SAFETY - RELIABILITY - PRODUCTIVITY :

CONDUX 2014 - 2015

UNDERBRIDGE CONDUIT SUPPORT &
BORE SPACER CONDUIT-IN-CASING
SYSTEMS CATALOG

Leading the world in the design & manufacture of conduit underbridge hanger systems and conduit bore spacers, Condux hangers are supporting conduit on over 3000 bridges worldwide, including San Francisco's famous Golden Gate Bridge & the spectacular Sunshine Skyway Bridge in Tampa Bay.

Special designs to meet your specific needs, large or small, is our hallmark. Condux engineers are ready to supply you with personalized service which will successfully accomplish your next bridge hanger project.

Rapid turnaround is guaranteed thanks to computerized estimation design and manufacturing. No matter what stage of the project you're in, Condux can help you secure the most cost-effective solution.





solutions & support

Good businesses know the importance of productivity and efficiency. That's why we take pride in working directly with the industries we serve to offer tools that are engineered to reduce installation time and increase safety. Condux has the specialized tools to help you do the job right, and do it safely.

Reliable Customer Service

Every tool we sell is backed by our commitment to reliable Customer Service through our international network of knowledgeable representatives and our international Customer Service personnel. You will receive the most reliable customer support available anywhere.

Product Training Seminars

A product is most effective with the proper knowledge and training behind it. That's why Condux offers in-depth product information and hands-on product training. Our outdoor facility has precast manholes, four conduit runs, power poles at the perimeter, handholes, and transformer boxes for realistic training. Participants work in both classroom and hands-on settings, with involvement in a variety of product installations over a two-day period.



To our knowledge, all products and other information in this catalog are accurate at the time of printing. Condux International, Inc. reserves the right to change products and other information without prior notice.

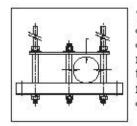
Tools shown in this catalog are designed for their intended use only by trained craftspeople. Before using any Condux tool, make certain you have read and understand any safety, operating, and maintenance instructions for that tool. Call or write for any additional product information required for operation.

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Table of Contents	
The Condux Engineering Advantage	
Underbridge Conduit Support Estimating Guide	
Underbridge Hanger Installation Guide4	
Bracket Options5-11	
Conduit-In-Casing with Condux Bore Spacers	
Bore Spacers Estimating Guide	92
Our Schedule Will Fit Your Schedule	
Bore Spacers Product Ordering Guide	

The Condux Engineering Advantage

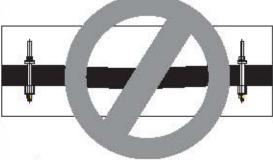
Condux underbridge duct support systems are complete, pre-engineered and field-proven. The hangers can be provided in any configuration (horizontal and vertical) from our inventory of components and preassembled to your specifications.



"Free" space
allows the
conduit
movement
that results
from expansion/
contraction.

Support Features:

- Corrosion-resistant fiberglass construction
- Maximum strength-to-weight ratio
- Square tubes incorporated for increased strength



Our experience is your assurance against problems such as conduit sagging and hanger weakening.

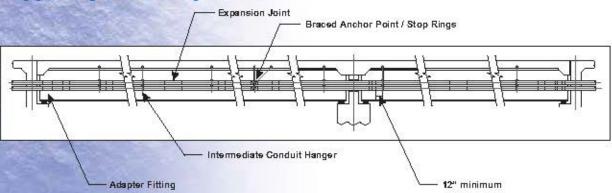
Condux engineers are ready to design a support structure for your underbridge system. We will provide the following:

- Cost and delivery evaluation
- Advanced computer aided design capability
- Estimate based on your information or bridge plans
- Best hanger solution for your application



Sagging conduit creates "nodes" which can damage the hanger.

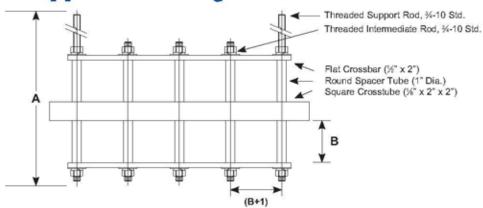
Support System Components





Underbridge Conduit Support Estimating Guide

- · Call Condux-We will work with you to initialize the estimate.
- · We suggest you make several photocopies of this sheet and keep them with this design guide for future use.
- · Fill out and mail, FAX or scan and then e-mail (cndxinfo@ condux.com) this order information sheet.
- · Condux will provide you with an estimate.

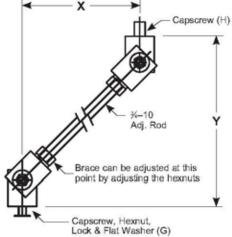


1. Grid Type Hanger
To order, the following information is needed.

order, the following information is needed.		
Number of square crosstubes	Flat bar material (FGL, PVC)	
Number of ducts high	Round tube material (FGL, PVC)	
Number of ducts wide	Square tube material (FGL, AL, HDG)	
pacing between crossmembers (B)	Hardware material (316, 304, HDG, ZNC)	
acing between rod centers (B + 1")	Locations of support rods from left	
Overall length of support rods (A)	(Example shown: 1 & 5) Locations of square crosstubes from top	
	(Example shown: 2) Conduit OD and type	
Quantity	Conduit OD and type	
Adjustable Bar Brace	← x —	>

To order, the following information is needed:

Run (horizontal distance between bolt centers) (X) ___ Rise (dist. from top of sq. tube to bottom of deck) (Y) __ Bolt diameter to be used at hanger (G) _ Threaded stud dia. to be used at support (H) __ Type of material (316, HDG) Quantity _



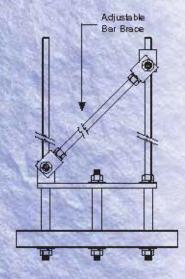
Return Quotation to:

Name		Company		
Address		City		State
Zip	Phone ()		FAX ()	
E-mail		Return Quotation	1 by	

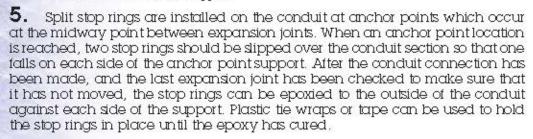
Materials required at job site by

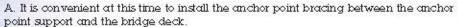


Underbridge Hanger Installation Guide



- 1. Begin at one abutment by installing a double bell stop coupling or adapter coupling onto the conduit that is protruding from the abutment. This conduit may be PVC, threaded steel, or fiberglass.
- 2. Install as many supports as are required to reach the first conduit joint. This may require the installation of expansion anchors into the bridge deck if concrete inserts or other means of support have not previously been installed.
- 3. Next, install the first piece of conduit and make the connection at the abutment according to standard practices for the type of conduit being used. Continue the process of installing segments of supports and conduit, working from one abutment to the other. No joint should be within 12 inches of a hanger.
- **4.** Expansion joints are installed in the conduit system during this ongoing assembly process. The expansion joints must be placed at the required locations by attaching the expansion sleeve to the conduit that is in place. If the expansion sleeve is of the type that will accept the spigot end of the next conduit piece, then the next conduit piece should be insert to the halfway point of the sleeve allowing for equal movement in either direction.* If the expansion sleeve is of the type that requires an expansion nipple, then the nipple should be adjusted to the halfway point of the sleeve and subsequently assembled to the end of the next conduit section.
 - A. Care must be taken that the expansion joints remain at mid-travel during the remainder of the installation process. The joint may be wrapped with tape for assurance.
 - B. No expansion joint should be closer than 12 inches to any support. The ideal location is ¼ the distance to the next support.

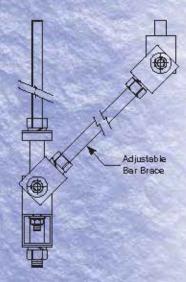




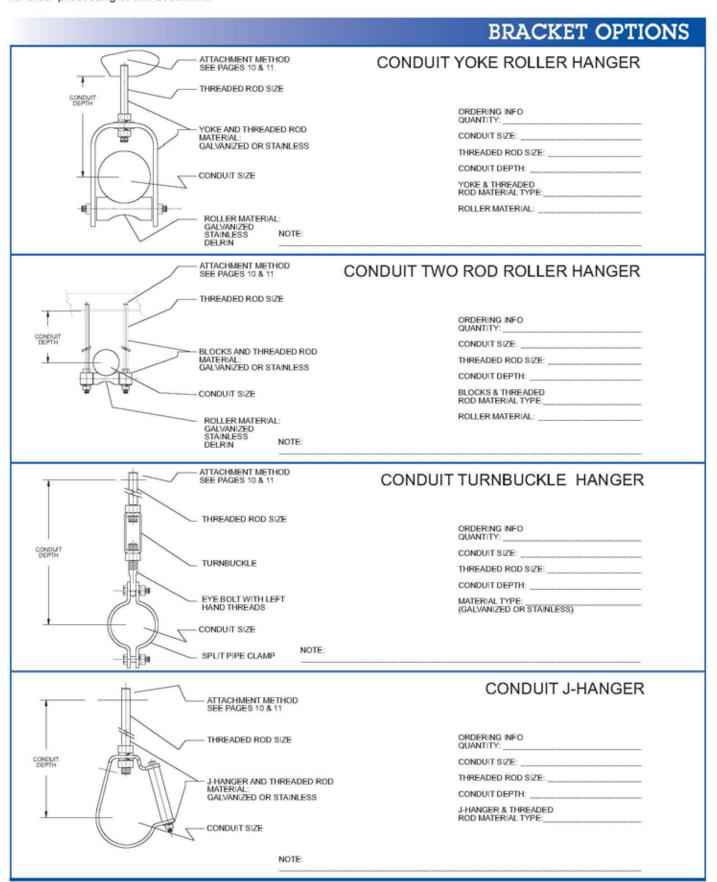
• The last section of conduit should be cut to length so that it fits end to end with the conduit that protrudes from the abutment. If the two conduits are the same, the cannection can be made with a sleeve coupling or slip coupling. Simply slide the sleeve onto one of the conduits, apply epoxy to each end, place the ends together and slide the sleeve over the joint. If an adapter coupling is required, then the last cannection is made by retracting the last expansion joint, thereby allowing enough space between the conduit ends to install the adapter. After the connection has been made, the expansion joint should be back at mid-travel.*

*This principle holds true for a temperature range of approx. 50°-70°F. Account for your jobsite ambient temperature when installing expansion joints.

NOTE: Any calculations noted or implied in this guide are not to be used unless the results are validated by Condux engineers.

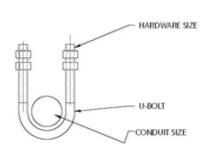








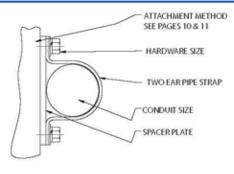
BRACKET OPTIONS



CONDUIT U-BOLT HANGER

ORDERING INFO QUANTITY: CONDUIT SIZE: HARDWARE SIZE: MATERIAL TYPE: (GALVANIZED OR STAINLESS)

NOTE:



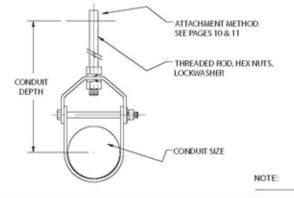
CONDUIT TWO EAR PIPE STRAP HANGER

ORDERING INFO QUANTITY: CONDUIT SIZE: HARDWARE SIZE: SPACER PLATE THICKNESS: MATERIAL TYPE: (GALVANIZED, STAINLESS OR FIBERGLASS)

NOTE:

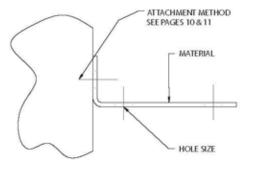
NOTE:

CONDUIT CLEVIS HANGER



ORDERING INFO QUANTITY: CONDUIT SIZE: THREADED ROD SIZE: CONDUIT DEPTH: _ MATERIAL TYPE: _

CONDUIT SIDE MOUNT



ORDERING INFO MATERIAL SIZE: HOLE SIZE: MATERIAL TYPE:

(GALVANIZED OR STAINLESS)



	BRACKET OPTIONS
	I-BEAM ATTACHMENT
B I-BEAM CLAMP EYE NUT NOTE:	ORDERING INFO QUANTITY: MEASUREMENT "A": MEASUREMENT "B": EYE NUT THREAD SIZE: MATERIAL TYPE: (GALVANIZED OR STAINLESS)
	I-BEAM SIDE MOUNT
MATERIAL SIZE HARDWARE SIZE HOLE SIZE NOTE:	ORDERING INFO QUANTITY: MEASUREMENT "A": MEASUREMENT "B": HARDWARE SIZE: MATERIAL SIZE: HOLE SIZE: MATERIAL TYPE: (GALVANIZED OR STAINLESS)
	DOUBLE I-BEAM SIDE MOUNT
MATERIAL SIZE HOLE SIZE NOTE:	ORDERING INFO QUANTITY: MEASUREMENT "A": MEASUREMENT "B": MEASUREMENT "C": MATERIAL SIZE: HOLE SIZE: MATERIAL TYPE: (GALVANIZED OR STAINLESS)
ATTACHMENT METHOD SEE PAGE	ANGLE IRON HANGER MOUNT
GUSSET SIZE ANGLE IRON SIZE HOLE SIZE NOTE:	ORDERING INFO QUANTITY: MATERIAL GUSSET SIZE: MATERIAL ANGLE IRON SIZE: MEASUREMENT: A: B: C: D: E: HOLE SIZE: MATERIAL TYPE: (GALVANIZED OR STAINLESS)



BRACKET OPTIONS C-CLAMP ORDERING INFO QUANTITY: THREAD SIZE: MEASUREMENT "A": MATERIAL TYPE: (GALVANIZED OR STAINLESS) THREAD SIZE NOTE: EXISTING BRIDGE BOX TYPE BEAM ANGLE IRON ATTACHMENT CONDUX GRID TYPE SUPPORT HANGER **OPTIONAL ATTACHMENTS** CALL CONDUX INTERNATIONAL ENGINEERING DEPARTMENT FOR ORDERING ASSISTANCE THREADED ROD, HEX NUT, LOCK AND FLAT WASHER ANGLE CLIP ATTACHMENT EXISTING BRIDGE BEAM ANGLE CLIP CAPSCREW, HEXNUT, LOCK AND FLAT WASHER FLAT BAR CONDUX GRIDE TYPE SUPPORT HANGER CONDUX GRIDE TYPE SUPPORT HANGER EXISTING BRIDGE BEAM BEAM CLAMP CAPSCREW, HEX NUT ATTACHMENT LOCK AND FLAT WASHER FLAT BAR BEAM CLAMP



BRACKET OPTIONS HANGER BRACE ANGLE IRON HARDWARE SIZE ORDERING INFO QUANTITY: MEASUREMENT "A": _ MEASUREMENT "B": ___ HARDWARE SIZE: ANGLE: 2 X 2 X 1/4 MATERIAL TYPE: (GALVANIZED OR STAINLESS) FITTING: 1/4 X 2.0 NOTE: HARDWARE SIZE HANGER BRACE ADJUSTABLE MEASUREMENT "A": __ MEASUREMENT "B": __ 3/4" THREADED HARDWARE SIZE: ROD MATERIAL TYPE: (GALVANIZED OR STAINLESS) NOTE: GUY STRAND CLAMP STRAND OPENING: 3/16 THRU 3/8 3-BOLT ORDERING INFO QUANTITY 3-BOLT: 1-BOLT: STRAND OPENING: 3/16 THRU 3/8 MATERIAL TYPE: (GALVANIZED OR STAINLESS) 1-BOLT HOT DIP GALVANZIED IS ONLY AVAILABLE IN A 3-BOLT CLAMP NOTE: **GUY STRAND WIRE** ORDERING INFO STRAND SIZE: 1/4" OR 3/8" LENGTH: GUY STRAND MATERIAL TYPE: DIAMETER (GALVANIZED OR STAINLESS) NOTE:



BRACKET OPTIONS THREAD SIZE CONCRETE STUD INSERT ORDERING INFO QUANTITY: THREAD SIZE: LENGTH LENGTH: MATERIAL TYPE: (ELECTRO GALVANIZED OR STAINLESS STEEL) NOTE: CONCRETE CAST-IN PLACE LOOP INSERT HOT DIP GALVANIZED INSERTS ARE THREADED OVERSIZED TO FIT HOT DIP GALVANIZED THREADS ORDERING INFO QUANTITY: THREAD SIZE: THREAD SIZE NOTE: CONCRETE CAST-IN PLACE SETTING PLUG ORDERING INFO QUANTITY: THREAD SIZE: THREAD SIZE NOTE: CONCRETE DROP IN WEDGE ANCHOR ORDERING INFO QUANTITY: THREAD SIZE: (ELECTRO GALVANIZED OR STAINLESS STEEL 303 TYPE) NOTE: THREAD SIZE



BRACKET OPTIONS CONCRETE EXPOY ADHESIVE CAPSULT INSERT ORDERING INFO QUANTITY: **EPOXY CAPSULE** SIZE: SIZE NOTE: CONCRETE THREADED ANCHOR ROD ORDERING INFO QUANTITY: THREAD SIZE: LENGTH LENGTH: MATERIAL TYPE: (ELECTRO GALVANIZED, HOT DIP GALVANIZED OR STAINLESS STEEL) TREADED SIZE NOTE: INJECTION ADHESIVE ANCHOR SYSTEM MIXINGTIP DESCRIPTION: TWO PART ADHESIVE QTY: __ TWO PART ADHESIVE DISPENSER GUN QTY: ____ WIRE BRUSH SIZE: ____ QUANTITY: ___ REPLACEMENT MIXING TIP QTY: ___ WIRE BRUSH DISPENSER GUN NOTE: CONCRETE CAST-IN PLACE ADJUSTABLE INSERT ORDERING INFO QUANTITY: THREAD SIZE: TREADED SIZE MATERIAL TYPE: HOT DIP GALVANIZED NOTE:



Conduit-In-Casing with Condux Bore Spacers

The Process

Conduit-in-casing is a simple process that allows telecom and power utilities to quickly and easily place power and communication cable below ground and under structures such as roadways, rail lines, etc. After the casing is installed and soil removed, multiple ducts supported by Condux Bore Spacers are then installed. Grout is typically injected between the individual ducts. Once the grout has cured, the telecom/power cables are pulled into place.

Maximum Protection & Effectiveness

Condux Bore Spacers are designed to support the conduit bundles reliably throughout the installation process and help disperse installation stress. This protects the conduit, which, in turn, protects the installed cables. In addition, bore spacers keep the conduit well organized inside of the casing, which allows for easy cable installation and quick identification for future installation in any unused conduit. Condux Bore Spacers also help maximize the allotted space within the diameter of a casing by facilitating the safe installation of the greatest number of conduit within that casing. This saves time and money.

Custom Bore Spacer Design

Bore spacer design is essential for proper conduit installation and alignment, which ultimately contributes to the reliability and longevity of the system. Condux Bore Spacers are manufactured with several innovative features like special contoured grout flow holes and stabilization holes. Contoured grout flow holes make grout injection fast and efficient. Ropes or cables

are used in conjunction with the stabilization holes to counteract rotational torque placed on the duct bank during installation and prevent twisting.

In addition, Condux Bore Spacers can be equipped with heavy-duty casters to improve installation times. Special float stops also help protect the conduit during the application of grout.

Most importantly, Condux Bore Spacers are manufactured to job site specifications based on the size of the casing and the number of conduits required. This also lets the end user specify the minimum separation between individual duct runs, as well as the number, size and configuration of the grout holes.

Grout

Grout is typically used to fill the space between the ducts and casing once they are in place.

The grout serves several purposes.



Conduit-In-Casing with Condux Bore Spacers

First, grout helps stabilize the conduit, especially when cable is being pulled in place. This will help limit the potential for the duct bank to collapse either from the force being applied during cable installation or due to the weight of the cables themselves.

Second, grout also helps keep the duct bank in place, preventing it from moving because of the unbalanced weight distribution of placed cables. Finally, grout isolates the individual conduit from one another, further protecting them in case of a cable fault, as well as minimizing heat transfer when used in a power utility application.

Choosing the right grout for the project is another essential component of a successful installation. The objective is to completely fill the annular space of the casing, without damaging the conduits. Contact Condux for specific conduit-in-casing grout options.



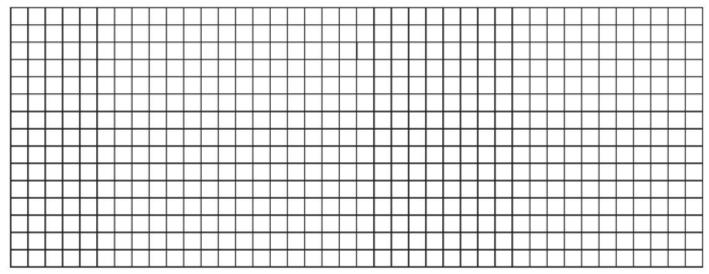




Bore Spacers Estimating Guide

- Call Condux we will work with you to initialize the estimate.
- We suggest you make several photocopies of this sheet and keep them with this design guide for future use.
- Use the area below to sketch your ideas if necessary.
- Fill out and mail, FAX or scan and e-mail (cndxinfo@condux.com) this order information sheet.
- Condux will provide you with an estimate.

Casing I.D. (Inches)	
O.D. Diameter and Type of Duct NOTE: Condux Bore Spacers are not intended for use with steel conduit.	
Number of Ducts	
Minimum Duct Separation (if required)	
Grout (if required) Y - N	
Casters (if required) Y - N	
Quantity (if known)	
Length of Bore	



Return Quotation to:

Name		Co	ompany		
Address		City		State	
Zip	Phone ()		FAX (_)	
E-mail		Retur	n Quotation by		
Materials required at job	site by				



Our Schedule Will Fit Your Schedule

The Condux Bore Spacer program is specially designed to ensure fast turnaround for all aspects of spacer design and manufacture. Even though the spacers are a custom designed product, our rapid turnaround will make it seem like we just took them right out of inventory. This rapid response includes all aspects of spacer production including:

Design All we need is the size of the casing and the number of conduits you need to install. We'll get back to you immediately with a recommended design.

get back to you immediately with a recommended design.

Quotation Once the design is approved, we will generate a quotation that spells out a guaranteed

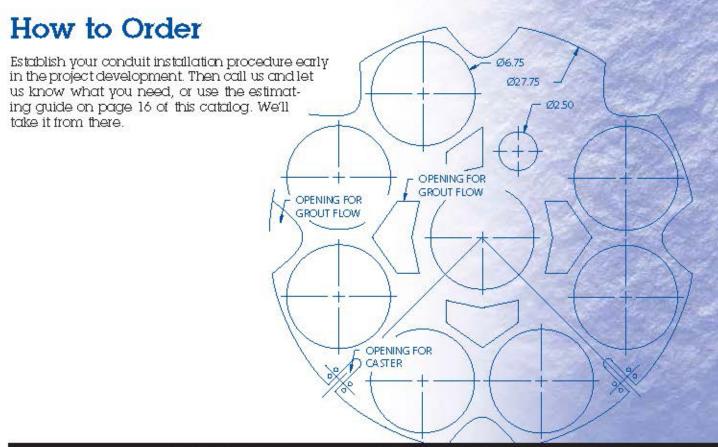
project price - and a delivery ratel

Manufacture Turnaround time to fill your bore spacer order is measured in days, not weeks or months.

In most cases the bore spacers are ready for shipment in 10 working days or less!

Don't Forget the Hidden Benefits

The real value of Condux Bore Spacers may be in the support that's available from Condux if you need it. With our many years of experience dealing with conduit and cable installation problems, we're an excellent source of information and expertise. You can count on us at every step of the way to help you keep small problems from becoming major headaches, but more importantly, to help you set up the job right in the first place. Whatever help you need, count on Condux.



Condux Bore Spacers...When the Engineering Matters



Banding/Strapping

Port No. Description

02290127 Steel Banding 3/4" wide by 1800 ft. coil (2070 lbs)



Tensioner

Port No. Description

02290128 Industrial Banding Tensioner



Sealer

Pont No. Description

02290129 Industrial Banding Sealer



Cutter

Part No. Description
02290130 Industrial Banding Cutter



Metal Seals

Part No. Description

02290131 Box of 3/4" wide steel seals (approx. 1,000 per box)



Carts

Part No. Description
02290132 Heavy duty deluce steel banding cart