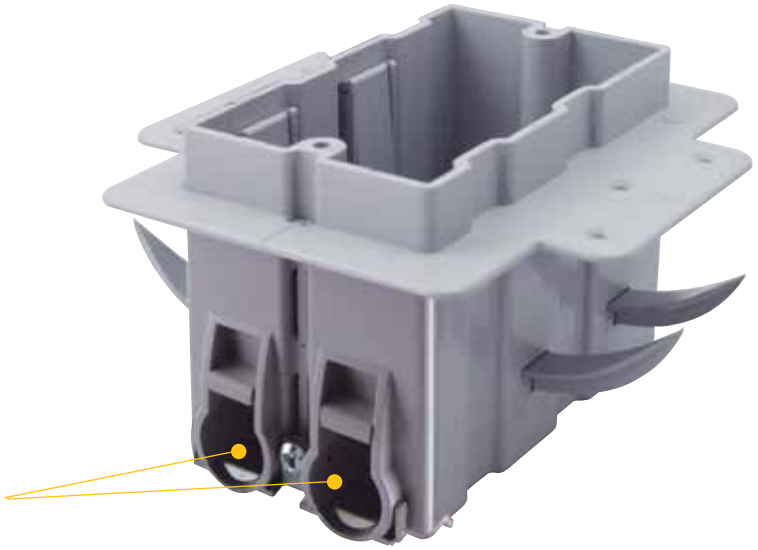
Laser level guides for the most precise box placement

'TEETH' can be easily removed and replaced and provide an audible 'click' when fully engaged and secured to the EPS foam.

'TEETH' lock in place for a rigid hold that won't loosen.

Full flange prevents box from twisting and sinking into foam if over-tightened. This innovation allows installers to provide a professional straight finish with no lop-sided boxes.

RESIDENTIAL BOX DESIGNED FOR NMD CABLE (14/2 – 10/3).



COMMERCIAL BOX DESIGNED FOR ARMOURED CABLE (AC) OR NMD CABLE.

INEXO BOXES

Description	Part Number	Product Code
Residential (NMD Cable 14/2 – 10/3)		
 Single Gang	ICF-1-RL	220000
Double Gang	ICF-2-RL	220001
Triple Gang	ICF-3-RL	220002
Commercial (AC or NMD Cable)		
 Single Gang	ICF-1-CLU	220009
Double Gang	ICF-2-CLU	220010
Triple Gang	ICF-3-CLU	220011

Description	Part Number	Product Code
Low Voltage Divider		
 Divider	LVD-RL	220100
For residential box only		

RESIDENTIAL BOX
WITH LOW VOLTAGE DIVIDER

The new INEXO ICF box divider provides contractors with a quick and convenient way to separate different voltage sources in the same box.

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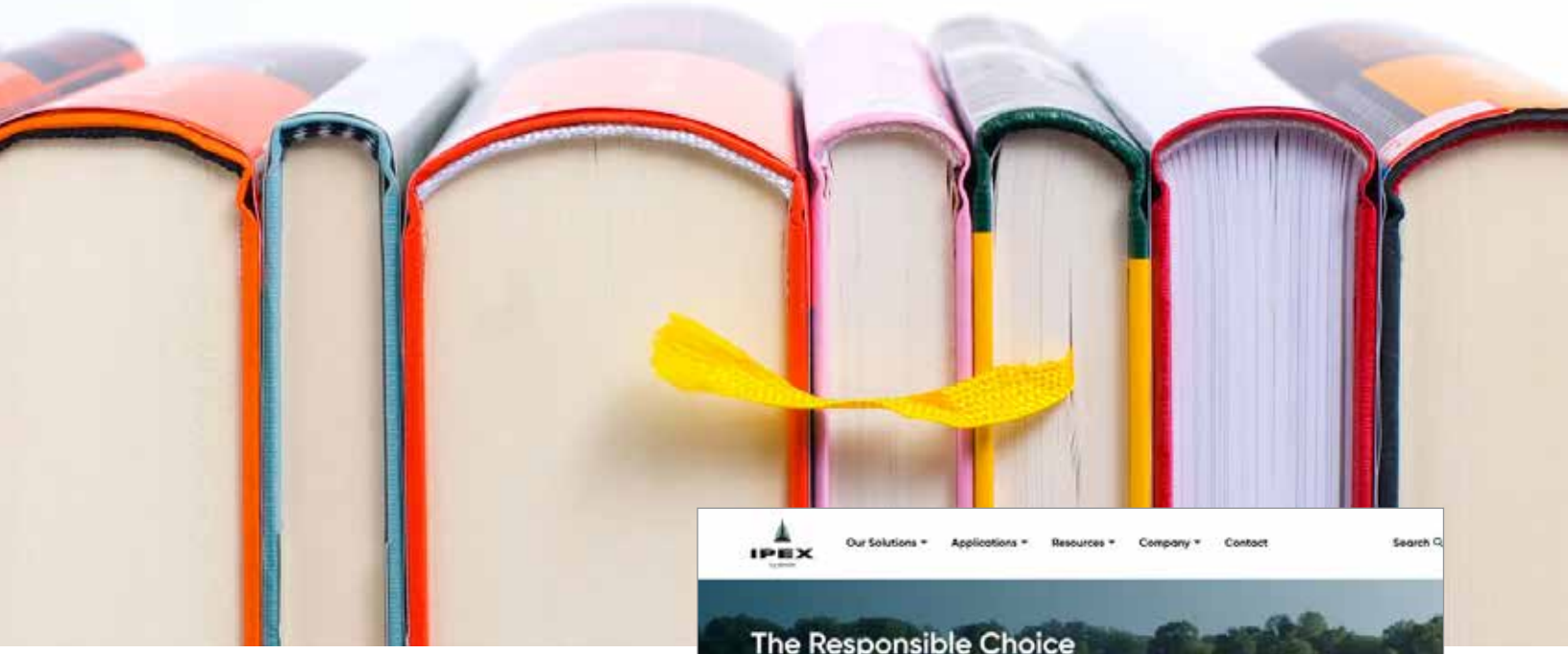

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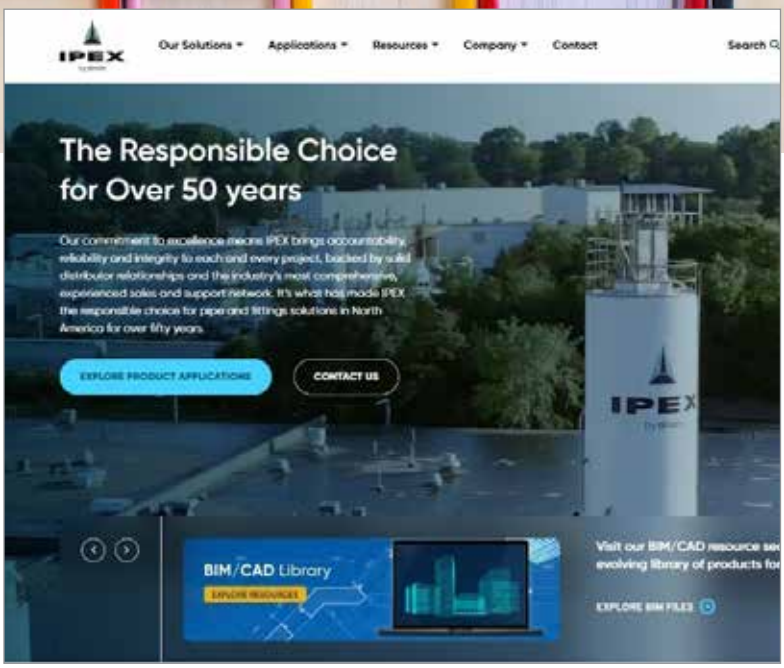

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Products are manufactured by IPEX Electrical Inc. and distributed in the United States by IPEX USA LLC.

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