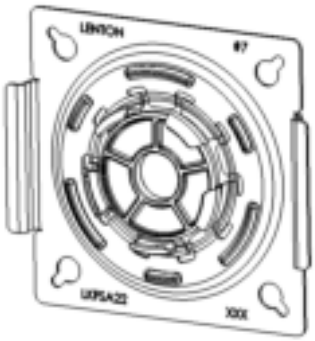
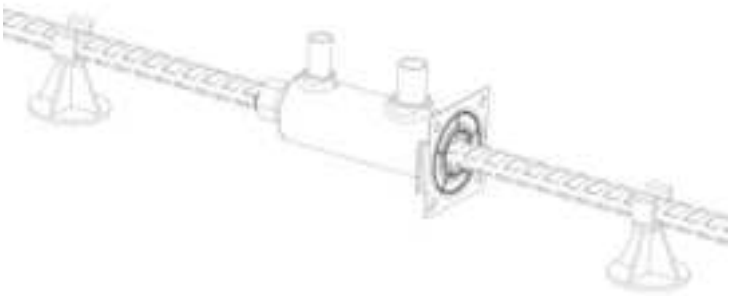
nVent LENTON Interlok Pour Strip Replacement System

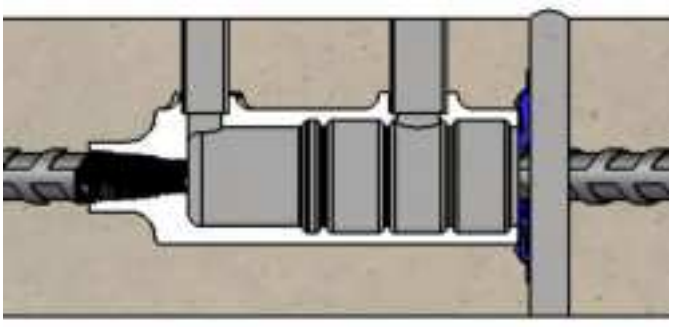
Reinforcing Bar Splicing System for Segmental Pours and Shrinkage Crack Mitigation

Revised JUNE 2025

IP8419PS_A







1 Contents

* SDS Available – Contact nVent LENTON

A. Only nVent LENTON authorized materials should be used to make nVent LENTON Interlok Rebar Splices.

1. Do not splice except as detailed in the instructions.
2. Do not alter materials without manufacturer authorization.
3. Do not use substitutes for nVent LENTON authorized materials.

Failure to comply with the above may result in hazards to the individual, improper splices, or damage to items being connected.

B. Make splices in accordance with described splicing procedures and in consideration of surrounding conditions and personnel. Refer to the HY15LM SDS prior to beginning work with the grout.

1. Personnel should be properly trained in the use of this product.
2. Avoid breathing concentrations of grout dust as it may be hazardous to health. Refer to SDS for control measures.
3. Avoid prolonged skin contact with grout slurry.

C. Unusual applications or conditions may exist which require special considerations.

1. Provide adequate ventilation where natural air flow is not sufficient to prevent personnel from breathing concentrations of dust.

D. Storage of HY15LM grout should be in a clean, dry, secure area and should be restricted to access by authorized personnel only. Discard any torn, wet, or otherwise damaged bags. Discard any bags which have become wet or where material clumping is observed. Material consistency should be that of a free flowing fine powder.

E. To determine the expiration date of HY15LM, refer to the lot number located on the end panel of each bag. The manufacture date can be determined as shown below:

DDMMMYY-V-HH:MM

Example 30JUN17-A-16:21: Material produced on June 30th, 2017 at 4:21 PM of the day. The middle character "A" is a production code that may vary.

DO NOT USE any HY15LM which is in excess of 1 year beyond the manufacturer's date noted on the package.

F. Refer to grout mixing directions located on the bag for proper mixing guidelines or contact nVent LENTON.

G. Refer to Grout Fill Installation Instructions located in this Manual for proper installation guidelines.

H. The recommended temperature range of the HY15LM Grout is 32 to 100°F (0 to 38°C). With nVent LENTON temperature additives, HY15LM can be used down to 20°F (-7°C) and up to 122°F (50°C).

I. Do not use more than 13% water by weight (0.78 gallons or 2.95L per 50 lb (22.7 kg) bag). Do not add any additives or admixtures to the HY15LM grout other than the nVent LENTON temperature additives as instructed by nVent LENTON.

J. Keep walls and panels undisturbed for at least 24 hours [at 68°F (20°C)], or until specified compressive strength for removing bracing is achieved. Movement during curing will result in decreased splice performance. Temperatures below 50°F (10°C) considerably increase the time it takes freshly placed grout to develop strength. Therefore, there is a risk of damage or collapse if the structure is loaded before it develops adequate strength.

This strength may vary depending on the structural loading and the temperature. Therefore, the strength must be determined by the structural engineer and should be based upon the expected construction loading.

K. The HY15LM grout is designed to be used with the nVent LENTON Interlok Reinforcing Bar Splicing System. Unauthorized use of other grouts will void all warranties, whether expressed or implied.

L. While working on the job site, observe all applicable safety regulations, including the use of PPE.

1. Wear a hard hat and safety glasses.
2. Wear gloves to avoid cuts.
3. Prior to installing connections, read and understand all operating, mixing, and safety instructions found in this manual and on the HY15LM grout bag.

M. Deviations from the specified recommendations outlined in this manual will void all warranties. It is the responsibility of the user(s) to observe proper grouting conditions, (e.g., temperature, water to cement ratio, placing consistency, etc.) and utilize quality workmanship.

N. nVent LENTON reserves the right to revise these documents contained herein for any reason, including but not limited to conformity with standards established by various agencies, utilization of advances in the state of technical arts, or the reflection of changes in the design of any components, techniques, or procedures described or referred to herein.

O. All governing codes and regulations and those required by the job site must be observed. Always use appropriate safety equipment such as eye protection, hard hat, and gloves as appropriate to the application.

To assure that you have the most recent edition of this manual, visit www.nvent.com/lenton.

3 OVERVIEW

The nVent LENTON Interlok Coupler with Form Saver is designed to connect #5 (16 mm) through #8 (25 mm) rebar, conforming to ASTM® A615/A615M, A706/A706M, BS4449, CSA G30.18 or AS1302 standards. The connection incorporates the nVent LENTON taper threaded system in conjunction with a special high- early strength, nonmetallic, no shrink cementitious grout.

Some Interlok Grout-fill coupler variants incorporate the nVent LENTON taper threaded connection for the primary rebar, while the secondary rebar is grouted into a grout cavity formed by the coupler body. Other variants rely on both primary and secondary rebars being grouted into a single grout cavity formed by a hollow coupler sleeve. Assembly of the connection is normally done in two separate stages: The primary rebar is secured to the coupler body using the nVent LENTON threaded end or other means. The connection is completed at the job site by installing the secondary rebar into the grout cavity at the appropriate embedment depth, and then filling the coupler with the proprietary HY15LM grout.

The rebar with nVent LENTON threaded end is fastened to the coupler prior to placement in forms, and then encased in concrete. The connection is completed at the job site, where the exposed dowel of the adjoining concrete pour is positioned within the interior of the coupler. The grout is either poured or pumped into the cylindrical end of the coupler. The coupler can be oriented in either a vertical, inclined or horizontal positions.

The proprietary HY15LM ready-to-use grout is designed to maintain fluidity for an extended period of time while achieving a high-early-strength. It is a nonmetallic, no shrink, material capable of developing in excess of 15,000 psi (110.3 MPa) compressive strength at 28 days. To ensure a proper connection, the addition of water must be maintained in strict accordance with nVent LENTON recommended procedures. In addition, the temperature of the grout during placing and curing must be maintained within the recommended guidelines

Interlok couplers are produced under nVent's strict Quality Control guidelines in approved production facilities. Taper threaded rebar ends for use with Interlok couplers are produced using nVent LENTON's proprietary equipment. Pre-threaded bars can be provided from nVent LENTON's network of threading centers, or by leasing threading equipment. The threads are right hand and tapered to match genuine nVent LENTON products. Use of non-genuine bar preparation equipment, coupler components in any combination with LENTON products is prohibited.

The nVent LENTON Interlok Grout-fill Coupler variants are designed to be used exclusively with the proprietary Interlok HY15LM grout. The unauthorized use of alternate grouts voids all warranties expressed or implied.
When assembled in accordance with nVent LENTON recommended procedures, the nVent LENTON Interlok system will meet or exceed the ACI 318, BS8110, AS3600, ISO 15835 or IBC® Building Code requirements.

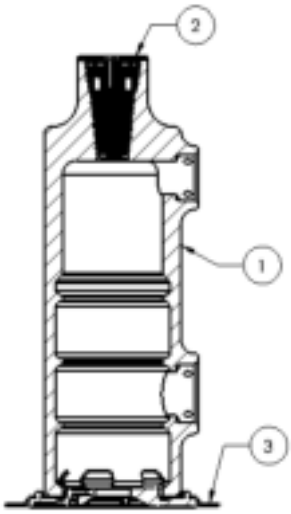
WARNING
ERICO products shall be installed and used only as indicated in ERICO product instruction sheets and training materials. Instruction sheets are available at www.nVent.com and from your nVent LENTON customer service representative.
LENTON products must never be used for a purpose other than the purpose for which they were designed or in a manner that exceeds specified load ratings. All instructions must be completely followed to ensure proper and safe installation and performance.
Improper installation, misuse, misapplication or other failure to completely follow LENTON's instructions and warnings may cause product malfunction, property damage, serious bodily injury and death. The customer is responsible for:

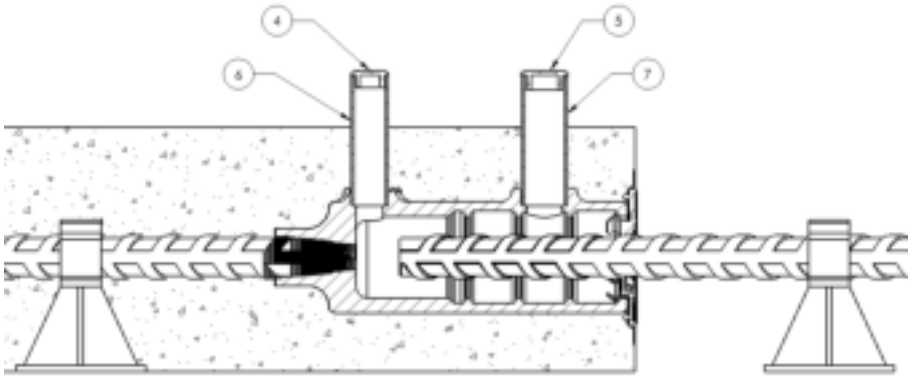
a) Conformance to all governing codes.

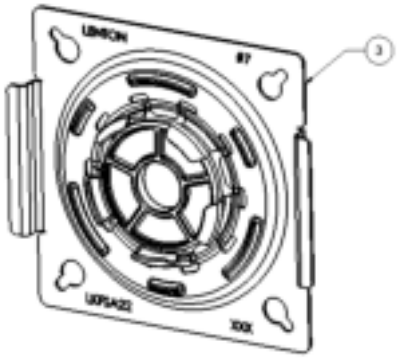
b) The integrity of structures to which the products are attached, including their capability of safely accepting the loads imposed, as evaluated by a qualified engineer.

c) Using appropriate industry standard hardware as noted above.

1.1 Component Placement – LENTON Interlok Grout-Fill Couplers (Threaded Option)





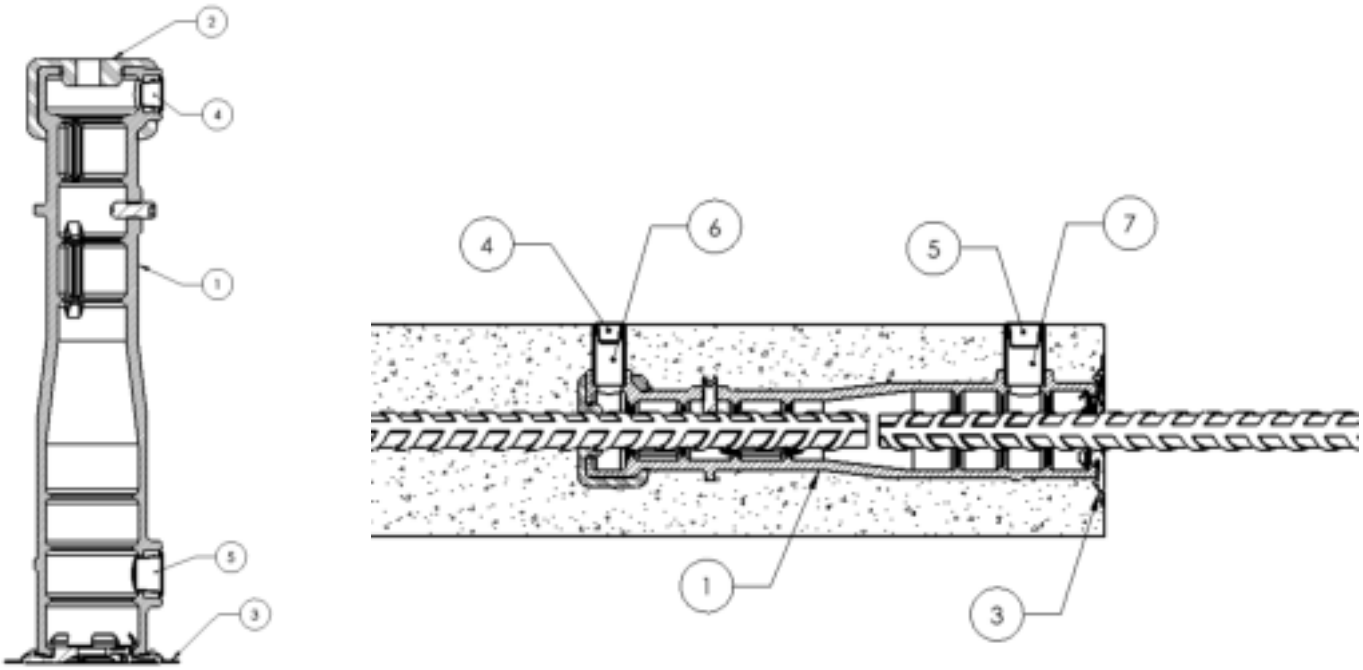


Item No.	Description	Standard Item/Separate Order
1	nVent LENTON Interlok Coupler	Standard
2	Thread Protector	Standard
3	nVent LENTON Form Saver Seal	Order separately
4	1/2" (13mm) Outlet Tube Plug	Order separately – LK502 or obtain locally [b]
5	3/4" (19mm) Inlet Tube Plug	Order separately – LK502 or Obtain locally [b]
6	1/2" (13mm) SCH40 PVC	Obtain locally [c]
7	3/4" (19mm) SCH40 PVC	Obtain locally [c]

[b] Non-stock item typically found locally

[c] Not supplied by nVent LENTON

1.1 Component Placement – LENTON Interlok No-Thread Grout-Fill Coupler



Item No.	Description	Standard Item/ Separate Order
1	nVent LENTON Interlok Coupler	Standard
2	Thread Protector	Standard
3	nVent LENTON Form Saver Seal	Order separately
4	1/2" (13mm) Outlet Tube Plug	Order separately or Obtain locally [b]
5	3/4" (19mm) Inlet Tube Plug	Order separately or Obtain locally [b]
6	1/2" (13mm) SCH40 PVC	Obtain locally [c]
7	3/4" (19mm) SCH40 PVC	Obtain locally [c]

[b] Non-stock item typically found locally

[c] Not supplied by nVent LENTON

**Rebar does not need to be threaded if using Interlok No-Thread Grout Fill Coupler

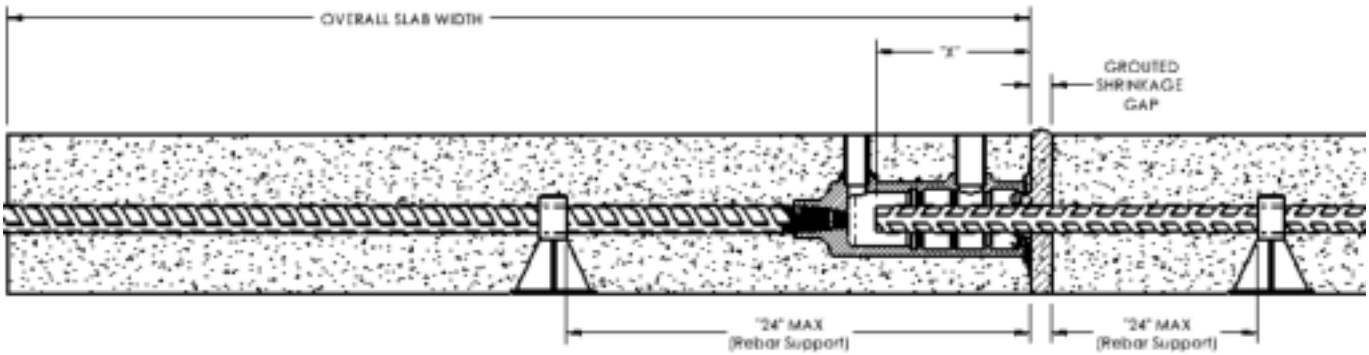
Component List – LENTON Interlok Installation and Grouting Materials

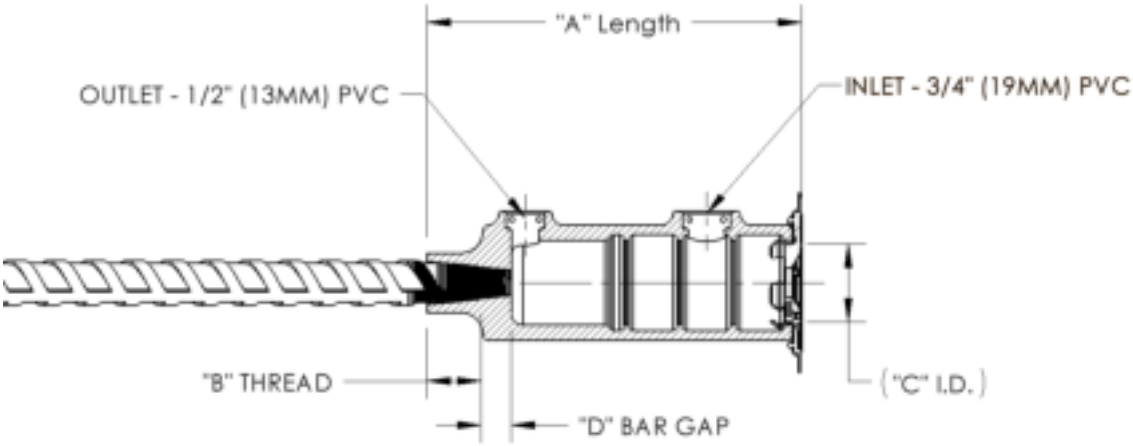
Item No.	Description	Standard Item/Separate Order
1	HY15LM GROUT	Standard
2	Flow Test Kit	Order Separately
3	Lenton Taper Threaded Rebar	Order Separately
4	Grout Mixing Equipment	Obtain locally [c]
5	Grout Filling Equipment	Obtain locally [c]
6	Nails	Obtain locally [c]
7	Rebar	Order separately

[b] Non-stock item typically found locally

[c] Not supplied by nVent LENTON

1.2 Coupler Dimensions and Rebar Cut Lengths – Interlok Grout-Fill Coupler – Imperial Units.





Imperial Units:

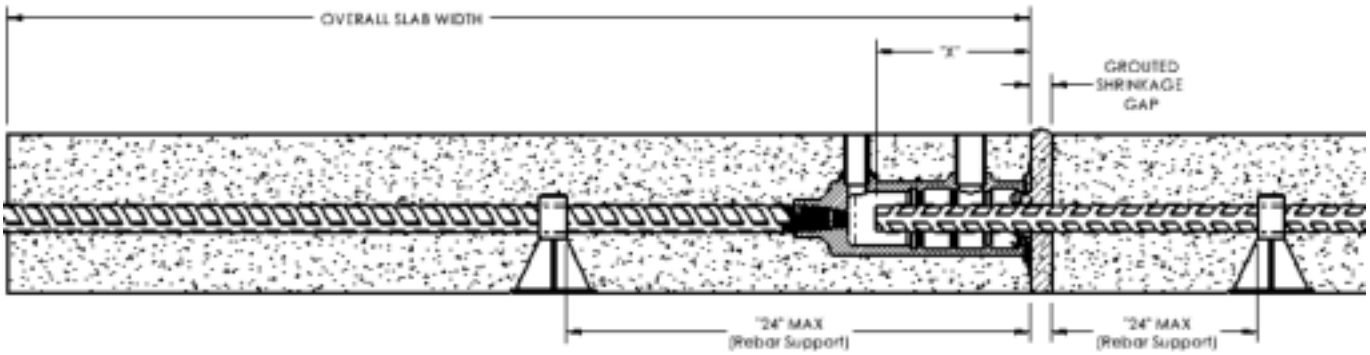
Rebar Size In-lb	Canadian16	Coupler Part No.	Accessory Part No.	"A"	"B"	"C" (Ref.)	"D"	"X" Max.	"X" Min. Type 1 & 2"
#5	15M	LK16**	LKFSA16	8.06"	15/16"	1-5/8"	5/16"	6-5/8"	5-1/4"
#5	15M	LK5	LKFSA22	8.00"	7/8"	1-7/8"	13/16"	6-1/8"	5-1/4"
#6	20M	LK20**	LKFSA20	9.00"	1-3/8"	1-3/4"	7/16"	7"	5-1/4"
#6	20M	LK6	LKFSA22	8.00"	1-1/8"	1-7/8"	9/16"	6-1/8"	5-1/4"
#7	-	LK7	LKFSA22	8.00"	1-1/4"	1-7/8"	7/16"	6-1/8"	5-1/4"
#8	25M	LK8	LKFSA25	8.81"	1-3/8"	2"	1/4"	7"	6"
#8	25M	LK25	LKFSA25	8.81"	1-3/8"	2"	1/4"	7"	6"

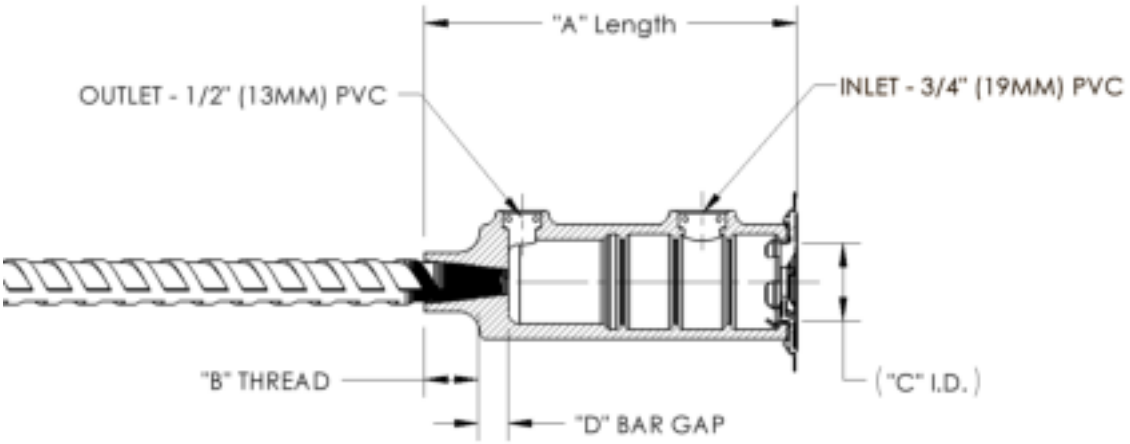
**LK16 and LK20 are slimmer alternatives for LKS and LK6 respectively with reduced outside diameters.

Contact nVent LENTON for rebar sizes not listed

All table dimensions in inch

1.2 Coupler Dimensions and Rebar Cut Lengths – Interlok Grout-Fill Coupler – Metric Units..





Metric Units:

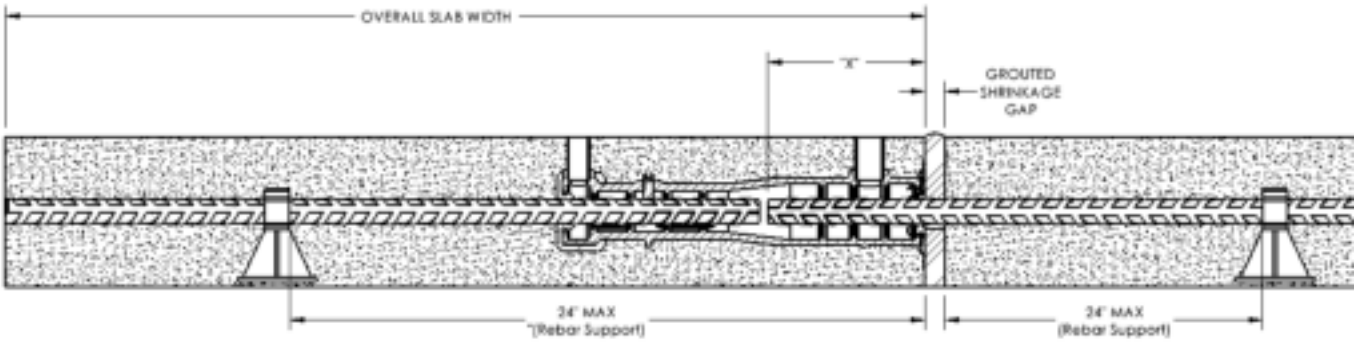
Rebar Size mm	Canadian16	Coupler Part No.	Accessory Part No.	"A"	"B"	"C" (Ref.)	"D"	"X" Max.	"X" Min.
16mm	15M	LK16**	LKFSA16	205 mm	24 mm	41 mm	8 mm	168 mm	133 mm
16mm	15M	LK5	LKFSA16	203 mm	22 mm	48 mm	21 mm	156 mm	133 mm
20mm	20M	LK20**	LKFSA20	228 mm	35mm	45 mm	11 mm	178 mm	133 mm
20mm	20M	LK6	LKFSA20	205 mm	29 mm	48 mm	14 mm	156 mm	133 mm
22mm	-	LK7	LKFSA22	205 mm	32 mm	48 mm	11 mm	156 mm	133 mm
25mm	25M	LK8	LKFSA25	223 mm	35 mm	50mm	6 mm	178 mm	152 mm
25 mm	25M	LK25	LKFSA25	223 mm	35 mm	50 mm	6mm	178mm	152mm

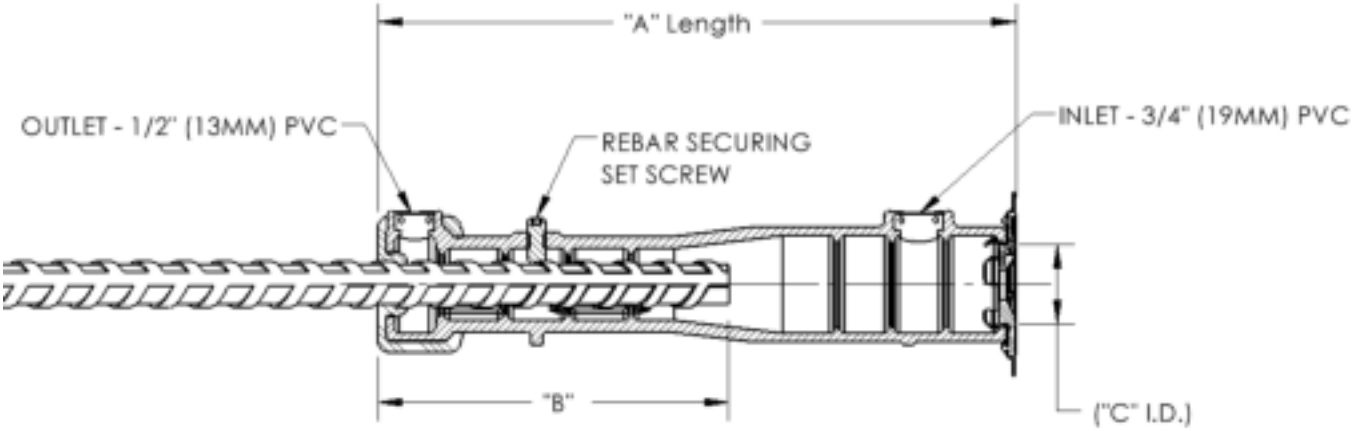
**LK16 and LK20 are slimmer alternatives for LKS and LK6 respectively with reduced outside diameters.

Contact nVent LENTON for rebar sizes not listed.

All table dimension in mm

1.3 Coupler Dimensions and Rebar Cut Lengths – Interlok No-Thread Grout Fill Coupler – Imperial Units.



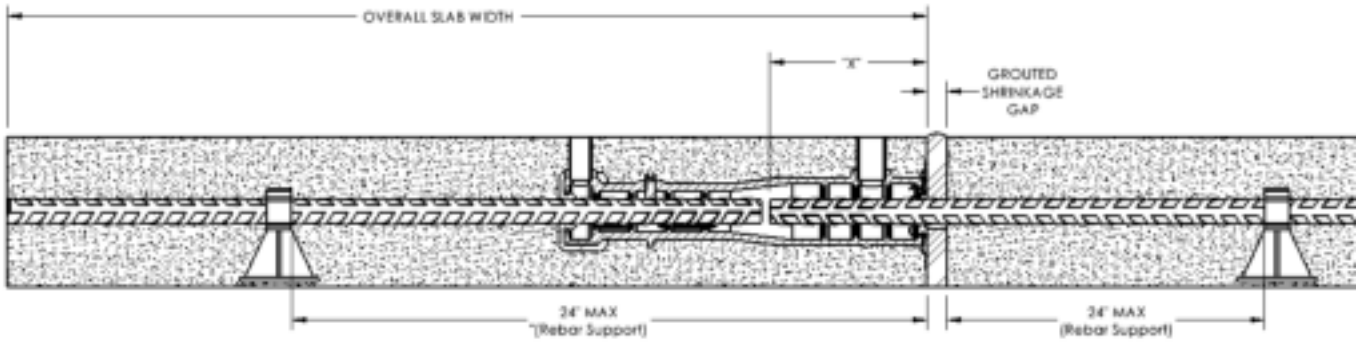


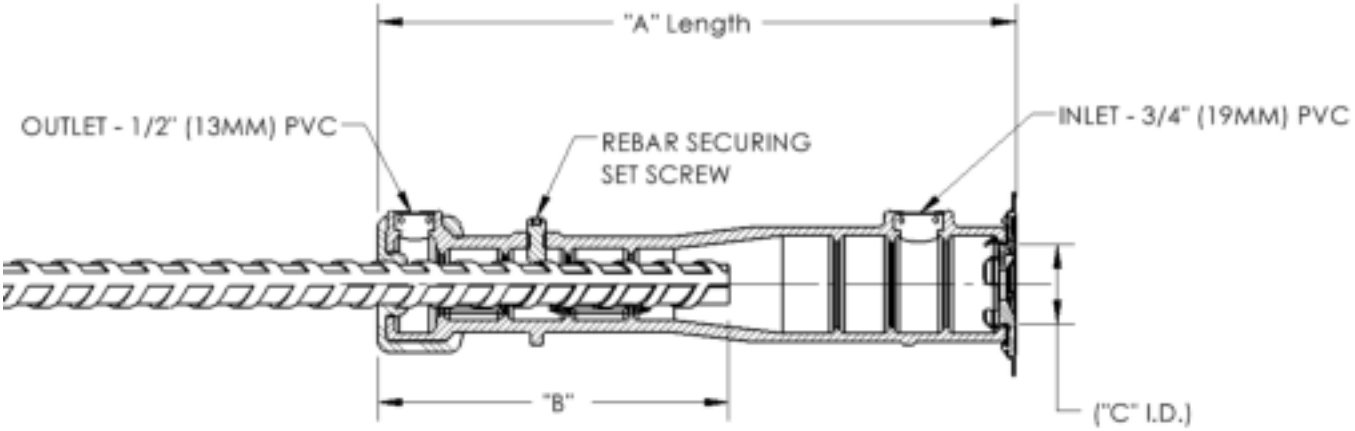
Rebar Size In-lb	Canadian16	Coupler Part No.	Accessory Part No.	"A"	"B"	"C" (Ref.)	"X" Max.	"X" Min.
#5	15M	LKNT20	LKFSA20	12.3"	5"	1-7/8"	6-1/8"	5-1/4"
#6	20M	LKNT20	LKFSA20	12.3"	5-1/4"	1-3/4"	7"	5-1/4"
#6	20M	LKNT22	LKFSA22	13.9"	5-1/4"	1-7/8"	6-1/8"	5-1/4"
#7	22M	LKNT22	LKFSA22	13.9"	5-1/4"	1-7/8"	6-1/8"	5-1/4"
#8	25M	LKNT25	LKFSA25	15.5"	6"	2"	7"	6"

Contact nVent LENTON for rebar sizes not listed

All table dimensions in inch

1.3 Coupler Dimensions and Rebar Cut Lengths – Interlok No-Thread Grout Fill Coupler – Metric Units.



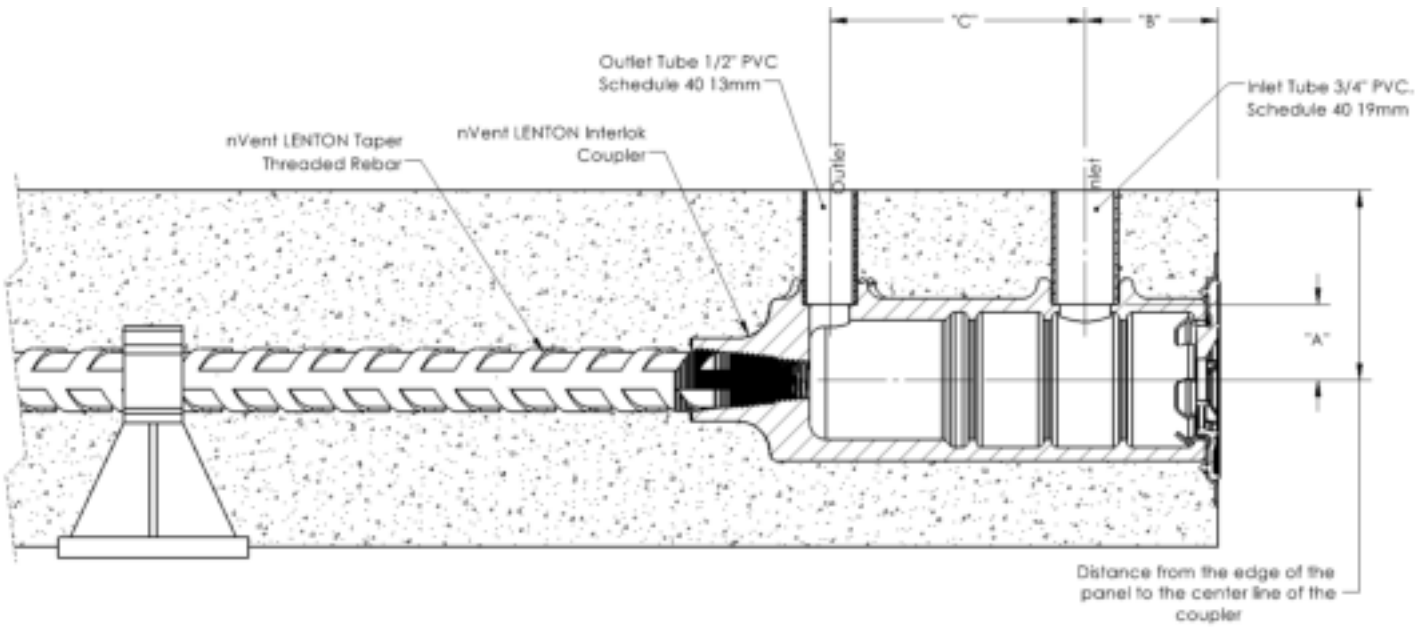


Rebar Size mm	Canadian16	Coupler Part No.	Accessory Part No.	"A"	"B"	"C" (Ref.)	"X" Max.	"X" Min.
16mm	15M	LKNT20	LKFSA16	203mm	127 mm	48 mm	156 mm	133 mm
16mm	15M	LKNT20	LKFSA20	203mm	127mm	48mm	156mm	133mm
20mm	20M	LKNT20	LKFSA20	228mm	133 mm	45 mm	178 mm	133 mm
20mm	20M	LKNT22	LKFSA22	228mm	133 mm	45 mm	178 mm	133 mm
22mm	22M	LKNT22	LKFSA22	228mm	133 mm	48 mm	156 mm	133 mm
25mm	25M	LKNT25	LKFSA25	223mm	152 mm	50 mm	178 mm	152 mm

Contact nVent LENTON for rebar sizes not listed.

All table dimension in mm

1.4 Inlet and Outlet Tube Lengths and Positions – Interlok Grout-Fill Couplers (Threaded Option)

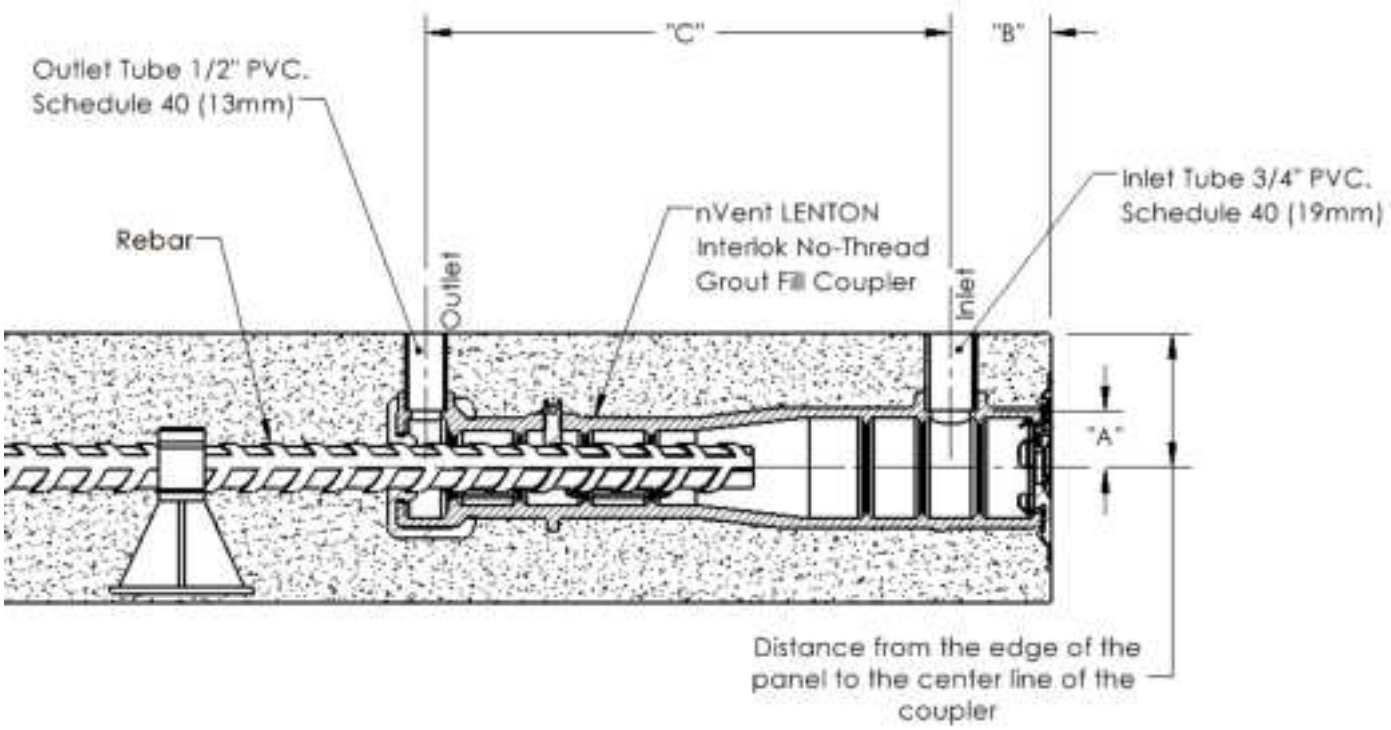


To Determine Inlet and Outlet Tube Length and Position:

Rebar Size In-lb	Metric	Canadian	Coupler Part No.	Accessory Part No.	"A"		"B" Length		"C" Length	
					Inch	mm	Inch	mm	Inch	mm
#5	16mm	15M	LK16**	LKFSA16	1-1/16"	27	1-15/16"	49	4-3/8"	111
#5	16mm	15M	LK5	LKFSA22	1-3/16"	30	1/7/8"	48	3-15/16"	100
#6	20mm	20M	LK20**	LKFSA20	1-1/8"	29	1/7/8"	48	4-13/16"	122
#6	20mm	20M	LK6	LKFSA22	1-3/16"	30	1/7/8"	48	3-15/16"	100
#7	22mm	---	LK7	LKFSA22	1-3/16"	30	1/7/8"	48	3-15/16"	100
#8	25mm	25M	LK25	LKFSA25	1-1/4"	32	1-13/16"	46	4-7/8"	124
#8	25mm	25M	LK8	LKFSA25	1-1/4"	32	1-13/16"	46	4-7/8"	124

** Tube lengths should be long enough to extend above the free concrete surface. The minimum tube length is calculated as the Distance from free concrete surface to the center line of the coupler (minus) the "A" dimension from the table.

1.4 Inlet and Outlet Tube Lengths and Locations – Interlok No-Thread Grout Fill Couplers

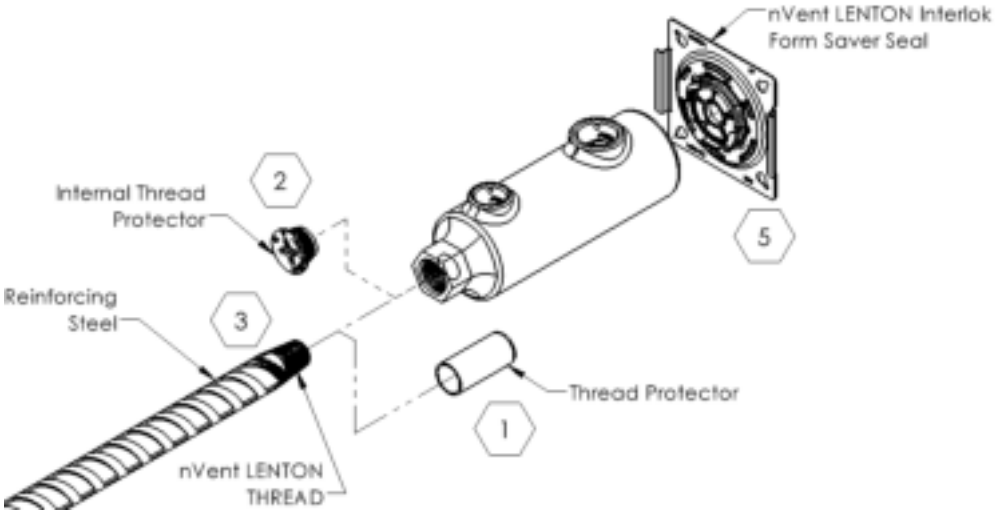


To Determine Inlet and Outlet Tube Length and Position:

Rebar Size In-lb	Metric	Canadian	Coupler Part No.	Accessory Part No.	"A"		"B" Length		"C" Length	
					Inch	mm	Inch	mm	Inch	mm
#5	16mm	15M	LKNT20	LKFSA20	1.1"	28	2.1"	53	9.4"	240
#6	20mm	20M	LKNT20	LKFSA20	1.1"	28	2.1"	53	9.4"	240
#6	20mm	20M	LKNT22	LKFSA22	1.2"	30	2.1"	53	11"	279
#7	22mm	22M	LKNT22	LKFSA22	1.2"	30	2.1"	53	11"	279
#8	25mm	25M	LKNT25	LKFSA25	1.3"	33	2"	50	12.7"	323
#8	25mm	25M	LK8	LKFSA25	1.3"	33	2"	50	12.7"	323

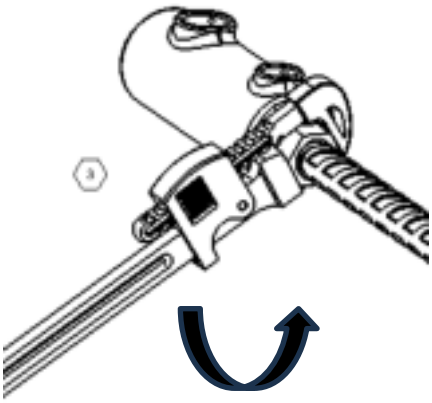
** Tube lengths should be long enough to extend above the free concrete surface. The minimum tube length is calculated as the Distance from free concrete surface to the center line of the coupler (minus) the "A" dimension from the table.

1.5 Coupler Installation Procedures



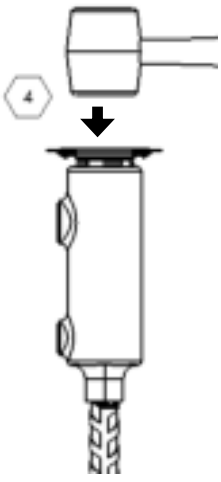
A. Attaching Coupler to Rebar

1. Remove the thread protector. Examine threaded bar end to make sure it is undamaged and clean. If cleaning is required, a wire brush should be used.
2. Determine whether the coupler is the correct size for the bars being spliced. Each coupler is identified with the bar size and the part number (see chart). Remove the internal thread protector if installed. (*The thread protector on the bar and internal thread protector in the coupler are color coded for easy size identification)*
3. Follow installation instructions included with Coupler for proper assembly

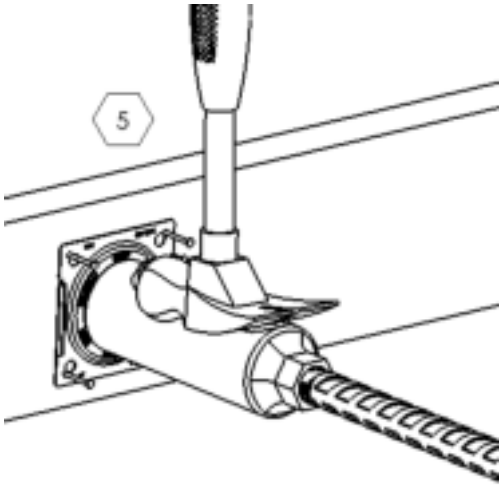


B. Attaching coupler/rebar assembly to **LENTON Interlok Form Saver Seal**

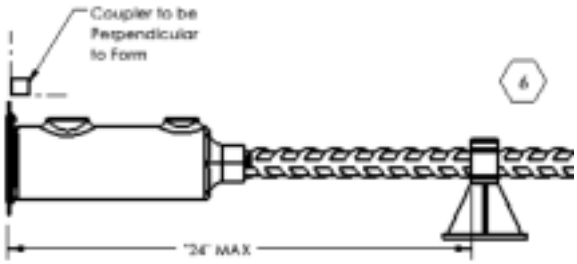
4. Align the Interlok Form Saver Seal with the coupler mouth opening so that the spring tabs are contacting the inside edge of the coupler. Using a rubber mallet strike the assembly until it snaps into place properly secured.



5. Using hardened 12d steel nails (Qty-2 min), attach the coupler/flange assembly to the concrete form via the provided holes included in the flange.



6. Once assembly is mounted to form, ensure a rebar support is placed within 48” of coupler end.



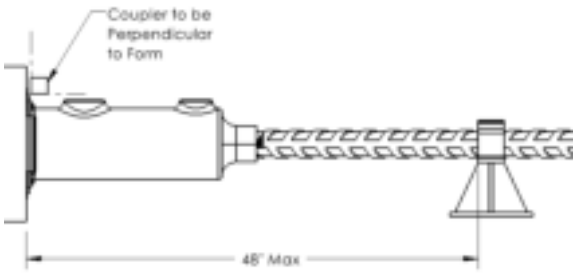
C. Install Inlet and Outlet Tubes:

1. Ensure that the correct size and type of tubing is used for each inlet and outlet port as identified in this manual. Test fit before use.
2. Once the tubes have been cut to length and oriented properly as described in this manual, it may be necessary to tap the tubes lightly with a hammer to assure that they are seated fully inside the ports on the coupler.
3. It is important that the inlet/outlet tubes fit snugly inside the ports on the coupler. If this joint is not tight, apply PVC cement and/or other means to secure the tubes into the inlet/outlet ports.
4. Ensure the free ends of tubing extend above the concrete pour level and are sealed using caps or adhesive tape to prevent contamination.

D. Inspect the Installation:

To avoid possible intrusion of cement into the nVent LENTON Interlok coupler, it is important that the following areas be inspected prior to pouring the precast panel.

1. Check to see that the nVent LENTON thread is properly installed and tight. Refer to page 12 and the table with wrench settings.
2. Make sure inlet/outlet ports are sealed. If tubes are used, make sure tube is tightly seated in the port and that the opposite end is plugged to prevent entry of concrete. Refer to the Placing Drawings to make sure the inlet/outlet tubes are located in the correct position for pump filling.
3. Ensure Interlok Form Saver Seal is properly attached (using Qty-2 nails minimum) to the form. Flange assembly needs to be snug to the form to ensure ingress seal is properly seated.
4. Ensure a rebar support is placed within 24” of the Concrete Form.
5. Check that the coupler is perpendicular to the form end plate and that it is tightly seated.



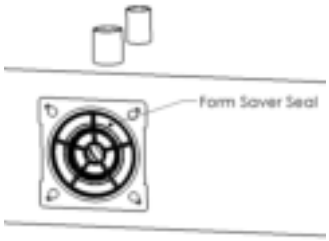
E. Pour#1: Pour Concrete Into Form:

After all other requirements of the Placing Drawings are complete, concrete can be poured.

When pouring the concrete into the form, make sure not to disturb any of the PVC tubes as this may cause the tube to slip out of the inlet/outlet ports or cause the tubes to get submerged completely in concrete, which will make locating them at the job site difficult.

F. Remove Forms and Inspect:

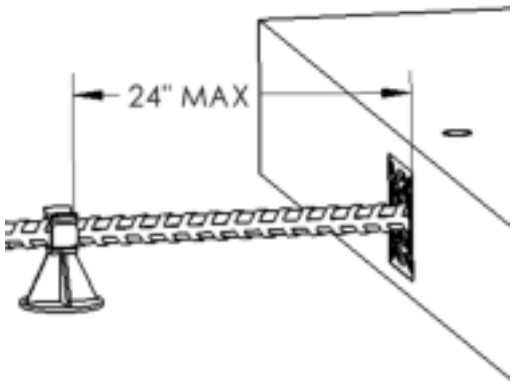
Once the concrete has set sufficiently, remove the forms.
Ensure that the Interlok Form Saver Seal remains embedded in the concrete and does not come off with the forms. If they do come off, simply reinstall into the coupler.
Inspect the rubber seal for any damage and replace as needed.
Inspect the coupler cavity and the inlet/outlet tubes. Clean out any concrete paste that may be inside.



G. Preparation for Pour #2

Once it is confirmed that all necessary components remained intact, Apply Bond Breaker or Visqueen to entire (Thickness) face of Pour #1 and allow to dry.

1. Take another length of rebar and place unthreaded end through the opening of the rubber-like seal contained within the flange assembly. Push rebar through seal into coupler until it stops.
2. Place rebar support within 24” of the flange face.



H. Pour #2

Commence with Pour #2 and allow concrete to cure the appropriate amount of time as determined by of record. Typically cure times are set between 28 to 56 days or longer to allow for concrete shrinkage before making the final connection.

2.1 Quantity of nVent LENTON Interlok Splices per Bag of HY15LM

Identify the coupler body size and rebar size being installed in its grouted end. Then refer to the table with the columns representing coupler sizes LKXXXX and the rows representing rebar sizes to find the estimated quantity of splices that can be filled with a single bag of HY15LM grout. HY15LM is provided in 50 lb (22.7 kg) bags

FOR USE WITH ASTM REBAR

Rebar Size	nVent LENTON Interlok Couplers per Bag					
	LK5	LK16	LK6	LK20	LK7	LK8
#5	29.5	37.0	30.5	30.5	30.5	23.0
#6			31.5	31.5	32.0	24.0
#7					34.0	25.5
#8						27

Rebar Size	nVent LENTON Interlok Couplers per Bag		
	LKNT20	LKNT22	LKNT25
#5	18.5	14.0	11.0
#6	19.0	14.5	11.5
#7		15.5	12.0
#8			12.5

FOR USE WITH METRIC REBAR

Rebar Size	nVent LENTON Interlok Couplers per Bag					
	LK5	LK16	LK6	LK20	LK7	LK25
16	29.5	37.0	29.5	30.0	29.5	22.5
20			32.0	32.0	32.0	24.0
22					34.0	24.5
25						26.5

Rebar Size	nVent LENTON Interlok Couplers per Bag		
	LKNT20	LKNT22	LKNT25
16	18.5	14.0	11.0
20	19.5	15.0	11.5
22		15.5	12.0
25			12.5

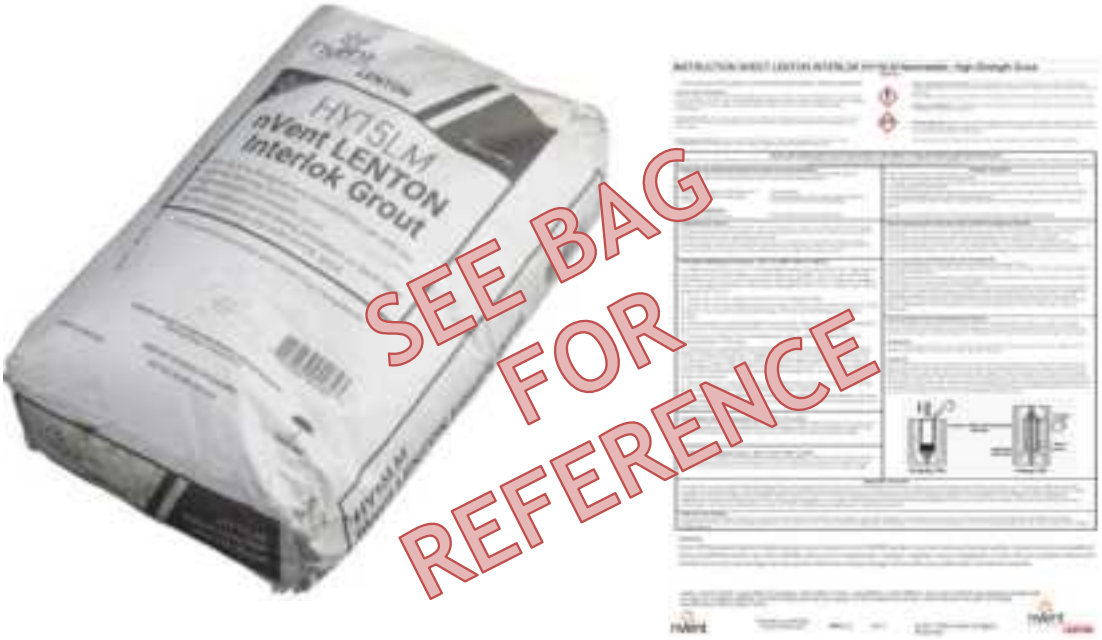
The values given in the above table are estimates only, assuming maximum rebar embedment in the coupler. Actual values will vary depending on job site practice and conditions.
It is important when determining the amount of grout for the particular application to consider adding approximately 10-15% to account for scrap or wasted material.

It is important to include the volumes of the inlet and outlet tubes in the determination. These volumes become significant in applications where the precast members are unusually thick, and the PVC inlet and outlet tubes become long.

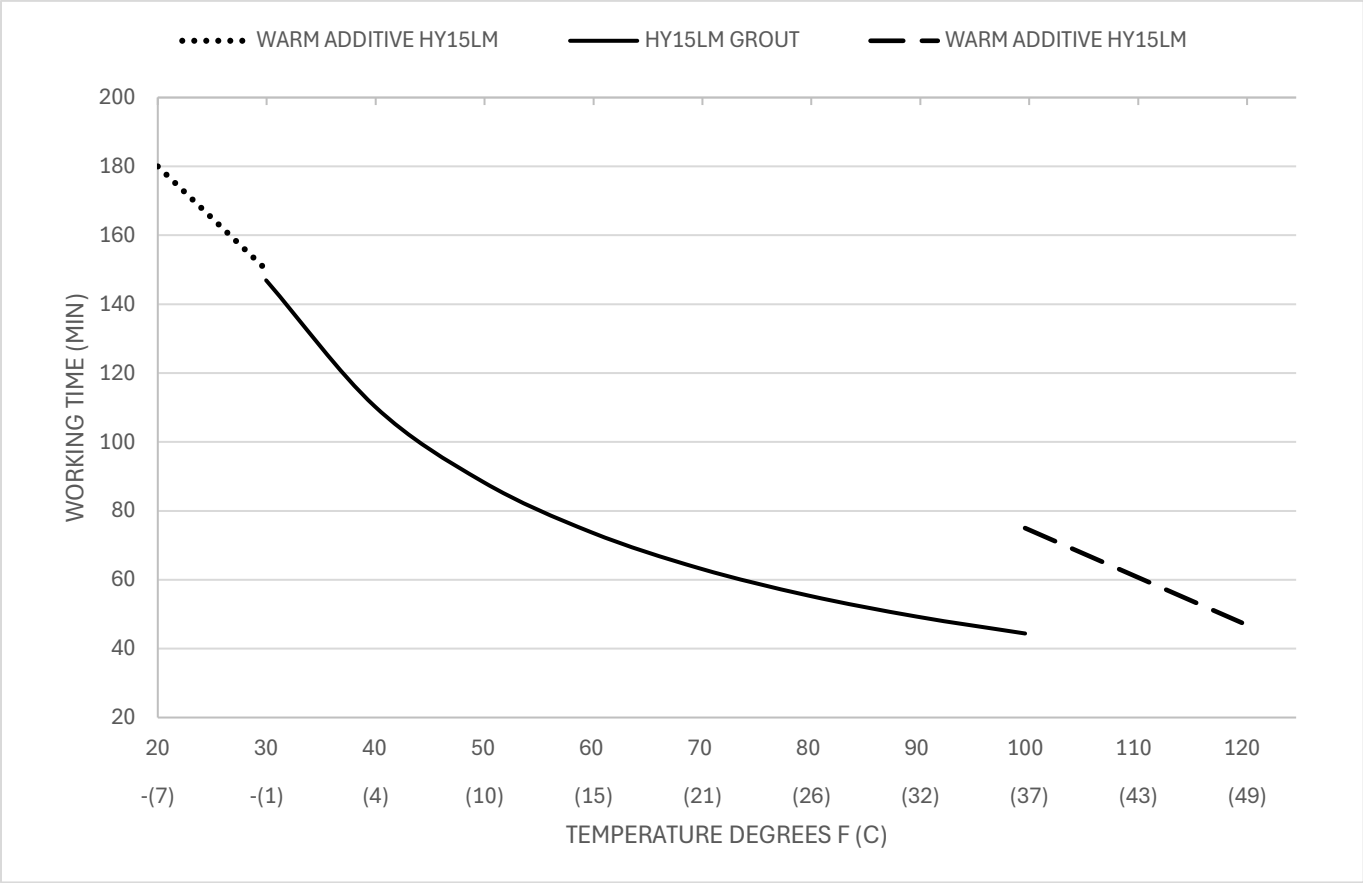
2.2 HY15LM Mixing Instructions

Follow the procedures printed on the HY15LM grout bag or IP8411 revision C for reference.

!!CAUTION!!
When grouting in cold weather, precautions MUST be taken to keep the HY15LM from freezing (32 degrees F; 0°C), during initial setting, as this will result in insufficient strength. Refer to Cold Weather Instructions in this manual.



2.3 Working Time at Temperature



NOTE: This information is provided for reference only using water at 70F (21C). Actual working times will vary. Contact nVent LENTON when further information is required.

2.4 Hot and Cold Weather Grouting Instructions

The standard working temperature range for the installation of the nVent LENTON Interlok sleeve, reinforcing bar, and HY15LM is 32°F to 100°F (0°C to 38°C). However, it can be used in an extended temperature range of 20°F – 122°F (-7°C – 50°C) with special considerations and nVent LENTON additives.

2.4.1 Hot Weather Grouting: The HYA15HT additive can be used in conjunction with HY15LM grout for grouting in Hot Weather Conditions. Follow procedures detailed on the instruction sheet IP8426.

!!CAUTION!!

No pieces of ice must be allowed to be mixed in with the grout as this will result in voids that will affect the connection performance.
For additional information on Hot Weather Grouting, refer to the IBC
2009 and ACI 318, 305R and 301.

2.4.2 Cold Weather Grouting, The HYA15CT additive can be used in conjunction with HY15LM grout for grouting in Cold Weather Conditions. Follow procedures detailed on the instruction sheet IP8425.

By using the HY15LM Cold Weather additive, HY15LM does not need to be heated, however, ACI 306 Cold Weather practices must be followed for the precast members. This generally includes to heat (for example, with space heaters) the nVent LENTON Interlok coupler, the rebar, the panel, and the areas to be grouted until the panels have reached a uniform temperature of above 50°F (10°C) through the thickness (usually about 12-24 hours).

For additional information on Cold Weather Grouting, refer to the IBC
2009 and ACI 318, 306R and 301.

!!CAUTION!!

When using space heaters, be sure to observe all manufacturer's safety guidelines.

!!CAUTION!!

Grout should never be placed into frozen concrete or nVent LENTON Interlok couplers.

!!CAUTION!!

Temperatures below 50°F (10°C) increase the time it takes freshly placed grout to develop strength. Therefore, there is a risk of damage or collapse if the structure is loaded before it develops adequate strength. This strength requirement must be determined by the structural engineer and should be based upon the expected construction loading.

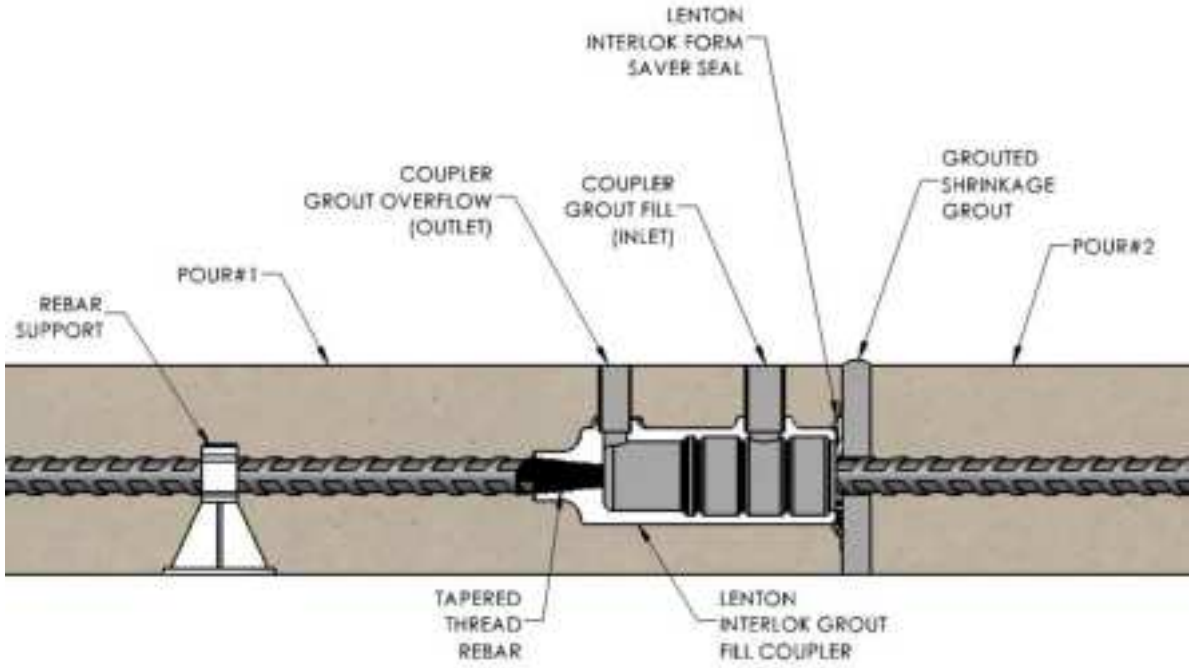
It is a structural engineering decision when to remove bracing - the structural engineer
should be consulted before any bracing is removed regardless of the temperature.

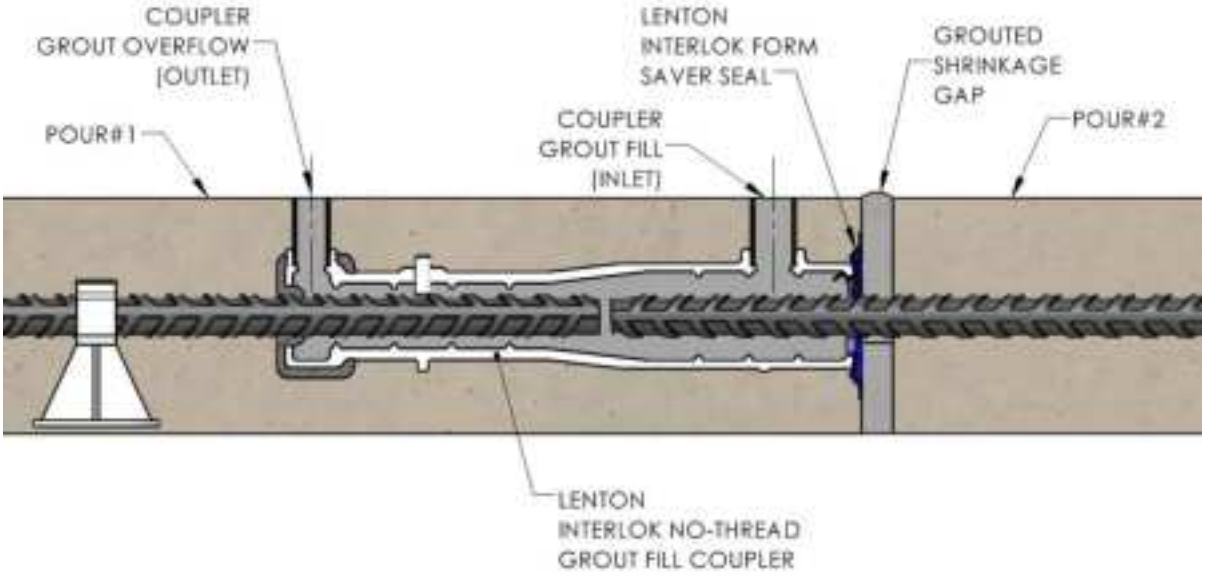
Test Specimens:

Additional test specimens should be made and cured at the job site to assist in determining when bracing can be removed and when the structure can be placed in service. Unless specimens used
for these purposes are cured at the same place and as nearly as possible under the same conditions as the nVent LENTON Interlok connections, the test results can be misleading.

2.5 HY15LM Grout Placement Instructions

The HY15LM grout is designed to be used with the nVent LENTON Interlok rebar splicing system. Unauthorized use of other grouts will void all warranties, whether expressed or implied. It is important that all individuals responsible for the grout installation be properly trained.





1. Before beginning work with HY15LM, remove all debris, oil, dirt, moisture, and any obstructions from the couplers, rebars, and areas to be grouted. Blow air into the couplers to confirm they are clean and dry. Make sure all panels and forms are securely anchored to prevent movement during placing and curing.
2. To permit rapid and continuous work with the HY15LM, it is recommended that all necessary tools and materials be on hand and as near to the work area as possible. Refer to the Materials and Equipment List on the HY15LM bag and in this manual

2.5 HY15LM Grout Placement Instructions (Cont.)

3. Mix the HY15LM according to the mixing directions on the bag. Use only full bags of HY15LM for each batch made.
4. Grout may be placed by hand or a grout pump may be used to place the HY15LM. Customers have been known to use various pump styles and manufacturers, e.g.; Kenrich and Chemgrout pumps. NOTE: Before using the grout pump, carefully read and understand the Pump User's Manual. It is important to follow all the manufacturer's recommended guidelines regarding safety, operations, service, and maintenance.
5. Pump or pour the HY15LM evenly and continuously into the Inlet Tube of the coupler. Continue until excess grout flows out of the outlet tube, indicating that the coupler is completely filled. Allow any bubbles to escape before topping off as needed.

!!CAUTION!!

DO NOT UNDERFILL the coupler as this will result in reduced connection and performance. Coupler should be filled completely and fully. Grout should be placed into the coupler in one step and no cold joints should be present.

NOTE: It is recommended that all grouting operations are inspected by the engineer to make sure that all the manufacturer's recommended procedures and all applicable building codes have been observed. Clean any grout spills before it cures.

6. The decision to remove bracing or shoring following grouting must be determined solely by the Shoring Engineer or Engineer of record. In order to ensure a quality structural connection, it is important e the grouted couplers in a member be secured and undisturbed by movement, shock, or vibration until the HY15LM has reached a compressive strength of at least 3000 psi (21 MPa). Typically this will occur after 1 day at 68°F (20°C), however, this time will vary depending on the temperature and job site conditions. In cold weather, the curing time will be significantly lengthened (2 or more days at 40°F; 4°C), therefore, the bracing or shoring time may need to be increased. It is strongly recommended that the compressive strength of the HY15LM be checked under job site curing conditions to inform these decisions.
7. Once the installation of the grout in the coupler is complete and the shrinkage gaps are secured, fill the gap with HY15LM grout or suitable alternative specified by the EOR.

!!CAUTION!!

ANY OF THE FOLLOWING ITEMS IF NOT OBSERVED MAY RESULT IN REDUCED CONNECTION PERFORMANCE.

1. Refer to Mixing Directions and Cautions on the nVent LENTON Interlok bag before mixing or doing any work with the HY15LM. Do not use any damaged, wet, or open bags. Do not use grout which is more than 1 year old. These bags should be discarded in accordance with Federal, State, and Local Regulations.
2. When pumping, DO NOT let the hopper become empty as this will result in air getting into the couplers. Prepare additional HY15LM to keep on hand to avoid this situation
3. If grouting is interrupted, keep recirculating the HY15LM by operating the pump with the nozzle in the hopper. This movement of the HY15LM will aid in keeping it fluid. If the shutdown exceeds the limits of Working Time at Temperature, the grout will not be pumpable and will need to be discarded.
4. Never leave a coupler partially filled for an extended period of time. Make sure all couplers are filled completely and no couplers are left ungrouted. Do not underfill the coupler. Place the grout into the coupler in one step — do not create a cold joint in the coupler.
5. Immediately after filling the Interlok sleeves, verify that grout has not leaked from the couplers. Refer to the Trouble Shooting Guide located in this manual for additional guidelines.

2.6 Grouting Troubleshooting Guide

Recommended Equipment:

1. A large piston or garden sprayer filled with water (4 gallon or larger) and/or high pressure water hose with sprayer attachment.
2. Compressed Air Source
3. Steel Rod – 1/4 to 3/8 inch (6 to 10mm) in diameter
4. Hammer
5. Rubber Stoppers
6. Electric Drill with masonry bits
7. Flashlight
8. Sealing Disks
9. Dry Pack Mortar

The above equipment should be on-hand and available during grouting.

TROUBLE / SOLUTION

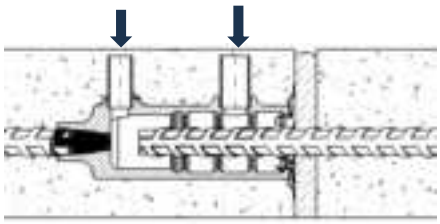
1. Inlet/outlet tubes do not reach the surface

1.1.1. Check and mark the position of the inlet/outlet tubes according to the drawings

1.1.2. Chip down the marked positions to the embedded tubes. Remove all debris

1.1.3. Blow out the tubes with compressed air and confirm a clear passage from the inlet to outlet tubes.

1.1.4. To aid in confirming a clear passage, shine a light into the inlet and outlet tubes.



2. Due to omissions of Interlok Form Saver Seal, inlet tube is blocked with sealing mortar from the joint.

IF SEALING MORTAR IS NOT SET:

2.1.1. Flush out any sealing mortar inside the couplers and any loose mortar using high pressure water

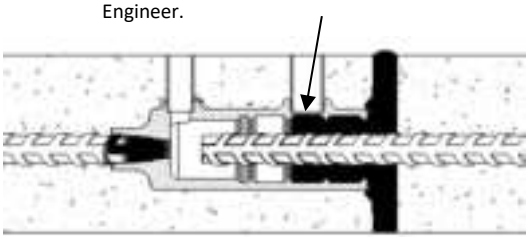
2.1.2. Once clean, reinstall the material and confirm a clear passage by shining a light into the inlet and outlet tubes. Blow out the tubes with compressed air.

IF THE SEALING MORTAR IS HARDENED:

2.1.3. Insert a steel rod into the tube, and hammer it to strike out the sealing mortar that is blocking the tube

2.1.4. Blow out the tubes with compressed air and confirm a clear passage from the inlet to outlet tubes. A vacuum many also ne needed to remove debris from the interior of the coupler.

2.1.5. Make sure recommended volume of grout can be placed into coupler. If not, contact the Structural Engineer.



TROUBLE / SOLUTION

3. Inlet and/or outlet tube is blocked with concrete debris etc. or by inlet/outlet plugs that have become wedged inside the tube

FOR DEBRIS ETC.

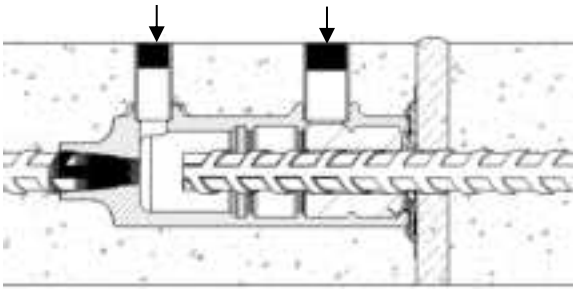
3.1.1. Insert a steel rod into the tubes and hammer it to clear the tube

3.1.2. Blow out the tubes with compressed air and confirm a clear passage from the inlet and outlet tubes. To aid in confirming a clear passage shine a light into the inlet and outlet tubes.

INLET/OUTLET PLUGS:

3.1.3. Use a hooked rod or wire to scrape plugs

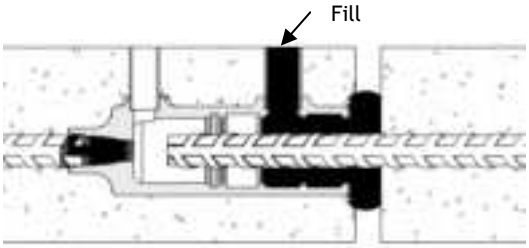
3.1.4. Blow out the tubes with compressed air and confirm a clear passage from the inlet to outlet tubes.



4. Leakage of grout out of coupler and into Shrinkage Gap.

4.1.1. Ensure INTERLOK Form Saver Seal is properly sealed around rebar diameter.

4.1.2. Ensure INTERLOK Form Saver Seal is properly seated into flange using retention features. Use long (non-sharp) blunt object to re-seat the retention tabs into flange.



TROUBLE / SOLUTION

5. Flange disassembles from Coupler when Form is removed

    5.1.1. Place and align flange (with Seal attached) into impression in concrete.

    5.1.2. Align center snaps into coupler ID and using a mallet, tap flange into coupler

    5.1.3. Ensure seal is properly attached to flange.