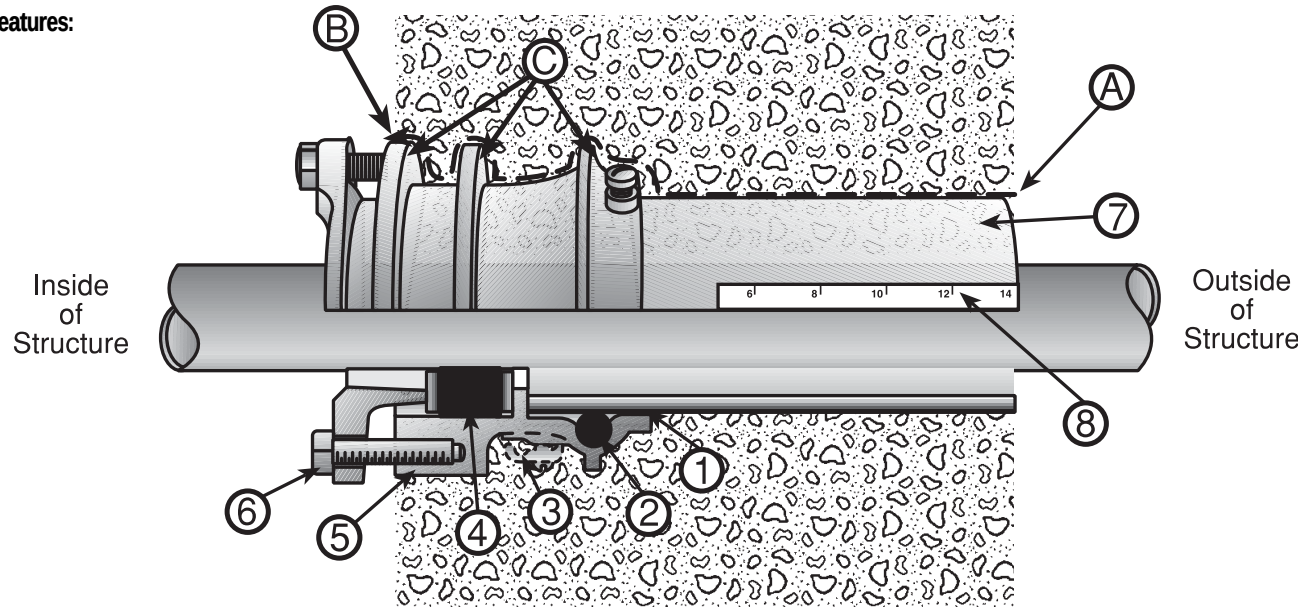
Thruwall & Floor Seals

For New Installation

Features:



The O-Z/Gedney Thruwall and Floor Seals provide a positive means of sealing pipe, conduit or tube where they pass through a concrete foundation of a structure below grade or below ground water level or at entry points through a concrete wall or floor which must be sealed. The usual methods of making installations, such as using straight sleeves or pitch pockets, are generally not satisfactory for their effectiveness depends upon the skill and care of the installer. If the installation is not effective, leakage will occur. Considerable time and effort may be required to remake the seal. The O-Z/Gedney Thruwall and Floor Seals assure watertight installations by providing the following features:

I. Prevention of Seepage
Seepage is eliminated between **A** and **B** by the blockage points **C** created by the shrinkage of the concrete on the body fins.

II. Pressure Tight Seal
a) When the extra thick Neoprene Grommet **4** is compressed, it provides a watertight seal between the Body **5** and the entering pipe, conduit or tube withstanding pressures in excess of a 50 ft. head of water without leakage.
b) The Neoprene Grommet compensates for a plus or minus variation in the outside diameter of the entering pipe, conduit or tube.
c) The Neoprene Grommet will provide a proper seal even if the entering pipe, conduit or tube is forced off the center line of the fitting or is tilted because of the pressure exerted on the pipe by the back fill.

III. Pressure Tight and Concrete - Tight Housing
To further insure a pressure tight and concrete-tight housing a neoprene ring **2** is provided to effect a seal between the Body **5** and the Oversize Sleeve **7**.

IV. Easy to Install
a) Nail holes are provided for attaching the fitting to the concrete forms, or the fitting can be installed by the use of positioning rods which pass through the forms and the inside of the fitting.
b) To accommodate walls or floors of varying thicknesses the Oversize Sleeve **7** can be field-cut by using Marker Strip **8**.
c) Small hand wrenches are used to tighten the exposed hex head bolts **6** to compress the sealing assembly. No special wrenches are required. Hand wrenches allow tightening when space is limited. They also facilitate retightening if they were insufficiently tightened initially.
d) An easy means of attaching a ground wire **3** is available, if required.

Thruwall & Floor Seals

For New Installation

Typical Installation Instructions:

FIG. 1
PLACING SEALING
FITTING IN FORM

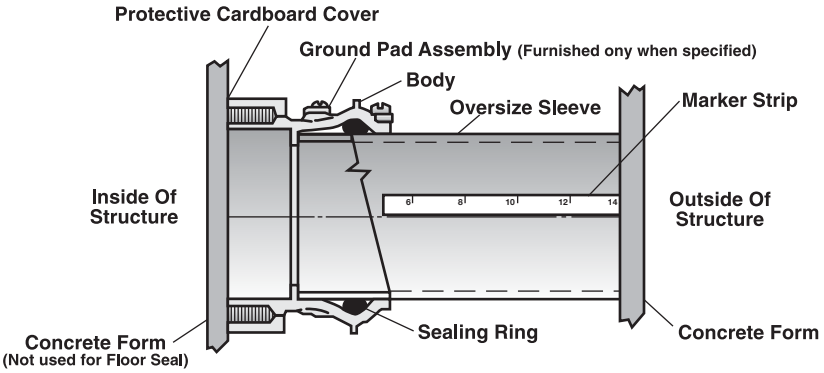
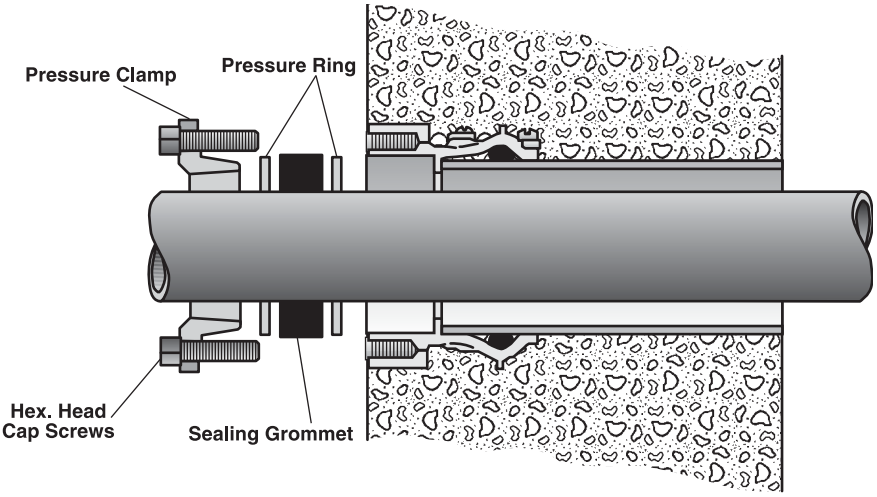


FIG. 2
INSTALLING CABLE
CONDUIT OR PIPE AND
SEALING ASSEMBLY



Order of Assembly

Fig. 1

A If wall or floor thickness is less than 14", cut length of oversize sleeve to suit. Use marker strip provided.

B Secure assembly of body and oversize sleeve to concrete forms by using the nail holes provided, or by using positioning rods which pass thru the forms and the inside of the fitting.

C If fitting is to be grounded, attach grounding wire using ground pad assembly which is furnished only when specified.

Note: The sealing assembly parts, which are used later in Step F, are contained in a separate package and should be stored until they are needed.

Fig. 2

D After concrete has been poured and the forms have been taken down, remove the protective cover from the fitting. (This cover is installed temporarily to keep concrete out of tapped holes and out of fitting.)

E Pass cable, conduit or tube thru the fitting.

F Slip one of the pressure rings, the neoprene sealing grommet, the other pressure ring and the pressure clamp over the end of entering cable, conduit or tube as shown and insert these parts into the end of the body.

G Insert hex head cap screws into screw holes, and tighten until neoprene sealing grommet is sufficiently squeezed between the two pressure rings to seal around the cable, conduit or tube and the inside of body.

H DO NOT OVER TIGHTEN. At a later date if it is found that the sealing Assembly was not tightened sufficiently, it may be retightened to stop leakage or seepage.

Supplementary Instructions for Installing Sealing Ring:

*Sealing ring is coated with rubber lubricant at factory to ease the passage of the oversize sleeve. If the oversize sleeve should be difficult to insert, apply additional rubber lubricant to the sealing ring and/or chamfer the end of the sleeve.

Installation instructions are included with each fitting.

Thruwall & Floor Seals

For New Installation

General Information:

Design
The Thruwall and Floor Seal performs two functions:
1) TO PROVIDE A WATERTIGHT BLOCKAGE BETWEEN POURED CONCRETE AND THE FITTING BODY. Watertight blockage is accomplished by special designed fins cast on the outside of the Body, which permit the concrete, when it cures, to shrink around these fins, preventing water from creeping along the outside of the body.

2) TO PROVIDE A PRESSURE SEAL BETWEEN THE FITTING BODY AND THE OUTSIDE DIAMETER OF ANY ROUND CASING PENETRATING A WALL, FLOOR OR CEILING. Pressure sealing is based on an engineering principle that solid rubber-like materials are incompressible. If properly selected material is confined and is compressed, the material will flow to fill all voids, providing a very effective, long lasting seal. The sealing grommet is a shock absorber between the fitting and the casing. It allows axial movement of the casing, removing stresses from the casing. The PVC coated steel rings provide cathodic protection as it insulates the sealing fitting from the casing.

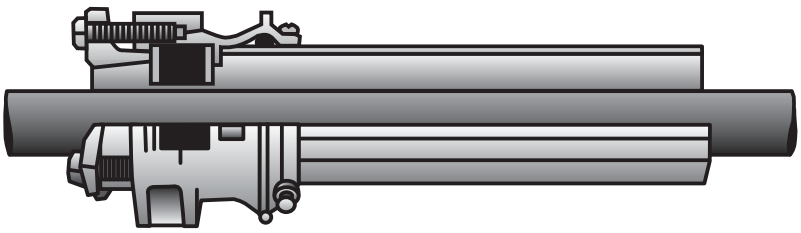
Use
Type FSK and WSK Thruwall Sealing Fittings are used where a single casing penetrates the fitting. The FSC and WSC Thruwall Sealing fittings are used where multiple casings penetrate through one fitting.

The Type FSK and Type FSC fittings are used for most sealing applications. They consist of a body and sealing assembly located on the inside of the structure, and an oversize sleeve which extends from the fitting to the outside of the structure wall. After the foundation is poured, the concrete forms are removed and the round casing is inserted into the body, providing a pressure-tight seal between the round casing and the body of the fitting. The sealing assembly is always available on the inside of the structure for retightening, in the event that sufficient tightening was not utilized during the initial installation.

The WSK and the WSC fittings are the same as the Type FSK and FSC fittings except that they have a body and sealing assembly on both sides of the oversize sleeve. This provides a pressure seal on both sides of the wall. The Type WSK and WSC fittings can be used on applications where a seal is required on each side of the wall. The body and sealing assembly on the outside of the wall can also be used as a throttle to limit the pressure on the sealing assembly on the inside of the structure. This practice is used where applications require future provisions for replacing the inside sealing assembly when there is a high pressure on the outside wall.

Another purpose for the Type WSK and WSC fitting is to keep the round casing in the center of the fitting and not have it deflect in the oversize sleeve in the event of earth movement in the back fill.

Sealing grommets have an expected life in excess of 20 years.



Type FSK

Thruwall & Floor Seals

For New Installation

General Information:

Material Specifications:

1) BODIES AND PRESSURE CLAMPS are high strength malleable or ductile iron coated with a high organic zinc sacrificial conductive epoxy coating.

Exception: Bodies of FSK 60 and larger are cast iron, malleable iron and cast iron are both inherently corrosion resistant.

2) PRESSURE RINGS are closely sized to fitting inside diameter and outside diameter of casing. They are thick steel plates that have a heavy durable PVC coating, utilizing the very effective fluid bed process. PVC coating provides an insulation between the sealing assembly, and the casing to provide cathodic protection by eliminating stray electrical currents from flowing between the fitting and the casting.

Exception: Multi-hole Type FSC and WSC sealing assemblies are furnished with low water-absorbing high-impact thick phenolic plates in electrical applications to eliminate eddy current effect when single conductor AC currents pass through magnetic metal.

3) BOLTS are - Hex head cap bolts zinc electroplated.

4) NEOPRENE SEALING GROMMETS are molded or drilled to accommodate casing outside diameters. The neoprene is specifically compounded for the following very desirable operating characteristics:

a. Low compression modulus (the ability of the neoprene sealing ring to flow with low-tightening force).

b. Very low compression set (maintain seal over extended period without having to retighten.

c. Anti-ozidant (resistant to ozone attack).

d. Anti-oxidant (resistance to weathering).

e. Low crystallization (suitable for use at low temperatures).

f. Fire retardant (will not support combustion).

5) OVERSIZE SLEEVES have a marker strip to facilitate field-cutting of sleeves to accommodate walls or floors of varying thicknesses and are furnished in the following material:

1. On FSK10 through FSK40 - High strength, high-impact, durable PVC pipe.

2. On FSK60 - Steel pipe coated with a high organic zinc conductive Epoxy coating.

3. On FSK100 and larger - High strength, high-impact, thick polyethylene pipe.

Special Features Available at Price Addition:

1) Bodies and pressure clamps can be furnished hot dip galvanized.

2) Pressure rings can be furnished in Type 304 stainless steel, uncoated or coated with PVC.

3) Sealing grommets can be furnished in materials other than Neoprene; such as Silicone, for high temperature hot water and steam pipe applications to 400°F.

4) Oversize sleeves, other than standard, can be furnished in other materials that are available having the same outside diameter as the sleeves used. Oversize sleeves longer than standard are also available.

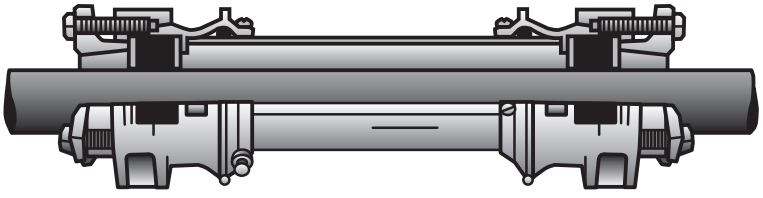
5) Tightening bolts can be furnished in steel with hot dip galvanized finish, or Stainless Steel Type 316 (standard zinc plated steel).

6) Provisions for connecting grounding wire.

7) FSKA Adapters (used on oversize sleeve with type FSK and FSC) to clamp membrane material around casing penetration.

8) Adapters to clamp membrane to Thruwall and Floor Seal body when the membrane is on the same side of the wall or floor as the Body.

WARNING:
Blank fittings are intended for use as abandonment plugs and for sealing openings reserved for future use. DO NOT FIELD DRILL. O-Z/Gedney will not be responsible for any device that has been modified in the field.



Type WSK

Thruwall & Floor Seals

For New Installation

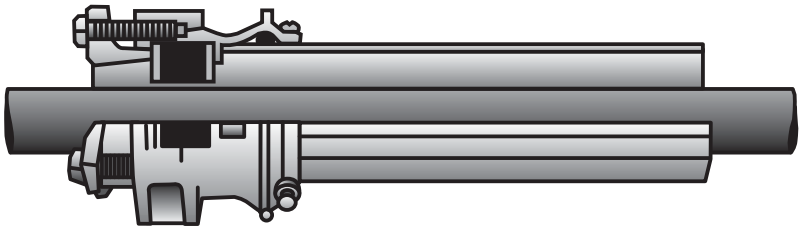
Type FSK - Single Seal

For Sealing Around Conduit, Pipe or Tubing Passing Through a Wall or Floor

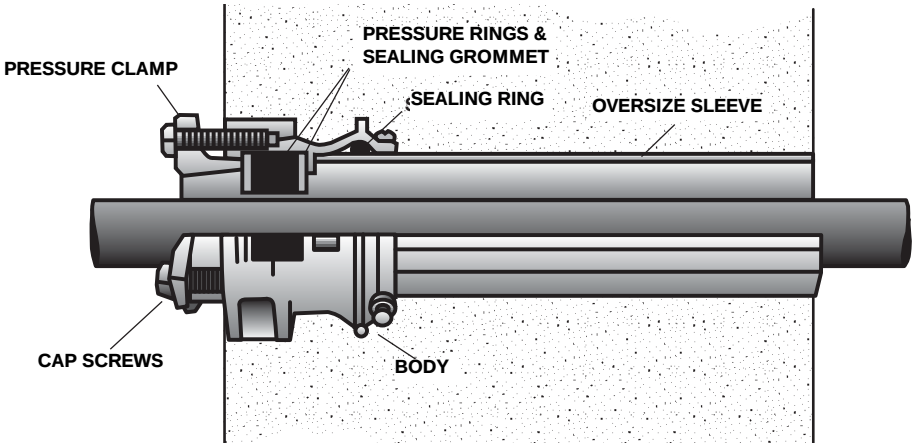
Order of Assembly:
1 Bodies and oversize sleeve as a unit is mounted in concrete forms.
2 Pour concrete.
3 Remove forms, pass conduit thru fitting and install sealing assembly parts.

Use:
Where conduit, pipe or tubing enters a building through the concrete foundation below grade or ground water level, or where it is necessary to seal around a conduit, pipe or tubing where it passes through a concrete floor or wall. These fittings are designed so that each body size will accept several different size sealing assemblies which are made to fit the standard sizes of conduit, steel or cast iron pipe, or copper tubing. If desired, this design permits the purchase of the fitting less the sealing assembly for mounting in the concrete forms before the concrete is poured. At a later date the sealing assembly can be ordered and the installation completed.

Features:
The installation of these fittings is simplified by the use of hex head screws on the sealing assembly. Ordinary wrenches are used for tightening, which is desirable especially where space is limited. The standard fittings up to the “FSK-40-450” are furnished with a PVC oversize sleeve and the “FSK-60-480” thru “FSK-60-663” sizes have a steel sleeve. (Steel sleeves can be furnished on the sizes up to FSK-40-450.) All the standard sleeves will accommodate a wall or floor up to 14” thick and a marker strip, divided in inches, is provides on the sleeve to facilitate field cutting for wall less than 14”. Longer sleeves for use in walls or floors of greater thickness are available.



Type FSK



Type FSK Installation

Material/Finish:
Castings are malleable or ductile iron with Alkyd Enamel coating. Hot Dip Galvanized finish is available. “FSK 60” Series bodies only are cast iron. Grommet-neoprene, Pressure Rings - steel, PVC coated.

WARNING: Blank Fittings are intended as abandonment plugs. DO NOT FIELD DRILL.

Dimensional Data:
See Pages SA6, SA14

TO ORDER SPECIFY:
1 Catalog Number
2 Size and O.D. of conduit, pipe or tubing
3 Wall thickness if greater than 14”
4 Special features where required

Thruwall & Floor Seals

For New Installation

Type FSK Dimensional Data:

Dimensions in Inches							Catalog Number			
Steel Pipe or Conduit		Cast Iron Pipe		Copper Tubing		Minimum Wall Thickness (Inches)	Fitting Complete with Sealing Assembly	Fitting Only**	Sealing Assembly• Only†	Oversize Sleeve Catalog No.*
Nom I.D.	O.D.	Nom I.D.	O.D.	Nom I.D.	O.D.					
				⅜	.500		FSK-10-68		FSK-68-25	
⅜	.675			½	.625					
½	.840			¾	.875	3¾	FSK-10-88	FSK-1020	FSK-88-25	Sleeve 2
¾	1.050			1	1.125		FSK-10-113		FSK-113-25	
1	1.315			1¼	1.375		FSK-10-138		FSK-138-25	
1¼	1.660			1½	1.625		FSK-20-166		FSK-166-35	
1½	1.900			1¾	1.875	4 3/16	FSK-20-193	FSK-2030	FSK-193-35	Sleeve 3
	2.000			2	2.125		FSK-20-213		FSK-213-35	
2	2.375	2	2.500	2¼	2.375		FSK-20-250		FSK-250-35	
		2	2.625	2½	2.625		FSK-30-263		FSK-263-45	
2½	2.875	2	2.750			4⅜	FSK-30-288	FSK-3040	FSK-288-45	Sleeve 4
	3.000						FSK-30-313		FSK-313-45	
3	3.500						FSK-30-350		FSK-350-45	
		3	3.660				FSK-40-366		FSK-366-55	
		3	3.800			4⅝	FSK-40-380	FSK-4050	FSK-380-55	Sleeve 5
3½	4.000	3	3.960				FSK-40-410		FSK-410-55	
4	4.500						FSK-40-450		FSK-450-55	
		4	4.800				FSK-60-480		FSK-480-80	
4½	5.000	4	5.000				FSK-60-506		FSK-506-80	
	5.250						FSK-60-530		FSK-530-80	
5	5.500					5	FSK-60-563	FSK-6070	FSK-563-80	Sleeve 7
	5.563									
	6.000						FSK-60-610			
6	6.500									
	6.625						FSK-60-663		FSK-663-80	

Thruwall Seals for LARGE SIZE MECHANICAL PIPES up to 14" O.D. are listed on Page SA9.
Grounding connection on one end can be furnished if required. See catalog page QA14 for ordering information. Ground Lug must be ordered on separate line immediately following FSK.
* Oversize sleeve can be ordered to accommodate wall thickness over 14". To order, specify actual wall thickness (not desired sleeve length).
** "Fitting Only" consists of the following parts, malleable or ductile iron bodies, oversize sleeve and sealing rings. (Except FSK 60 Series.)
†Furnished with a "Sealing Assembly" consisting of the following parts: pressure clamp, hex head cap screws, pressure rings and sealing grommet.
•A set of pressure rings and sealing grommet only is available separately.

Thruwall Seals

For New Installation

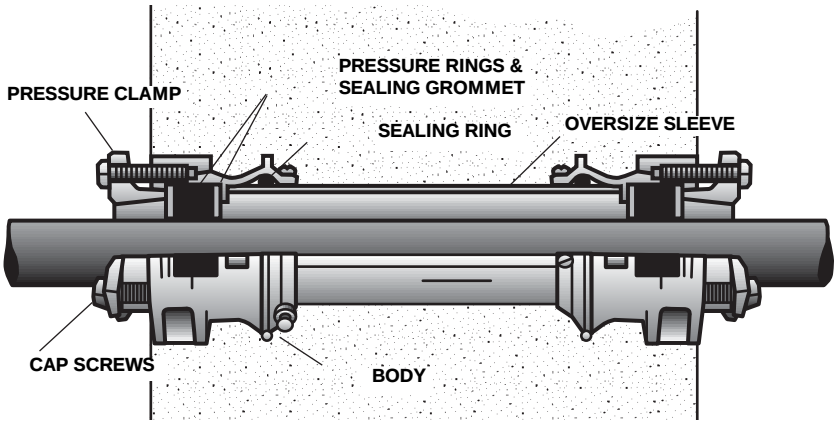
Type WSK - Double Seal
For Sealing Around Conduit, Pipe or Tubing Passing Through a Wall

Order of Assembly:
1 Bodies and oversize sleeve as a unit is mounted in concrete forms.
2 Pour concrete.
3 Remove forms, pass conduit thru fitting and install sealing assembly parts.

Use:
Where conduit, pipe or tubing enters a building through the concrete foundation below grade or ground water level, or where it is necessary to seal around a conduit, pipe or tubing where it passes through a concrete floor or wall. These fittings are designed so that each body size will accept several different size sealing assemblies which are made to fit the standard sizes of conduit, steel or cast iron pipe, or copper tubing. If desired, this design permits the purchase of the fitting less the sealing assembly for mounting in the concrete forms before the concrete is poured. At a later date the sealing assembly can be ordered and the installation completed.

Features:
The installation of these fittings is simplified by the use of hex head screws on the sealing assembly. Ordinary wrenches are used for tightening, which is desirable especially where space is limited. The standard fittings up to the “WSK-40-450” are furnished with a PVC oversize sleeve and the “WSK-60-480” through “WSK-60-663” sizes have a steel sleeve. (Steel sleeves can be furnished on the sizes up to WSK-40-450.”)
All the standard sleeves will accommodate a wall or floor up to 16” thick and a marker strip, divided in inches, is provided on the sleeve to facilitate field cutting for walls less than 16”. Longer sleeves for use in walls or floors of greater thickness are available.

Type WSK



Type WSK Installation

Material/Finish:
Castings are malleable or ductile Iron with Alkyd Gray Enamel coating. Hot dip galvanized finish is available. “WSK 60” Series bodies only are cast iron. Grommet-neoprene, Pressure Rings - steel, PVC coated.

WARNING: Blank Fittings are intended as abandonment plugs. DO NOT FIELD DRILL.

Dimensional Data:
See Pages SA8, SA15

TO ORDER SPECIFY:
1 Catalog Number
2 Size and O.D. of conduit, pipe or tubing
3 Wall thickness if greater than 16”
4 Special features where required

Thruwall Seals

For New Installation

Type WSK Dimensional Data:

Dimensions in Inches							Catalog Number			
Steel Pipe or Conduit		Cast Iron Pipe		Copper Tubing		Minimum Wall Thickness (Inches)	Fitting Complete with Sealing Assembly	Fitting Only**	Sealing Assembly• Only†	Oversize Sleeve Catalog No.*
Nom I.D.	O.D.	Nom I.D.	O.D.	Nom I.D.	O.D.					
				⅜	.500		WSK-10-68		WSK-68-25	
⅜	.675			½	.625					
½	.840			¾	.875	7½	WSK-10-88	WSK-1020	WSK-88-25	Sleeve 2
¾	1.050			1	1.125		WSK-10-113		WSK-113-25	
1	1.315			1¼	1.375		WSK-10-138		WSK-138-25	
1¼	1.660			1½	1.625		WSK-20-166		WSK-166-35	
1½	1.900			1¾	1.875	8⅜	WSK-20-193	WSK-2030	WSK-193-35	Sleeve 3
	2.000			2	2.125		WSK-20-213		WSK-213-35	
2	2.375	2	2.500	2¼	2.375		WSK-20-250		WSK-250-35	
		2	2.625	2½	2.625		WSK-30-263		WSK-263-45	
2½	2.875	2	2.750			8¾	WSK-30-288	WSK-3040	WSK-288-45	Sleeve 4
	3.000						WSK-30-313		WSK-313-45	
3	3.500						WSK-30-350		WSK-350-45	
		3	3.660				WSK-40-366		WSK-366-55	
		3	3.800			9¼	WSK-40-380	WSK-4050	WSK-380-55	Sleeve 5
3½	4.000	3	3.960				WSK-40-410		WSK-410-55	
4	4.500						WSK-40-450		WSK-450-55	
		4	4.800				WSK-60-480		WSK-480-80	
4½	5.000	4	5.000				WSK-60-506		WSK-506-80	
	5.250						WSK-60-530		WSK-530-80	
5	5.500					10	WSK-60-563	WSK-6070	WSK-563-80	Sleeve 7
	5.563									
	6.000						WSK-60-610			
6	6.500						WSK-60-663		WSK-663-80	
	6.625									

Thruwall Seals for LARGE SIZE MECHANICAL PIPES UP TO 14" O.D. are listed on Page SA9.
Grounding Connection on one end or both ends can be furnished if required. See catalog page QA14 for ordering information. Ground Lug must be ordered on separate line immediately following FSK.
* Oversize sleeve can be ordered to accommodate wall thickness over 16". To order, specify actual wall thickness (not desired sleeve length).
** "Fitting Only" consists of the following parts, malleable or ductile iron bodies, oversize sleeve and sealing rings.
† Furnished with a "Sealing Assembly" consisting of the following parts: pressure clamp, hex head cap screws, pressure rings and sealing grommet.
•Two sets of pressure rings and sealing grommet only is available separately.

Thruwall & Floor Seals

For New Installation

Type FSK & WSK
For Large Size Mechanical Pipes

Dimensions in Inches				Catalog Number (TYPE FSK)				Catalog Number (TYPE WSK)				Over-sized Sleeve Catalog Number
Steel Pipe or Conduit Nom I.D.	O.D.	Cast Iron Pipe Nom I.D.	O.D.	Fitting with Sealing Assembly	Complete Fitting Only**	Sealing Assembly• Only†	Min. Wall Thick	Fitting with Sealing Assembly	Complete Fitting Only**	Sealing Assembly• Only†	Min. Wall Thick	
	7.00	6	6.900	FSK-100-713		FSK-713-120		WSK-100-713		WSK-713-120		
		6	7.100									
	8.00			FSK-100-813	FSK-100120	FSK-813-120	5½	WSK-100-813	WSK-100120	WSK-813-120	11	Sleeve 12
8	8.625			FSK-100-863		FSK-863-120		WSK-100-863		WSK-863-120		
		8	9.050	FSK-100-913		FSK-913-120		WSK-100-913		WSK-913-120		
		8	9.300	FSK-100-943		FSK-943-120		WSK-100-943		WSK-943-120		
	10.00			FSK-100-1000		FSK-1000-120		WSK-100-1000		WSK-1000-120		
10	10.75			FSK-100-1075		FSK-1075-120		WSK-100-1075		WSK-1075-120		
		10	11.10	FSK-140-1113		FSK-1113-160		WSK-140-1113		WSK-1113-160		
		10	11.40	FSK-140-1150		FSK-1150-160		WSK-140-11150		WSK-1150-160		
	12.00			FSK-140-1200		FSK-1200-160		WSK-140-1200		WSK-1200-160		
12	12.75			FSK-140-1275	FSK-140160	FSK-1275-160	5¾	WSK-140-1275	WSK-140160	WSK-1275-160	11½	Sleeve 16
		12	13.20	FSK-140-1331		FSK-1331-160		WSK-140-1331		WSK-1331-160		
		12	13.50	FSK-140-1350		FSK-1350-160		WSK-140-1350		WSK-1350-160		
14	14.00			FSK-140-1413		FSK-1413-160		WSK-140-1413		WSK-1413-160		

For sizes other than those shown above, consult factory.
**"Fitting only" consists of cast iron body(s), polyethylene oversize sleeve and sealing ring(s) between body(s) and sleeve.
† "Sealing Assembly" consists of malleable or ductile iron, pressure clamp, hex head cap screws, pressure rings and sealing grommet. The Type WSK is furnished with two sealing assemblies.
•Pressure rings and sealing grommet(s) only are available.
Fittings have standard oversize sleeve which will accommodate walls up to 24" thick on type FSK-and up to 27" thick on Type WSK. Longer sleeves for walls of greater thickness are available at additional charge.
NOTE: EPO-Zinc coating on castings is standard. Hot-dip galvanized finish is available. Refer to factory. Grounding connection can be furnished. See catalog page QA14 for ordering information. Ground Lug must be ordered on separate line immediately following FSK.

Thruwall & Floor Seals

For New Installation

Type FSCS - Single Seal
Type WSCS - Double Seal

For Sealing Around Cable Passing Thru Walls or Floors

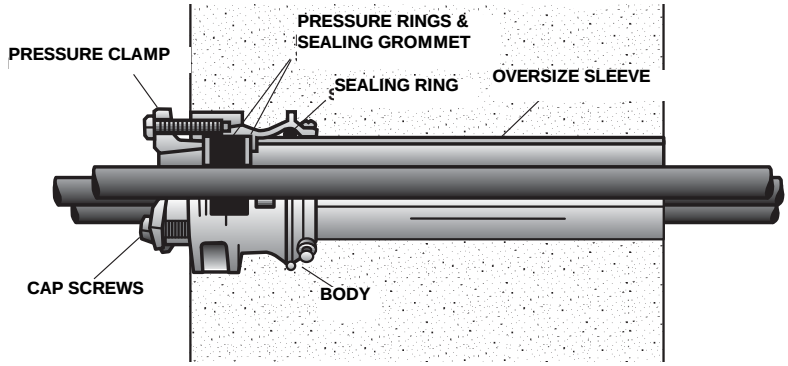
Use:
Where direct burial cables located below grade or ground water level enter a building through the concrete foundation or for sealing around exposes cables passing through a concrete wall. If desired, this design permits the purchase of the fitting less sealing assembly, for mounting in the concrete forms before the concrete is poured. At a later date, the sealing assemblies to accommodate the specific size and number of wires can be ordered and the installation completed.

Features:
The installation of these fittings is simplified by the use of hex head screws on the sealing assembly. Ordinary wrenches are used for tightening, which is desirable especially where space is limited. Where it is desirable or convenient to have a sealing assembly on both sides of the wall Type "WSCS" should be specified. The standard fittings up to the "FSC 5055" and "WSC 5055" are furnished with PVC sleeve and the "FSC 7080" and "WSC 7080" sizes have a steel sleeve. (Steel sleeves can be furnished on the sizes up to "FSC 5055" and "WSC 5055" at an additional charge.) The standard sleeve will accommodate a wall or floor up to 14" thick on the Type "FSC" fittings and up to 16" thick on the Type "WSC" fittings and a marker strip, divided in inches is provided on the sleeve to facilitate field cutting for walls or floors less than 14" or 16" thick. Longer sleeves for fittings for use in walls or floors of greater thickness are available at an additional charge.

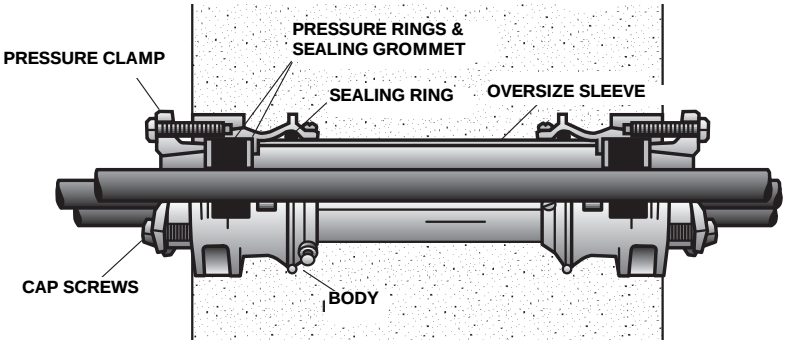
Material/Finish:
Castings are malleable or ductile iron with Alkyd Enamel coating. Hot dip galvanized finish is available. FSCS 7080 bodies are cast iron. Pressure rings are phenolic.

Warning:
Blank Fittings are intended as abandonment plugs. DO NOT FIELD DRILL.

TO ORDER SPECIFY:
1 Catalog Number
2 Number of Cables
3 Diameter over Insulation of Individual conductors
4 Wall Thickness if greater than 14" on Type FSCS or 16" on Type WSCS
5 Special features where required



Type FSCS Installation



Type WSCS Installation

Catalog Number										
Max. Diameter of†† Wire Permitted - Inches				Fitting Complete with Sealing Assembly	Fitting Only**	Sealing Assembly Only†	Min. Wall Thick.	Dia. in Inches Max Dia.	Sleeve Catalog No.*	Oversize No. of Clamp Screws
1• Wire	2 Wires	3 Wires	4 Wires							
Type FSCS										
1.31	.56	.53	.44	FSCS-2025	FSCS-20	FSCS-25	3¾	4¾	Sleeve 2	2
2.38	1.03	.97	.84	FSCS-3035	FSCS-30	FSCS-35	4 3/16	5¾	Sleeve 3	3
3.50	1.60	1.47	1.23	FSCS-4045	FSCS-40	FSCS-45	4⅜	6¾	Sleeve 4	4
4.50	1.97	1.85	1.60	FSCS-5055	FSCS-50	FSCS-55	4⅝	7⅞	Sleeve 5	4
6.90	3.10	2.85	2.47	FSCS-7080	FSCS-70	FSCS-80	5	10¼	Sleeve 7	6
Type WSCS										
1.31	.56	.53	.44	WSCS-2025	WSCS-20	WSCS-25	7½	4¾	Sleeve 2	2
2.38	1.03	.97	.84	WSCS-3035	WSCS-30	WSCS-35	8⅜	5¾	Sleeve 3	3
3.50	1.60	1.47	1.23	WSCS-4045	WSCS-40	WSCS-45	9¼	6¾	Sleeve 4	4
4.50	1.97	1.85	1.60	WSCS-5055	WSCS-50	WSCS-55	9¼	7⅞	Sleeve 5	4
6.90	3.10	2.85	2.47	WSCS-7080	WSCS-70	WSCS-80	10	10¼	Sleeve 7	6

For sizes other than those shown above, consult factory.
Grounding Connection on one end can be furnished if required. See catalog page QA14 for ordering information. Ground Lug must be ordered on separate line immediately following FSK.
* Oversize sleeve can be ordered to accommodate wall thickness over 14". To order, specify actual wall thickness (not desired sleeve length).
**"Fitting Only" consists of the following parts, malleable or ductile iron body (2 on type "WSCS"). Sealing ring(s) and oversize sleeve.
†"Sealing Assembly" consists of the following parts: pressure clamp, hex head cap screws, pressure rings and sealing grommet. The type "WSCS" is furnished with two sealing assemblies.
Clamp, hex head cap screws, pressure rings and sealing grommet. The type "WSCS" is furnished with two sealing assemblies.
Fitting similar to those shown above are available for use with cable in asbestos cement duct. Fibre, plastic or unthreaded steel conduit. Refer to factory.
•If a single alternating current conductor is used, a non-ferrous fitting must be specified. Refer to factory.
†† Fittings can be furnished for more than four wires or for wires of varying sizes.

800-621-1506
www.o-zgedney.com

Controlled Environment Vault Cable Seal

For New Installation

Type FSCS-400-CEV
Type FSCS-500-CEV
For Cable Penetrations of Underground Vaults
Vault Seal for Future Use

Use:
- To seal cable penetration of controlled environment vaults
- For use as a future use fitting

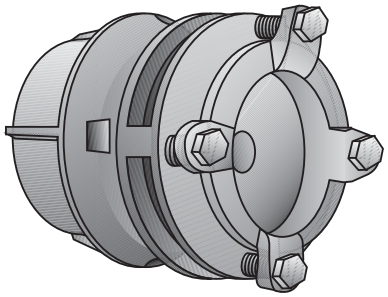
Features:
- Cast iron durability
- Integral water barrier
- Seals tightened with standard ¾" wrench
- Easy, craft friendly installation
- Hub with NPT thread
- Withstands 50 ft. head of water pressure without leakage
- Fitting seal always accessible for retightening

Materials/Finish:
Body: cast iron with Alkyd Enamel epoxy coating
Clamp: malleable or ductile iron with Epo-Zinc epoxy coating

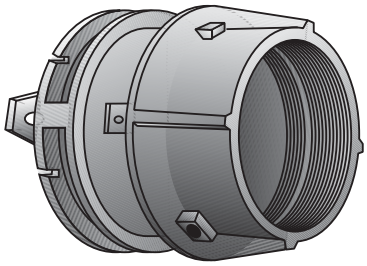
Optional Materials/Finish
Grounding connection available. See catalog page QA14 for ordering information. Ground Lug must be ordered on separate line immediately following FSCS.
Galvanized finish body and/or Clamp

Standard FSCS-400-CEV and FSCS-500-CEV Consists of:
- Body with NPT Hub
- Clamping Ring
- 2-piece Blank Seal
- 4 Hex Head Bolts

TO ORDER SPECIFY:
1 Catalog Number
2 Optional Material, if required
3 Order Cable Sealing Assembly from Page SA12

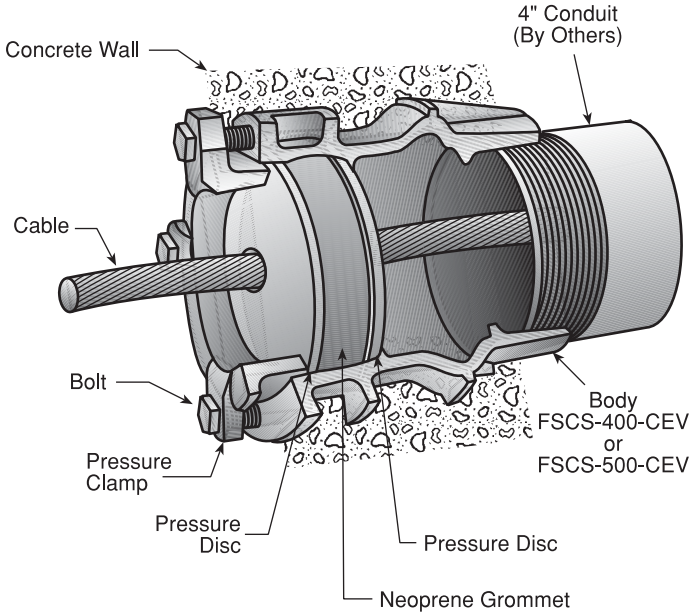


Seal End (Interior)



Hub End (Exterior)

Catalog Number	Conduit Hub Size (inches)	Wall Thickness (inches)	Max. Dia. (inches)	No. of Clamp Screws
FSCS-400-CEV	4	6	6 15/16	4
FSCS-500-CEV	5	6	7 7/8	4



Typical Installation

Controlled Environment Vault Cable Seal

For Cable Penetrations of Underground Vaults

Type FSCS-45-CEV
Type FSCS-55-CEV
Cable Sealing Assembly

Use:
- To seal cable penetration of controlled environment vaults
- For use as a future use fitting

Features:
- Cast iron durability
- Integral water barrier
- Seals tightened with standard ¾" wrench
- Easy, craft friendly installation
- Hub with NPT thread
- Withstands 50 ft. head of water pressure without leakage
- Fitting seal always accessible for retightening

Materials/Finish:
Sealing Grommet: low compression modulus neoprene
Hex Head Bolts: zinc plated steel
Pressure Discs: steel, PVC coated

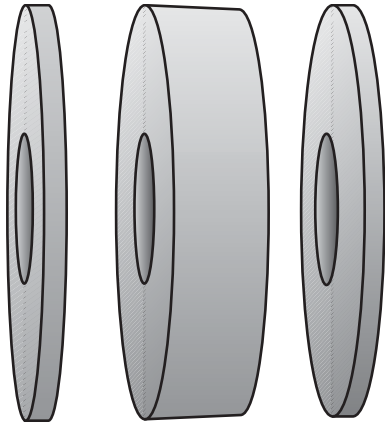
Optional Materials/Finish
Pressure Discs - stainless steel PVC coated
Bolts - galvanized or stainless steel
Sealing grommet available for multiple cables of varying sizes

Cable Sealing Assembly
Consists of:
- Two pressure discs drilled to size
- One sealing grommet to fit cable O.D.

Grommet Characteristics:
Neoprene sealing grommets are molded or drilled to accommodate cable outside diameters. The Neoprene is specifically compounded for the following very desirable operating characteristics:

1 Low compression modulus (the ability of the neoprene to flow with low-tightening force)
2 Very low compression set (maintain seal over extended period without having to retighten)
3 Anti-oxidant (resistance to weathering and ozone attack)
4 Low crystallization (suitable for use at low temperatures)
5 Fire retardant (will not support combustion)
6 An expected life in excess of 20 years

NOTE: Blank fittings are intended as abandonment and future use devices.
DO NOT FIELD DRILL.



Cable Sealing Assembly

Catalog Number	Max. Diameter of Cable Permitted - Inches 1 Cable	2 Cables	3 Cables	4 Cables	Max Dia.
FSCS-45-CEV	3.5	1.43	1.31	1.13	4 9/16
FSCS-55-CEV	4.5	1.93	1.75	1.50	5 1/2

TO ORDER SPECIFY:
1 Catalog Number
2 Number of Cables
3 Maximum Diameter of Individual Cables (see table)
4 Optional Material, if required

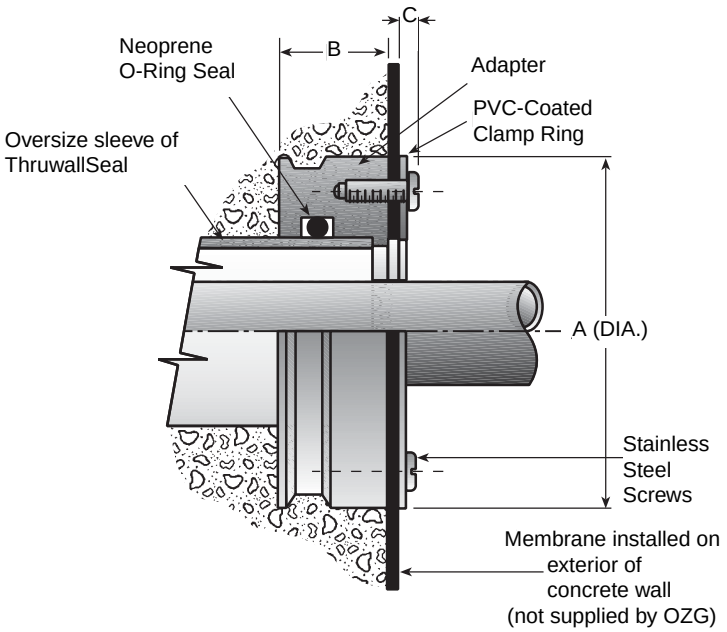
Membrane Clamp Adapters

For New Installation

Type FSKA
For Use with FSK and FSC Thruwall Seals

If a waterproofing membrane is to be installed on the exterior wall of a structure, Type FSKA adapters should be used on the open end of the oversize sleeve when installing Type FSK and FSC Thruwall Seals. They provide a means of clamping the membrane material around the casing penetration.

Use with Thruwall and Floor Seals					
Catalog Number	Catalog Number Type FSK	Catalog Number Type FSC	Dim. in Inches A	B	C
FSKA 10	FSK 10-68 FSK 10-88 FSK 10-113 FSK 10-138	FSC 2025	4⅜	1⅜	9/16
FSKA 20	FSK 20-166 FSK 20-193 FSK 20-213 FSK 20-250	FSC 3035	5½	1⅜	9/16
FSKA 30	FSK 30-263 FSK 30-288 FSK 30-313 FSK 30-350	FSC 4045	6½	1⅜	9/16
FSKA 40	FSK 40-366 FSK 40-380 FSK 40-410 FSK 40-450	FSC 5055	7⅞	1⅜	9/16
FSKA 60	FSK 60-480 FSK 60-506 FSK 60-530 FSK 60-563 FSK 60-610 FSK 60-663	FSC 7080	9¾	1⅜	9/16



Type FSKA

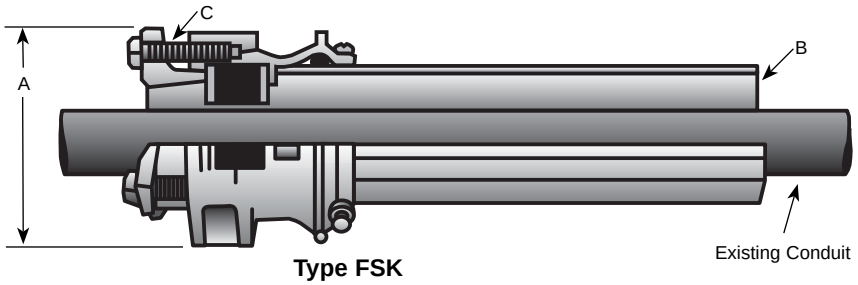
Thruwall & Floor Seals

For Sealing Around a Conduit Pipe or Tube Passing through a Wall or Floor

Type FSK

Dimensional Data:

Order of Assembly:
1 Body and oversize sleeve as a unit is mounted to concrete forms
2 Pour Concrete
3 Remove Forms, pass conduit through fitting and install sealing assembly parts



Type FSK

Steel Pipe or Conduit Nom. I.D.	Steel Pipe or Conduit O.D.	Cast Iron Pipe Nom. I.D.	Cast Iron Pipe O.D.	Copper Tubing Nom. I.D.	Copper Tubing O.D.	Catalog Number: Fitting Complete with Sealing Assembly	Catalog Number: Fitting Only	Catalog Number: Sealing Assembly Only	Wall Thickness Range Min.	Wall Thickness Range Max.	A Max. Dia.	B Oversize Sleeve Size Nom. I.D.	C No. of Clamp Screws
				⅜	.500	FSK-10-68		FSK-68-25					
⅜	.675			½	.625								
½	.840			¾	.875	FSK-10-88	FSK-1020	FSK-88-25	3¾	14	4¾	2	2
¾	1.050			1	1.125	FSK-10-113		FSK-113-25					
1	1.315			1¼	1.375	FSK-10-138		FSK-138-25					
1¼	1.660			1½	1.625	FSK-20-166		FSK-166-35					
1½	1.900			1¾	1.875	FSK-20-193	FSK-2030	FSK-193-35	4 3/16	14	5¾	3	3
	2.000			2	2.125	FSK-20-213		FSK-213-35					
2	2.375	2	2.500	2¼	2.375	FSK-20-250		FSK-250-35					
		2	2.625	2½	2.625	FSK-30-263		FSK-263-45					
2½	2.875	2	2.750			FSK-30-288	FSK-3040	FSK-288-45	4⅜	14	6¾	4	4
	3.000					FSK-30-313		FSK-313-45					
3	3.500					FSK-30-350		FSK-350-45					
		3	3.660			FSK-40-366		FSK-366-55					
		3	3.800			FSK-40-380	FSK-4050	FSK-380-55	4⅝	14	7⅞	5	4
3½	4.000	3	3.960			FSK-40-410		FSK-410-55					
4	4.500					FSK-40-450		FSK-450-55					
		4	4.800			FSK-60-480		FSK-480-80					
4½	5.000	4	5.000			FSK-60-506		FSK-506-80					
	5.250					FSK-60-530		FSK-530-80					
5	5.500					FSK-60-563	FSK-6070	FSK-563-80	5	14	10¼	7	6
	5.563												
	6.000					FSK-60-610		FSK-610-80					
	6.500												
6	6.625					FSK-60-663		FSK-663-80					
	7.000	6	6.900			FSK-100-173		FSK-713-120					
	8.00					FSK-100-813		FSK-813-120					
8	8.625					FSK-100-863		FSK-863-120					
		8	9.050			FSK-100-913	FSK-100120	FSK-913-120	5½	24	14¾	12	8
		8	9.300			FSK-100-943		FSK-943-120					
	10.00					FSK-100-1000		FSK-1000-120					
10	10.75					FSK-100-1075		FSK-1075-120					
		10	11.10			FSK-140-1113		FSK-1113-160					
		10	11.40			FSK-140-1150		FSK-1150-160					
	12.00					FSK-140-1200		FSK-1200-160					
12	12.75					FSK-140-1275	FSK-140160	FSK-1275-160	5¾	24	18⅛	16	10
		12	13.20			FSK-140-1331		FSK-1331-160					
		12	13.50			FSK-140-1350		FSK-1350-160					
	14.00					FSK-140-1413		FSK-1413-160					

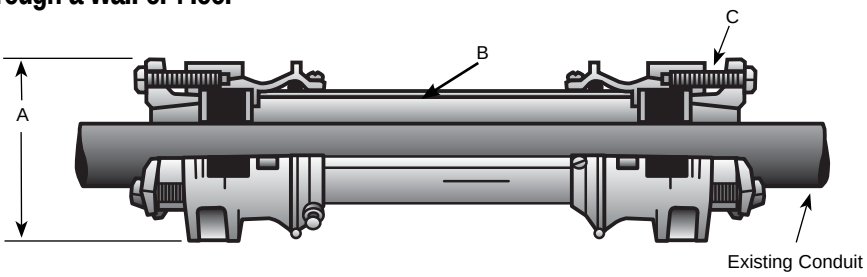
Thruwall Seals

For Sealing Around Conduit Passing through a Wall or Floor

Type WSK

Dimensional Data:

Order of Assembly:
1 Body and oversize sleeve as a unit is mounted to concrete forms
2 Pour Concrete
3 Remove Forms, pass conduit through fitting and install sealing assembly parts



Type WSK

Steel Pipe or Conduit Nom. I.D.	Steel Pipe or Conduit O.D.	Cast Iron Pipe Nom. I.D.	Cast Iron Pipe O.D.	Copper Tubing Nom. I.D.	Copper Tubing O.D.	Catalog Number: Fitting Complete with Sealing Assembly	Catalog Number: Fitting Only	Catalog Number: Sealing Assembly Only	Wall Thickness Range Min.	Wall Thickness Range Max.	A Max. Dia.	B Oversize Sleeve Size Nom. I.D.	C No. of Clamp Screws
				⅜	.500	WSK-10-68		WSK-68-25					
⅜	.675			½	.625								
½	.840			¾	.875	WSK-10-88	WSK-1020	WSK-88-25	7½	16	4¾	2	2
¾	1.050			1	1.125	WSK-10-113		WSK-113-25					
1	1.315			1¼	1.375	WSK-10-138		WSK-138-25					
1¼	1.660			1½	1.625	WSK-20-166		WSK-166-35					
1½	1.900			1¾	1.875	WSK-20-193	WSK-2030	WSK-193-35	8⅜	16	5¾	3	3
	2.000			2	2.125	WSK-20-213		WSK-213-35					
2	2.375	2	2.500	2¼	2.375	WSK-20-250		WSK-250-35					
		2	2.625	2½	2.625	WSK-30-263		WSK-263-45					
2½	2.875	2	2.750			WSK-30-288	WSK-3040	WSK-288-45	8¾	16	6¾	4	4
	3.000					WSK-30-313		WSK-313-45					
3	3.500					WSK-30-350		WSK-350-45					
		3	3.660			WSK-40-366		WSK-366-55					
		3	3.800			WSK-40-380	WSK-4050	WSK-380-55	9¼	16	7⅞	5	4
3½	4.000	3	3.960			WSK-40-410		WSK-410-55					
4	4.500					WSK-40-450		WSK-450-55					
		4	4.800			WSK-60-480		WSK-480-80					
4½	5.000	4	5.000			WSK-60-506		WSK-506-80					
	5.250					WSK-60-530		WSK-530-80					
5	5.500					WSK-60-563	WSK-6070	WSK-563-80	10	16	10¼	7	6
	5.563												
	6.000					WSK-60-610		WSK-610-80					
6	6.500					WSK-60-663		WSK-663-80					
	6.625												
	7.00	6	6.900			WSK-100-173		WSK-713-120					
	8.00					WSK-100-813		WSK-813-120					
8	8.625					WSK-100-863		WSK-863-120					
		8	9.050			WSK-100-913	WSK-100120	WSK-913-120	11	27	14¾	12	8
		8	9.300			WSK-100-943		WSK-943-120					
	10.00					WSK-100-1000		WSK-1000-120					
10	10.75					WSK-100-1075		WSK-1075-120					
		10	11.10			WSK-140-1113		WSK-1113-160					
		10	11.40			WSK-140-1150		WSK-1150-160					
	12.00					WSK-140-1200		WSK-1200-160					
12	12.75					WSK-140-1275	WSK-140160	WSK-1275-160	11½	27	18⅛	16	10
		12	13.20			WSK-140-1331		WSK-1331-160					
		12	13.50			WSK-140-1350		WSK-1350-160					
	14.00					WSK-140-1413		WSK-1413-160					