NELSON™ HEAT TRACING SYSTEMS

HASK-E HAZARDOUS AREA SEAL KIT

FOR DIV. 1 CABLE TERMINATION & EXPLOSION PROOF SEAL

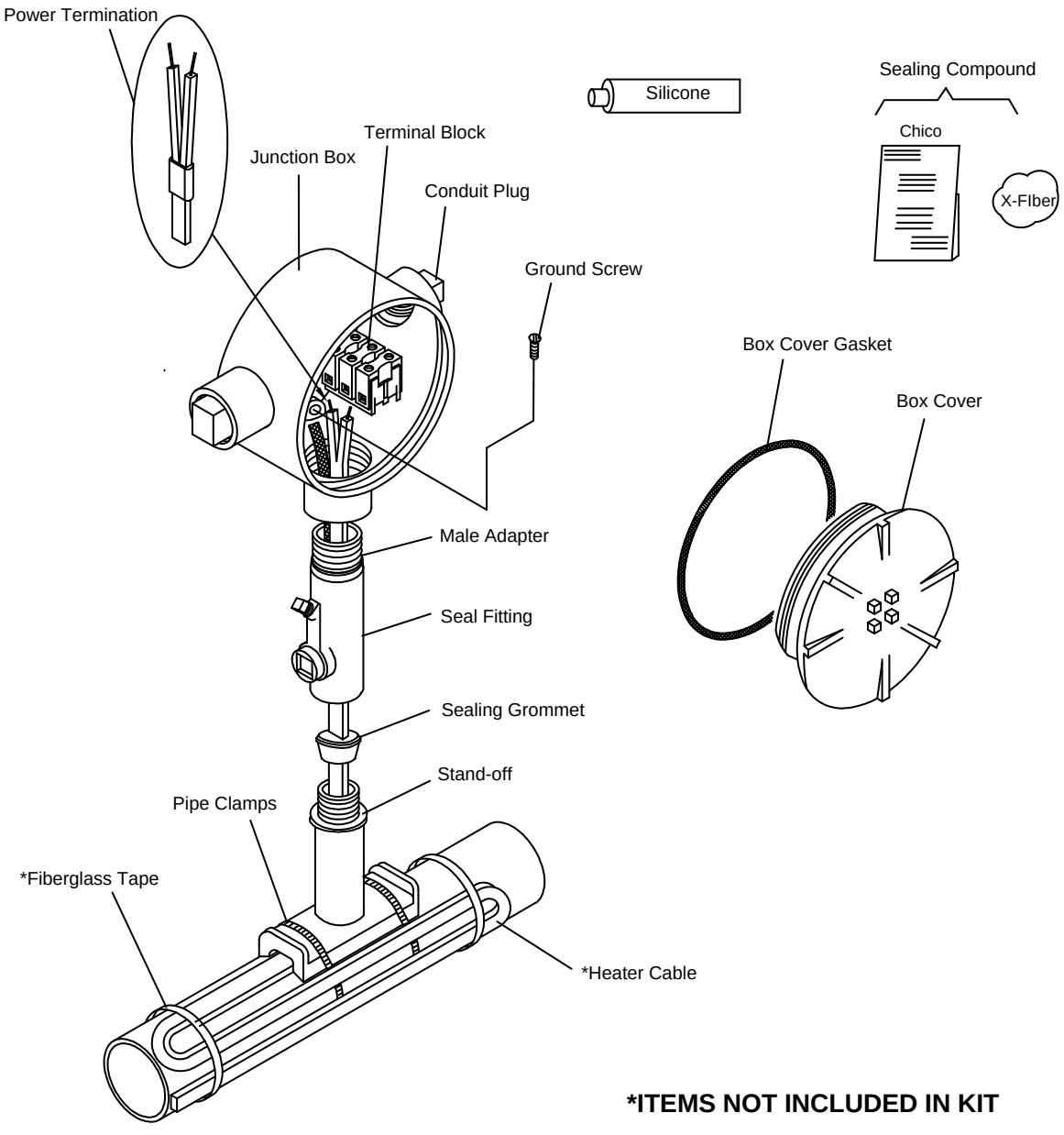
INSTALLATION INSTRUCTIONS

DESCRIPTION

The HASK-E Hazardous Area Seal Kit provides the cable termination and explosion proof seal parts needed to make the end of circuit electrical connections associated with Nelson Heat Tracing Systems' self-regulating heater cables. Minimum installation temperature –40°C (-40°F).

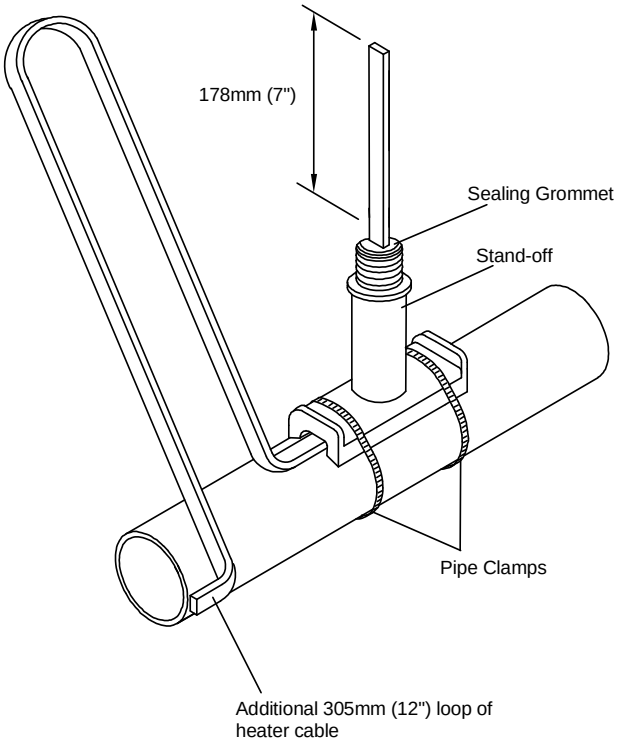
KIT CONTENTS

- 1 Junction Box
- 1 Tube of Silicone
- 1 Sealing Compound
- 1 Sealing Grommet
- 2 Conduit Plugs
- 2 Pipe Clamps
- 1 Stand-off
- 1 Power Termination
- 1 Terminal Block
- 1 X Fiber
- 1 Seal Fitting
- 1 Male Adapter



***ITEMS NOT INCLUDED IN KIT**

STAND-OFF POSITIONING



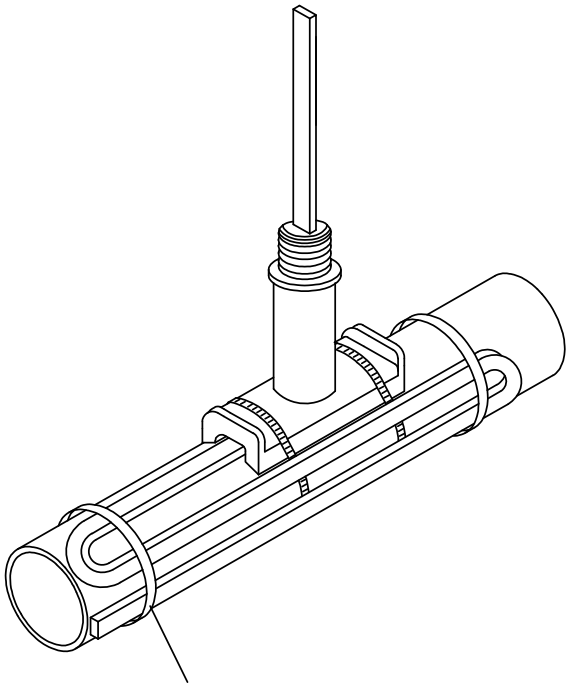
⚠ WARNING:

Do not install pipe clamps over the heater cable.

❶ Push heater cable through the bottom opening of the stand-off. Allow 178mm (7”) of heater cable for termination. Leave a 305mm (12”) loop of additional cable to be installed after the stand-off is secured.

❷ Mount stand-off to pipe using the pipe clamps included in kit.

❸ Slide the sealing grommet over heater cable and position at stand-off.



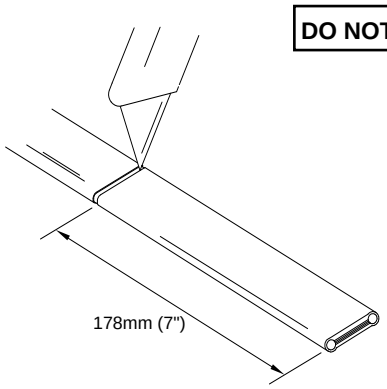
❹ Secure the additional 305mm (12”) of heater to the pipe using fiberglass tape (not included in kit).

❺ Prepare heater cable for termination. Proceed to “*Overjacket Stripping Procedures”* on sheet 3.

OVERJACKET STRIPPING PROCEDURES

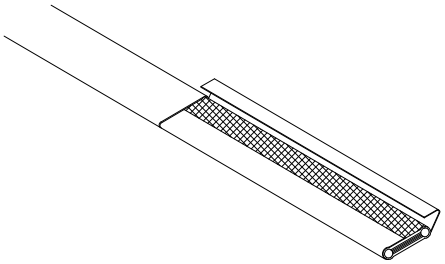
⚠ WARNING:

DO NOT CUT BRAID

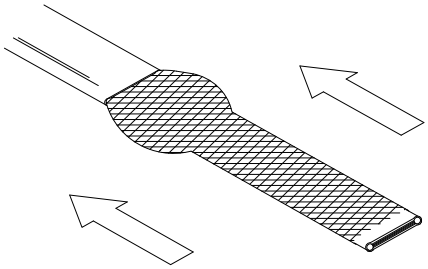


❶ Lightly cut around heater overjacket 178mm (7") from the end. Bend cable to break overjacket.

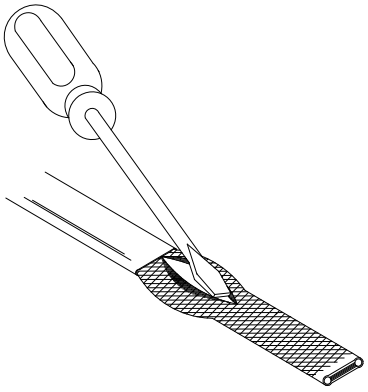
❷ Lightly cut overjacket up the center between first cut mark and the cable end. Bend cable to break overjacket.



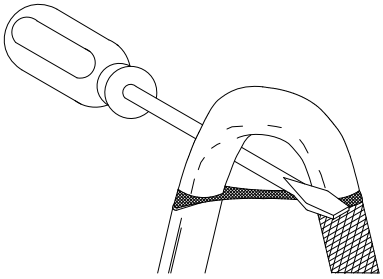
❸ Remove overjacket from heater cable.



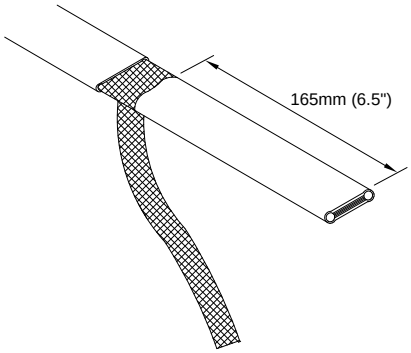
❹ Move braid back toward the overjacket, creating a bulge.



❺ At the bulge, separate the braid to make an opening.



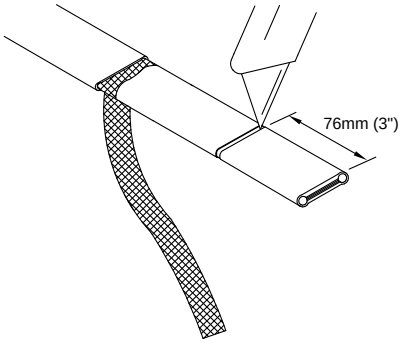
❻ While bending the heater cable, work it through the braid opening.



❼ Pull the braid tight.

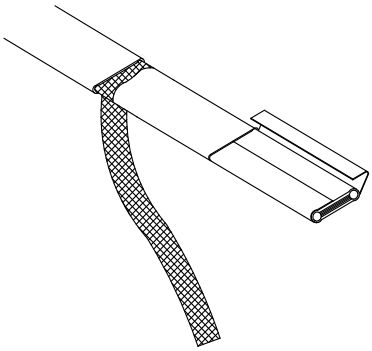
❽ Proceed to *"Outer Jacket Stripping Procedures"* on sheet 4.

OUTER JACKET STRIPPING PROCEDURES

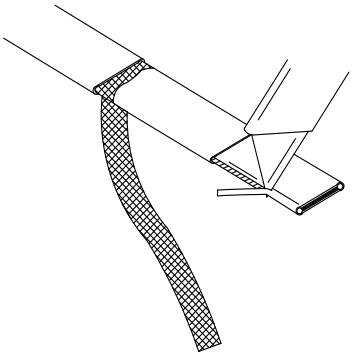


❶ Lightly cut around heater outer jacket 76mm (3") from the end. Bend cable to break outer jacket.

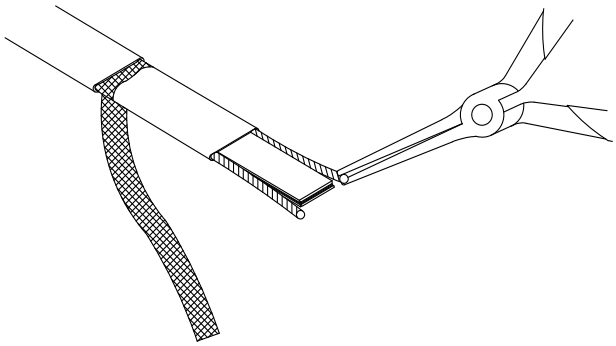
❷ Lightly cut the outer jacket up the center between the first cut mark & the cable end. Bend cable to break outer jacket.



❸ Remove the jacket from the heater cable.

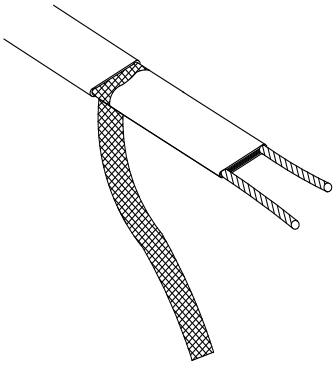


❹ Shave the core material from the outside of each bus wire.



❺ Starting at the end, pull each bus wire away from the core material.

❻ Remove exposed core material.



❼ Cut 6mm (0.25") off the end of each bus wire.

❽ Proceed to *"Power Termination"* on sheet 5.

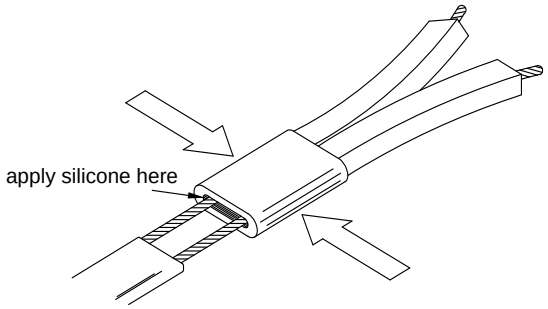
⚠ WARNING:

DO NOT CUT BUS WIRES

POWER TERMINATION

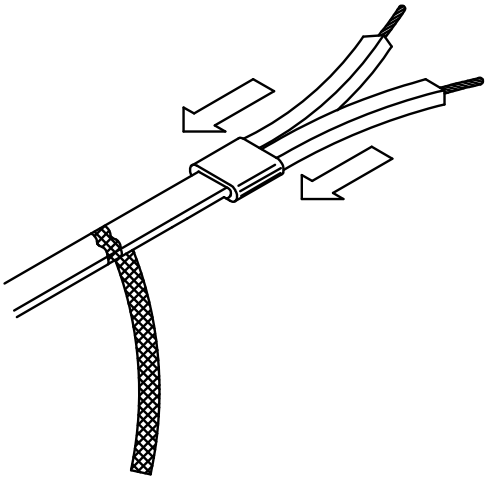
⚠ WARNING:

- **Bus wires must not touch or cross while inserting into power termination.**
- **Only power terminations specifically approved for the vendors style and type of heater cable must be used.**



❶ Insert bus wires into power termination.

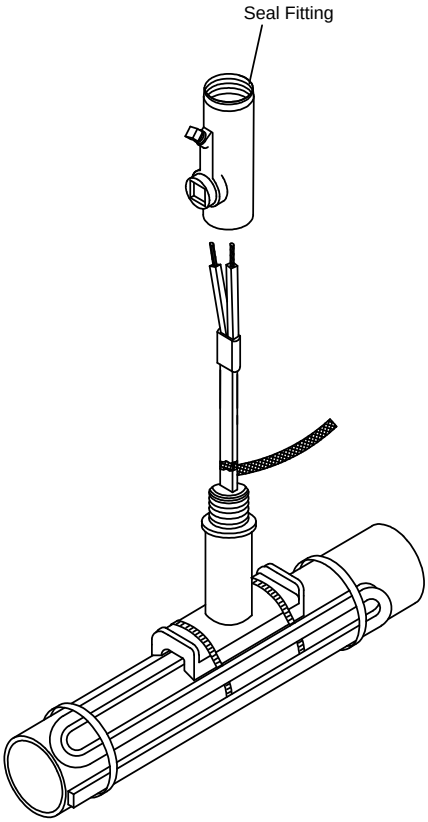
❷ Squeeze power termination opening and fill with silicone.



❸ Push power termination to overlap jacket.

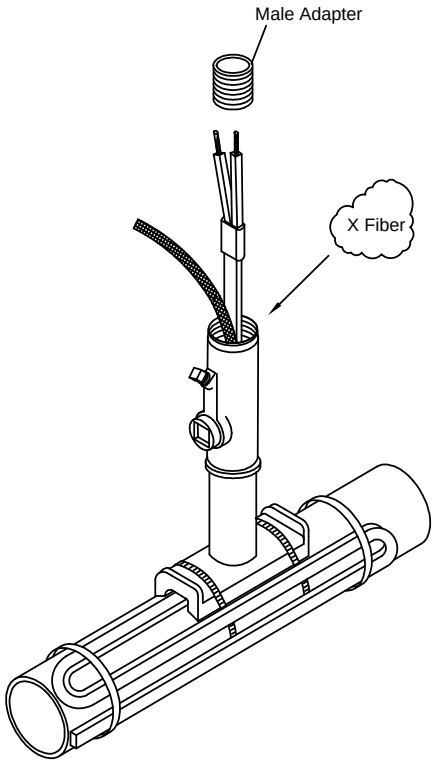
❹ Proceed to *"Seal Fitting Installation"* on sheet 6.

SEAL FITTING INSTALLATION



❶ Slide seal fitting over the heater cable and braid, screw onto the stand-off by hand until snug fit.

Note: The heater cable must be positioned in the seal fitting so the braid transition point is visible through the seal fitting opening. See Detail "A" on sheet 8.

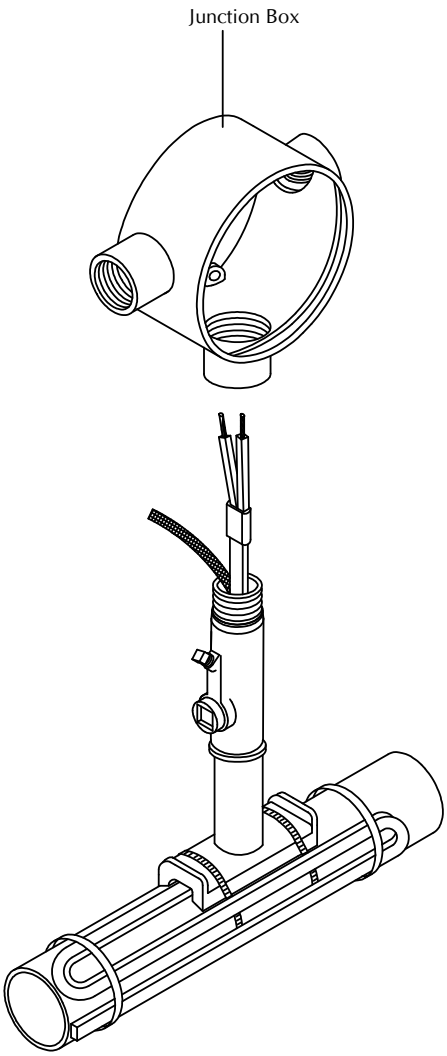


Note: If this kit is mounted in an orientation that would allow the sealing compound to flow out, place packing material (X Fiber) around the heater cable.

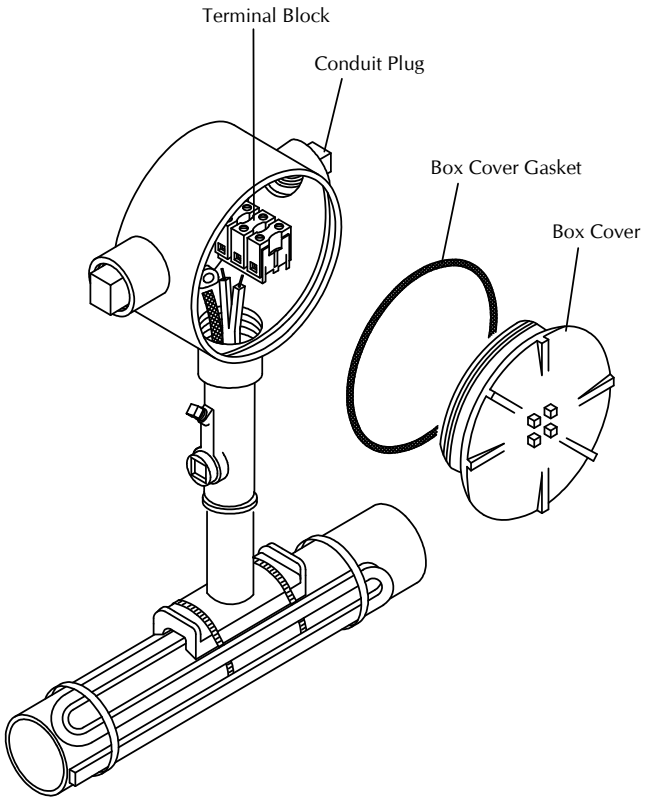
❷ Slide male adapter over the heater cable and braid, screw into seal fitting by hand until snug fit.

❸ Proceed to *"Sealing Compound Procedure"* on sheet 7.

SEALING COMPOUND PROCEDURE



❶ Place junction box over the heater cable and braid, screw onto male adapter until secure.



❷ Connect bus wires to terminal block, one per terminal. Connect braid to green ground screw.

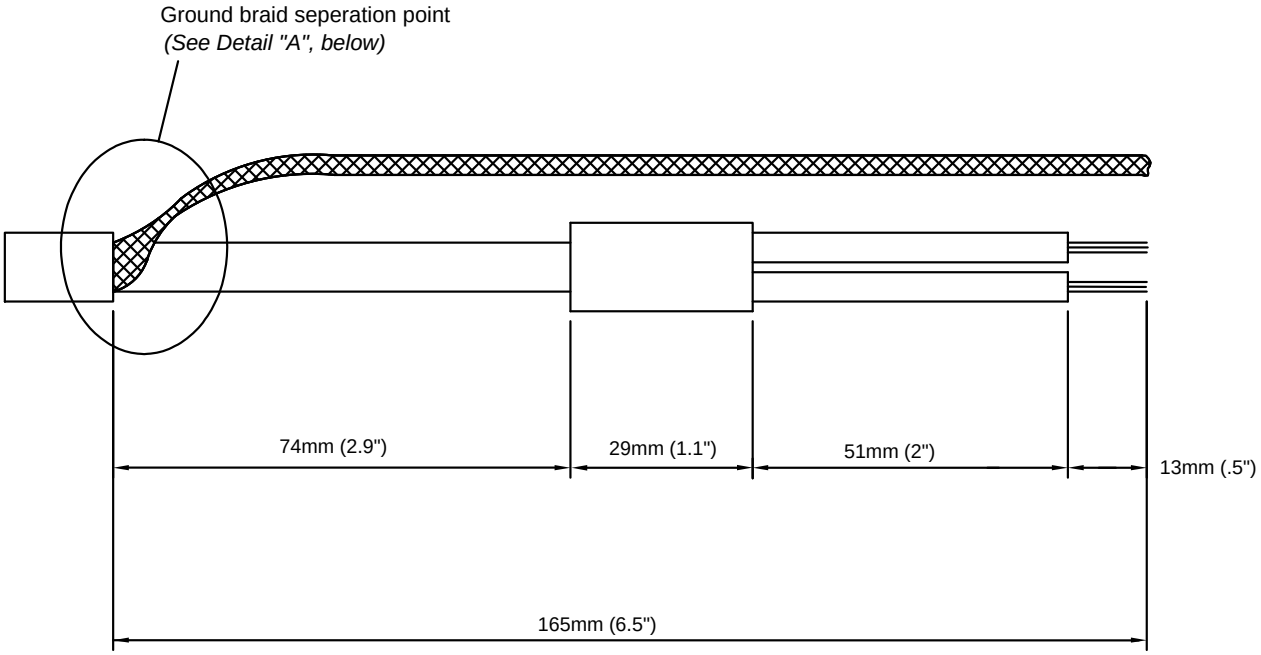
❸ Place the box cover gasket and box cover onto junction box. Plug the unused conduit openings with the conduit plugs.

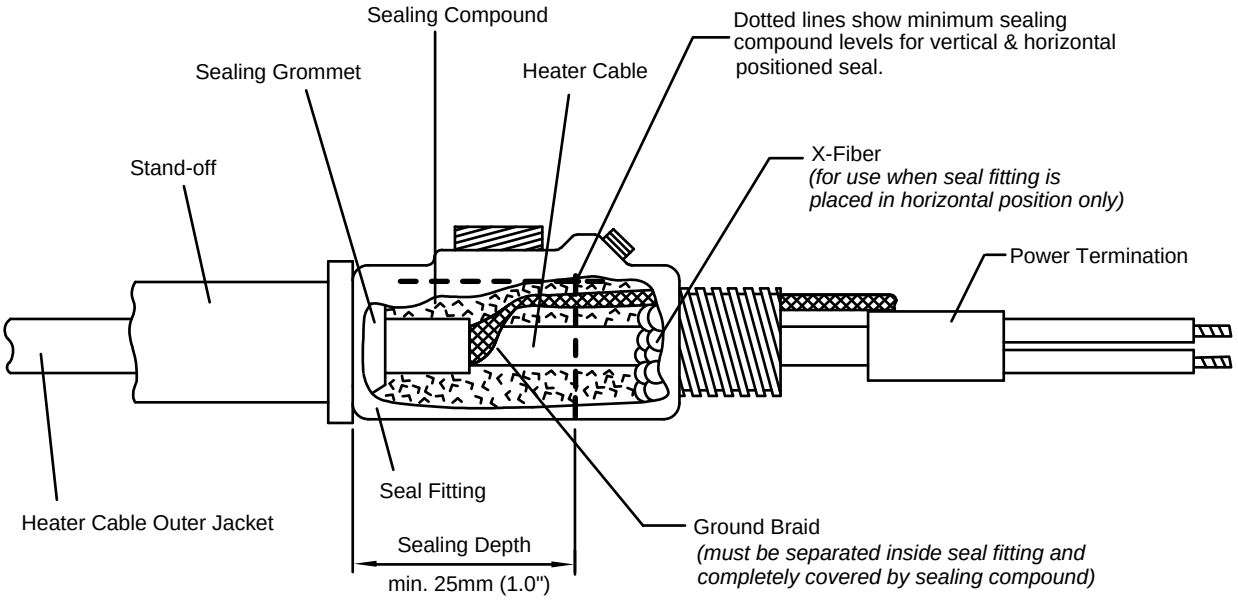
❹ Mix sealing compound according to the instructions on the pouch (knead to mix liquid and powder in pouch). Snip off a corner of the pouch and fill the seal fitting.

⚠ WARNING:

Sealing compound must completely cover the braid transition point. See Detail "A" on sheet 8 for reference.

TEMPLATE





DETAIL "A"

Nelson Heat Tracing Systems products are supplied with a limited warranty. Complete Terms and Conditions may be found on Nelson's website at www.nelsonheaters.com.

As required by the Factory Mutual approval process, fill out this form and return to:

Nelson Heat Trace
P.O. Box 726
Tulsa, OK 74101

(or)

Nelson Heat Trace
Fax Number (918) 622-9308

Company Name

Purchase Order No.

Circuit Reference (ID Number)

Area Classification
- Auto Ignition Temperature
- Group
- Substance

Heater Information
- Cable Type
- Voltage
- Temperature Identification Number (T-rating)

Termination Kits
- Power Connection
- End Seal
- Splice Connection
- Tee Connection

Ground Fault Equipment Protection (Required)
- Make and Model
- Device Trip Level (mA)

Installation per Manufacturers Installation Instructions	**Initials:**

System Certification

Prepared By	**Company**	**Date**
Prepared By	**Company**	**Date**

This completed form must be returned to Nelson to complete the certification process. A copy of this completed form should be kept for installation record retention purposes.

NELSON™ HEAT TRACING SYSTEMS

HASK-P HAZARDOUS AREA SEAL KIT

FOR DIV. 1 CABLE TERMINATION & EXPLOSION PROOF SEAL

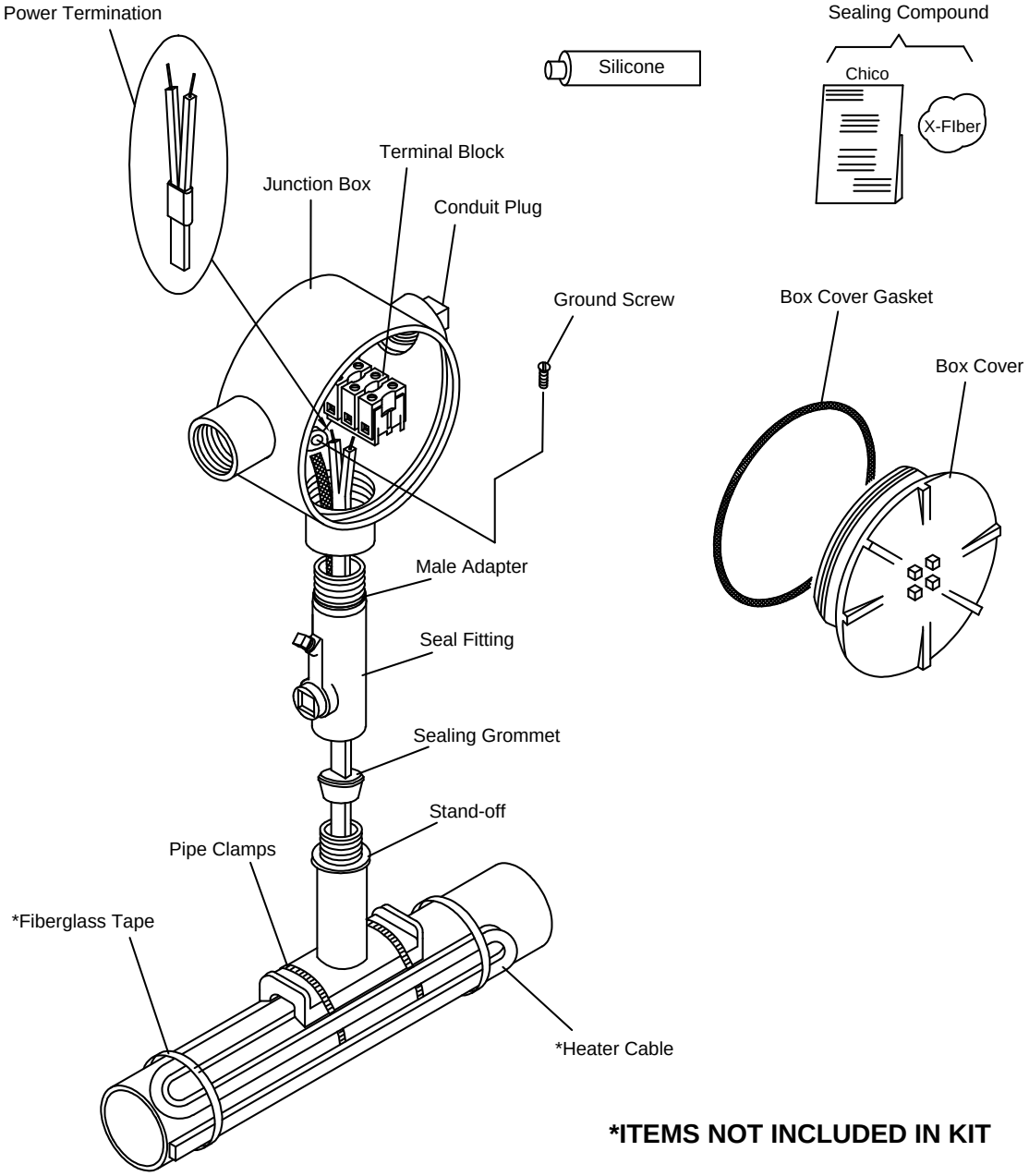
INSTALLATION INSTRUCTIONS

DESCRIPTION

The HASK-P Hazardous Area Seal Kit provides the cable termination and explosion proof seal parts needed to make the power end electrical connections associated with Nelson Heat Tracing Systems' self-regulating heater cables. Minimum installation temperature –40°C (-40°F).

KIT CONTENTS

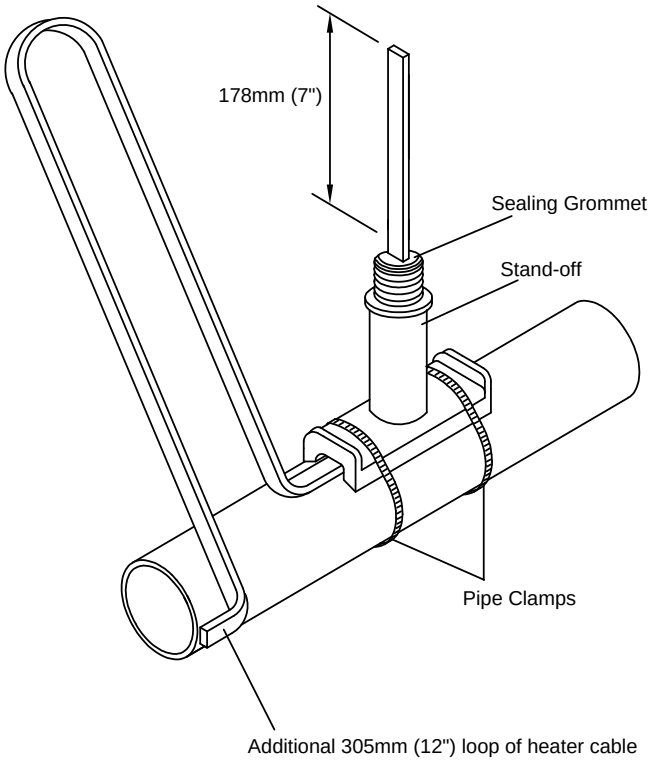
- 1 Junction Box
- 1 Tube of Silicone
- 1 Sealing Compound
- 1 Sealing Grommet
- 1 Conduit Plug
- 2 Pipe Clamps
- 1 Stand-off
- 1 Power Termination
- 1 Terminal Block
- 1 X Fiber
- 1 Seal Fitting
- 1 Male Adapter

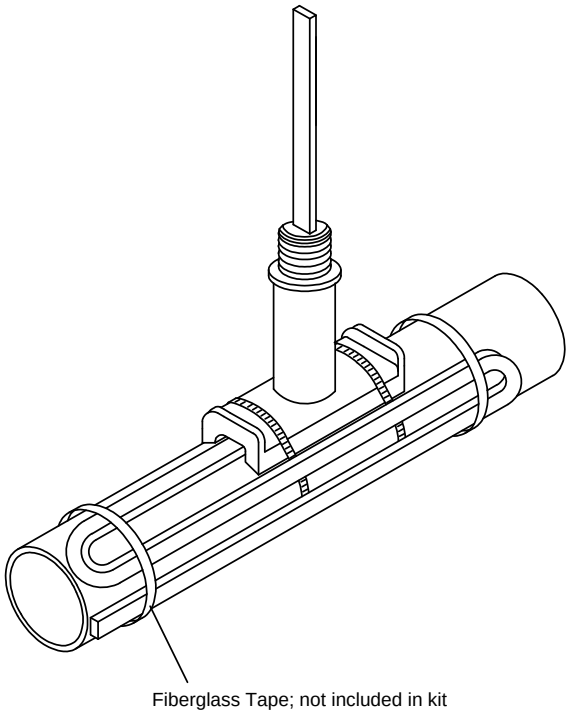


***ITEMS NOT INCLUDED IN KIT**

PO BOX 726 ■ TULSA, OK 74101 ■ (918) 627-5530 ■ FAX (918) 641-7336 ■ www.nelsonheaters.com

STAND-OFF POSITIONING





⚠ WARNING:

Do not install pipe clamps over the heater cable.

❶ Push heater cable through the bottom opening of the stand-off. Allow 178mm (7”) of heater cable for termination. Leave a 305mm (12”) loop of additional cable to be installed after the stand-off is secured.

❷ Mount stand-off to pipe using the pipe clamps included in kit.

❸ Slide the sealing grommet over heater cable and position at stand-off.

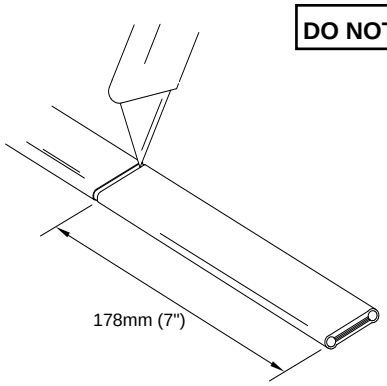
❹ Secure the additional 305mm (12”) of heater to the pipe using fiberglass tape (not included in kit).

❺ Prepare heater cable for termination. Proceed to *“Overjacket Stripping Procedures”* on sheet 3.

OVERJACKET STRIPPING PROCEDURES

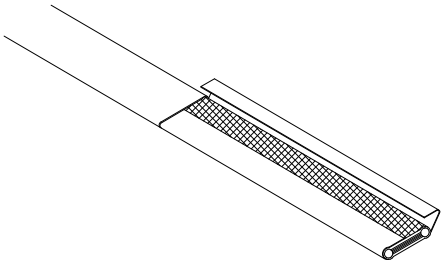
⚠ WARNING:

DO NOT CUT BRAID

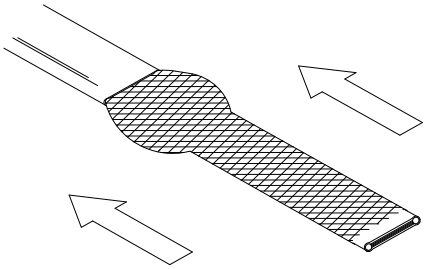


❶ Lightly cut around heater overjacket 178mm (7") from the end. Bend cable to break overjacket.

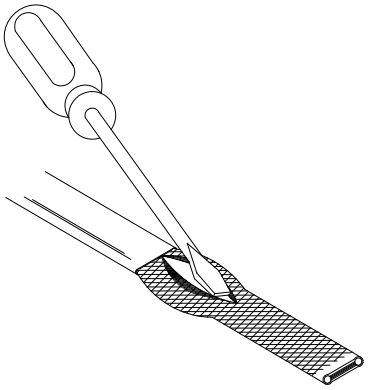
❷ Lightly cut overjacket up the center between first cut mark and the cable end. Bend cable to break overjacket.



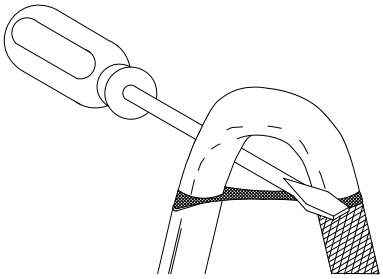
❸ Remove overjacket from heater cable.



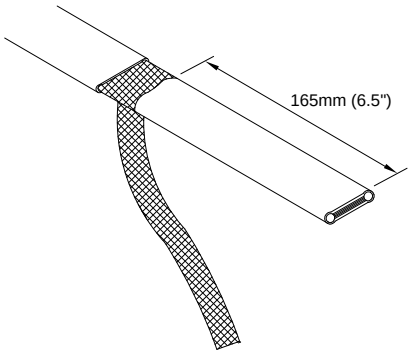
❹ Move braid back toward the overjacket, creating a bulge.



❺ At the bulge, separate the braid to make an opening.



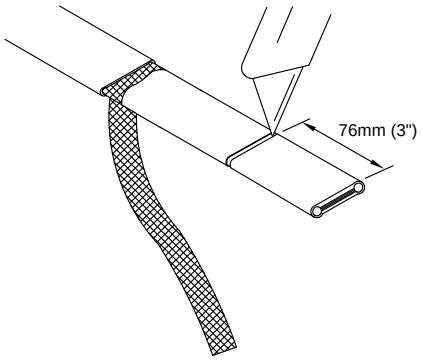
❻ While bending the heater cable, work it through the braid opening.



❼ Pull the braid tight.

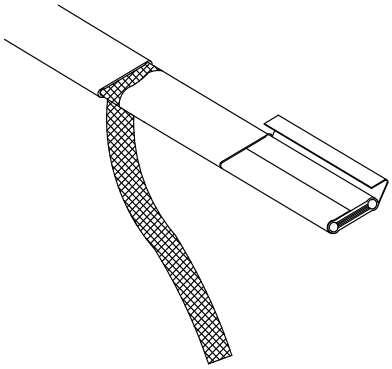
❽ Proceed to *"Outer Jacket Stripping Procedures"* on sheet 4.

OUTER JACKET STRIPPING PROCEDURES

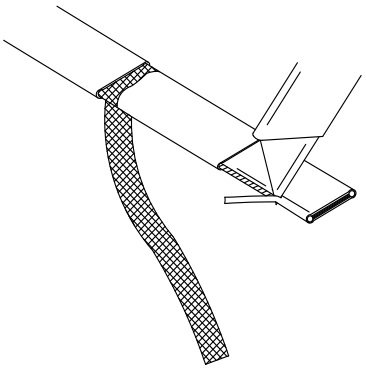


❶ Lightly cut around heater outer jacket 76mm (3") from the end. Bend cable to break outer jacket.

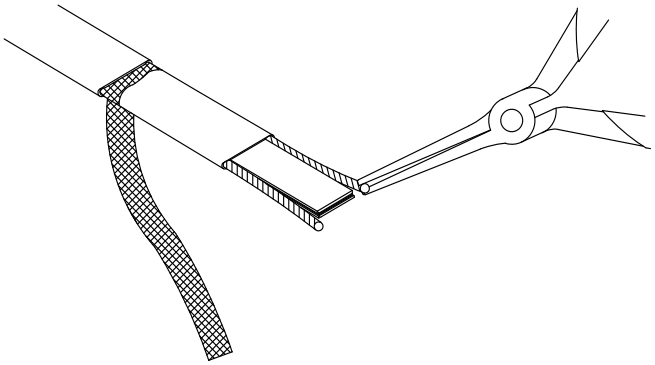
❷ Lightly cut the outer jacket up the center between the first cut mark & the cable end. Bend cable to break outer jacket.



❸ Remove the jacket from the heater cable.

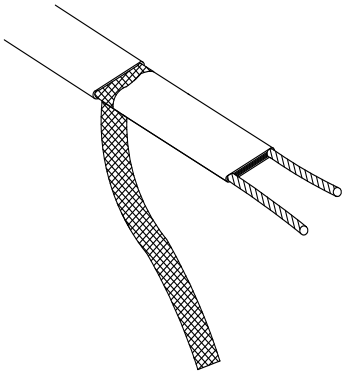


❹ Shave the core material from the outside of each bus wire.



❺ Starting at the end, pull each bus wire away from the core material.

❻ Remove exposed core material.



❼ Cut 6mm (0.25") off the end of each bus wire.

❽ Proceed to *"Power Termination"* on sheet 5.

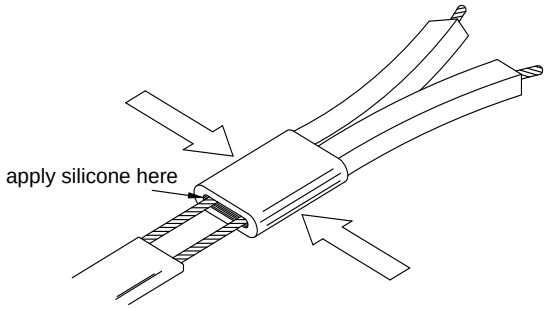
⚠ WARNING:

DO NOT CUT BUS WIRES

POWER TERMINATION

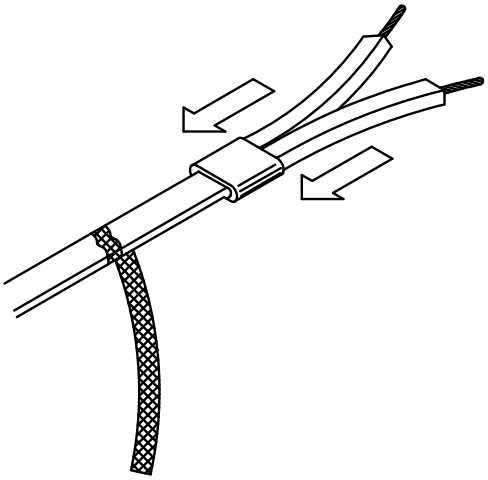
⚠ WARNING:

- **Bus wires must not touch or cross while inserting into power termination.**
- **Only power terminations specifically approved for the vendors style and type of heater cable must be used.**



❶ Insert bus wires into power termination.

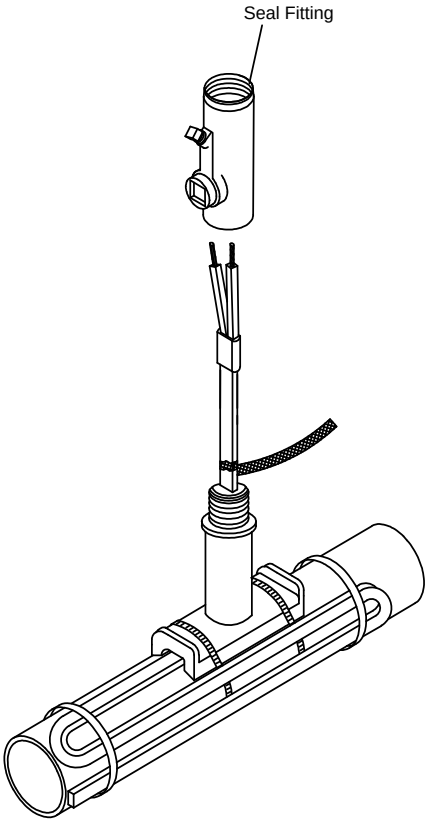
❷ Squeeze power termination opening and fill with silicone.



❸ Push power termination to overlap jacket.

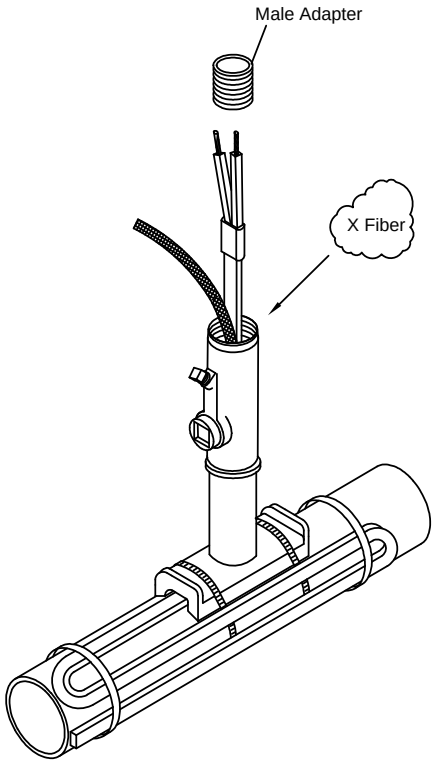
❹ Proceed to *"Seal Fitting Installation"* on sheet 6.

SEAL FITTING INSTALLATION



❶ Slide seal fitting over the heater cable and braid, screw onto the stand-off by hand until snug fit.

Note: The heater cable must be positioned in the seal fitting so the braid transition point is visible through the seal fitting opening. See Detail "A" on sheet 8.

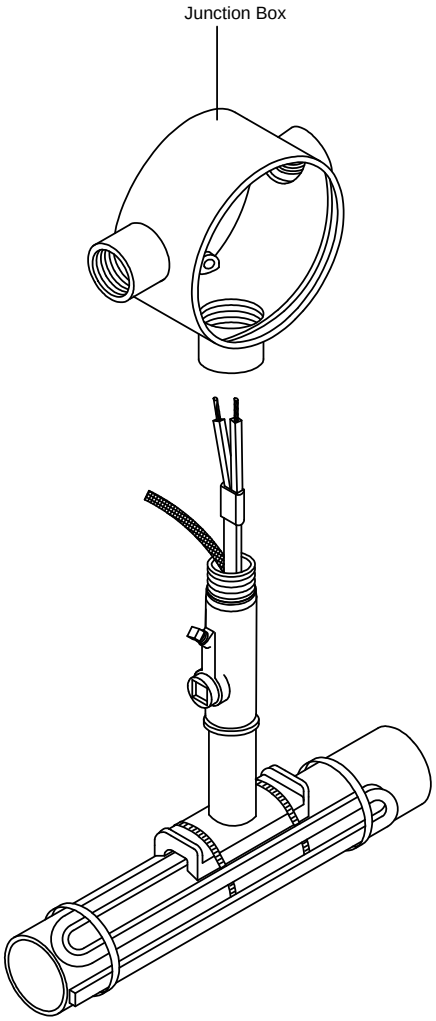


Note: If this kit is mounted in an orientation that would allow the sealing compound to flow out, place packing material (X Fiber) around the heater cable.

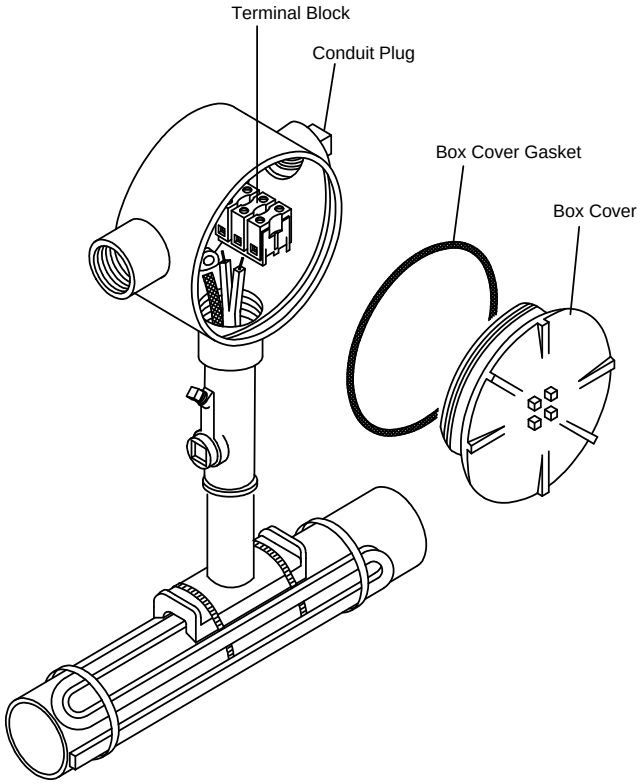
❷ Slide male adapter over the heater cable and braid, screw into seal fitting by hand until snug fit.

❸ Proceed to *"Sealing Compound Procedure"* on sheet 7.

SEALING COMPOUND PROCEDURE



❶ Place junction box over the heater cable and braid, screw onto male adapter until secure.



❷ Connect bus wires to terminal block, one per terminal. Connect braid to green ground screw.

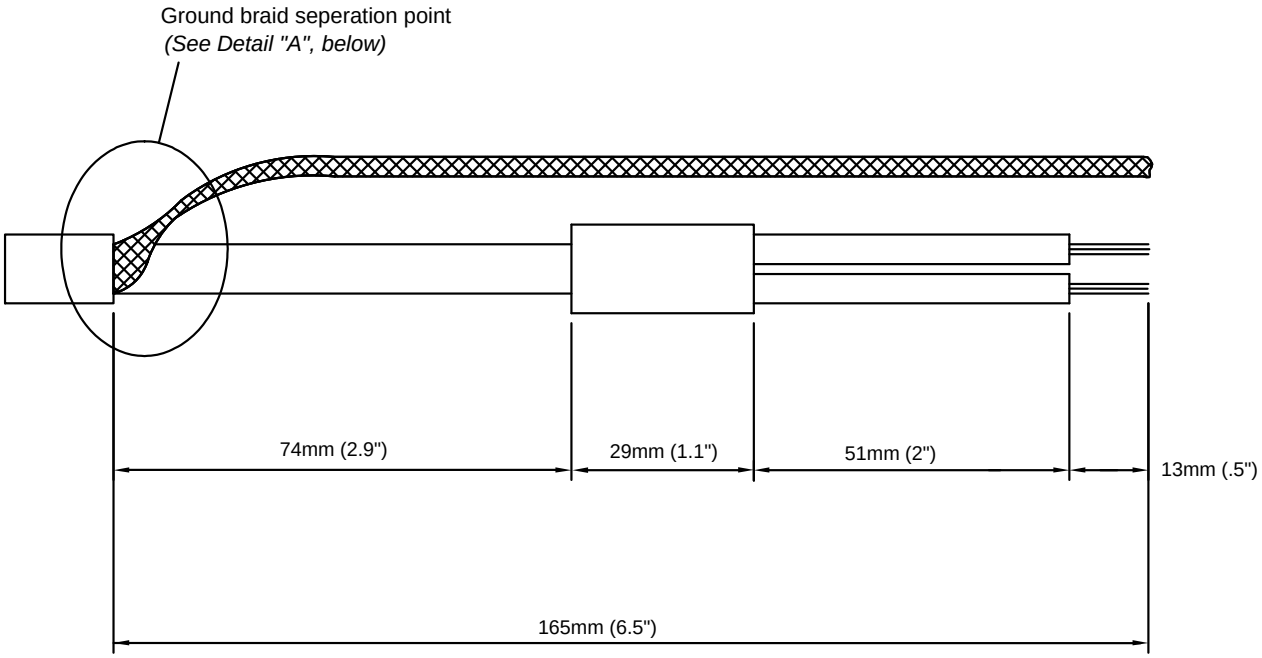
❸ Place the box cover gasket and box cover onto junction box. Plug the unused conduit opening with the conduit plug.

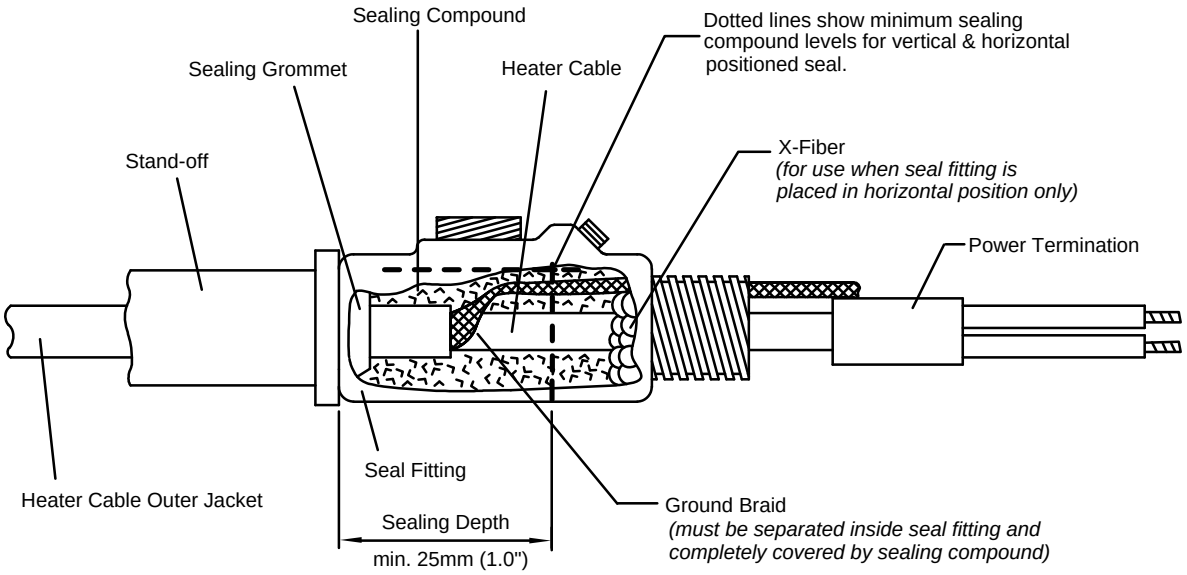
❹ Mix sealing compound according to the instructions on the pouch, (knead to mix liquid and powder in pouch). Snip off a corner of the pouch and fill the seal fitting.

⚠ WARNING:

Sealing compound must completely cover the braid transition point. See Detail "A" on sheet 8 for reference.

TEMPLATE





DETAIL "A"

Nelson Heat Tracing Systems products are supplied with a limited warranty. Complete Terms and Conditions may be found on Nelson's website at www.nelsonheaters.com.

As required by the Factory Mutual approval process, fill out this form and return to:

Nelson Heat Trace
P.O. Box 726
Tulsa, OK 74101

(or)

Nelson Heat Trace
Fax Number (918) 622-9308

Company Name

Purchase Order No.

Circuit Reference (ID Number)

Area Classification
- Auto Ignition Temperature
- Group
- Substance

Heater Information
- Cable Type
- Voltage
- Temperature Identification Number (T-rating)

Termination Kits
- Power Connection
- End Seal
- Splice Connection
- Tee Connection

Ground Fault Equipment Protection (Required)
- Make and Model
- Device Trip Level (mA)

Installation per Manufacturers Installation Instructions	**Initials:**

System Certification

Prepared By	**Company**	**Date**
Prepared By	**Company**	**Date**

This completed form must be returned to Nelson to complete the certification process. A copy of this completed form should be kept for installation record retention purposes.

NELSON™ HEAT TRACING SYSTEMS

HASK-S HAZARDOUS AREA SEAL KIT

INSTALLATION INSTRUCTIONS

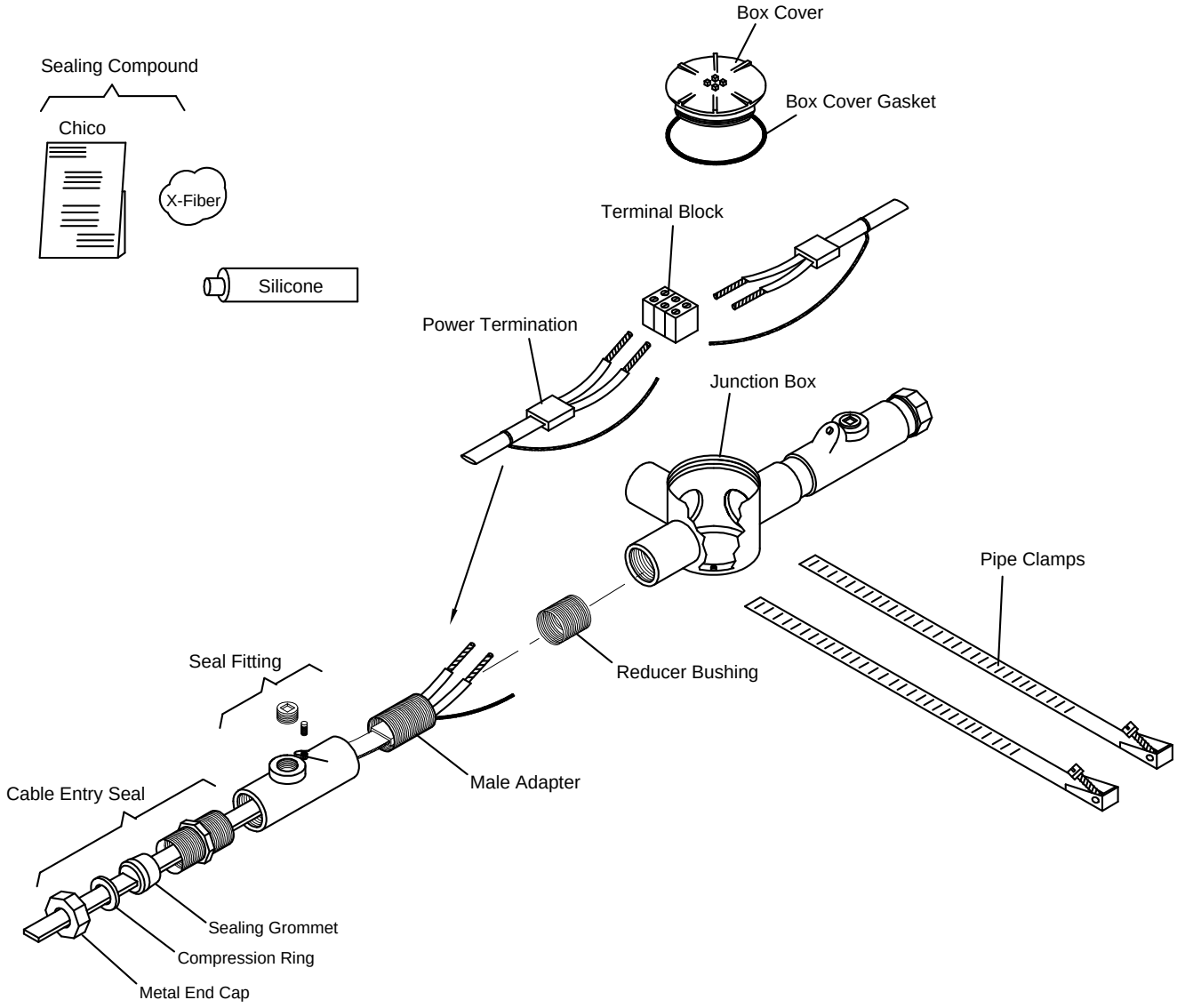
FOR DIVISION 1 CABLE SPLICE TERMINATION & EXPLOSION PROOF SEAL

DESCRIPTION

The HASK-S Hazardous Area Seal Kit provides the cable termination and explosion proof seal parts needed to make all the in-line splice electrical connections associated with all Nelson Heat Tracing Systems' self-regulating heater cables. Minimum installation temperature –40°C (-40°F).

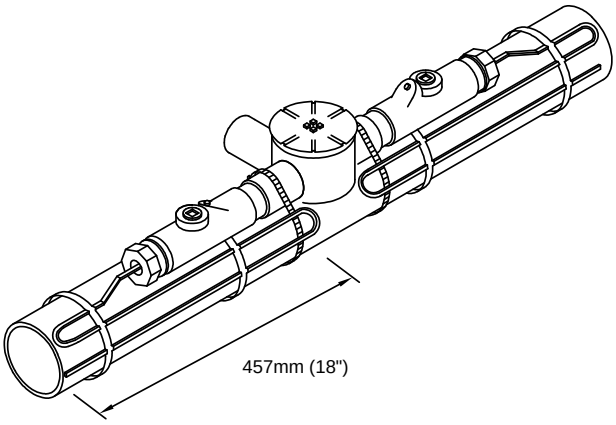
KIT CONTENTS

- 1 Junction Box
- 1 Box Cover Gasket
- 1 Tube of Silicone
- 1 Sealing Compound
- 1 X Fiber
- 2 Pipe Clamps
- 2 Seal Fittings
- 2 Male Adapters
- 2 Reducer Bushings
- 2 Power Terminations
- 1 Terminal Block
- 2 Cable Entry Seals
- 1 Conduit Plug

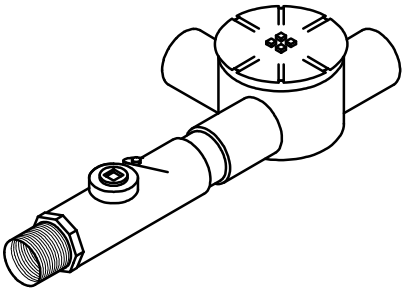


P.O. BOX 726 ■ TULSA, OK 74101 ■ TEL 918-627-5530 ■ FAX 918-641-7336 ■ www.nelsonheaters.com

JUNCTION BOX CONNECTION



❶ Allow 457mm (18”) of heater cable for each side to compensate for heat loss of the termination kit.

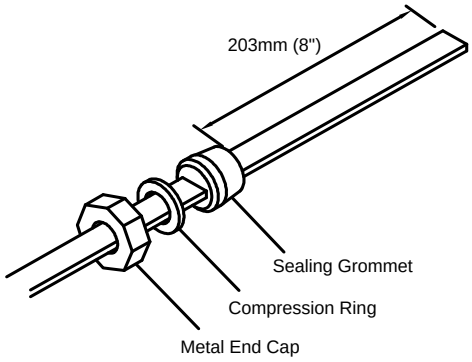


❷ Thread the reducer bushing into the junction box. Then thread the male adapter into the reducer bushing. Finally, thread the seal fitting into the male adapter. Tighten to a minimum of 5 full threads of engagement.

Note: If the seal fitting is to be mounted in vertical position, mount with the slanted small hole plug upwards.

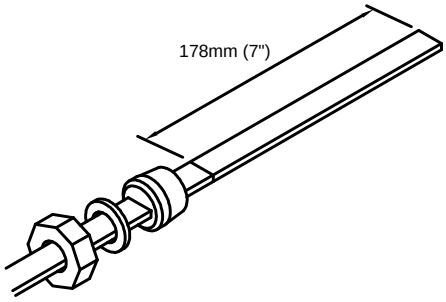
❸ Remove the metal end cap, black compression ring and sealing grommet from the cable entry seal and thread the cable entry seal into the seal fitting. Tighten to a minimum of 5 full threads of engagement.

❹ Repeat steps 2-3 for the other seal fitting.



❺ Slide a metal end cap, compression ring and sealing grommet over each heater cable. Position each sealing grommet 203mm (8”) from each heater cable end.

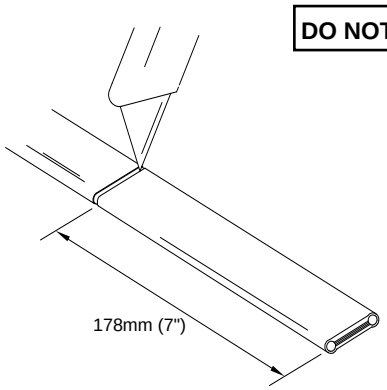
Note: Each metal end cap, compression ring and sealing grommet must be oriented to fit correctly into each cable entry seal.



❻ Prepare all heater cables for termination. Proceed to *“Overjacket Stripping Procedures”* on sheet 3.

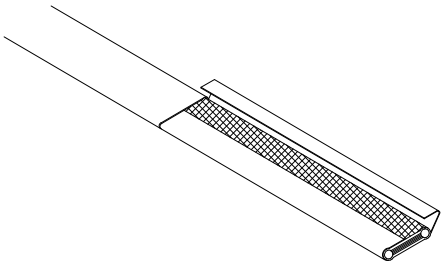
OVERJACKET STRIPPING PROCEDURES

⚠ WARNING:
DO NOT CUT BRAID

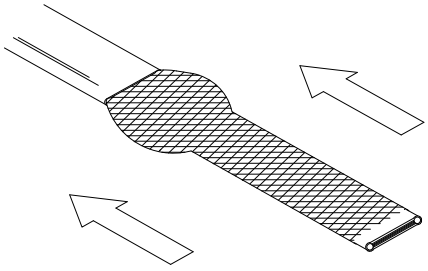


❶ Lightly cut around heater overjacket 178mm (7") from the end. Bend cable to break overjacket.

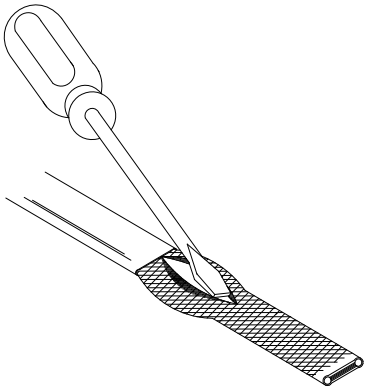
❷ Lightly cut overjacket up the center between first cut mark and the cable end. Bend cable to break overjacket.



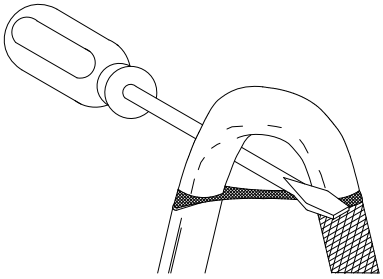
❸ Remove overjacket from heater cable.



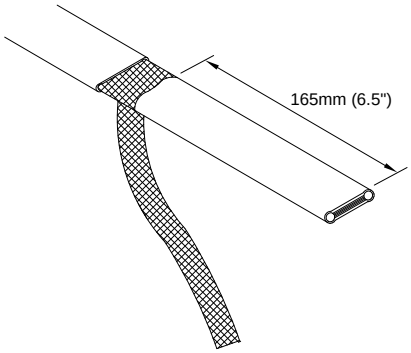
❹ Move braid back toward the overjacket, creating a bulge.



❺ At the bulge, separate the braid to make an opening.



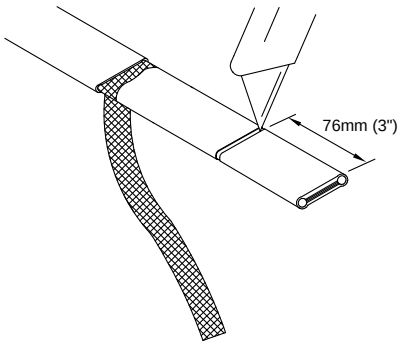
❻ While bending the heater cable, work it through the braid opening.



❼ Pull the braid tight.

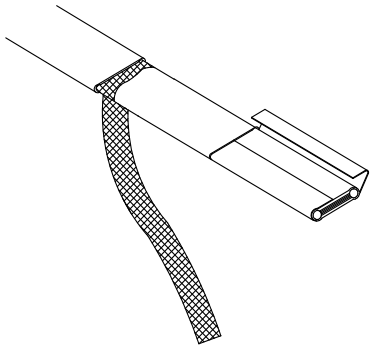
❽ Proceed to *"Outer Jacket Stripping Procedures"* on sheet 4.

OUTER JACKET STRIPPING PROCEDURES

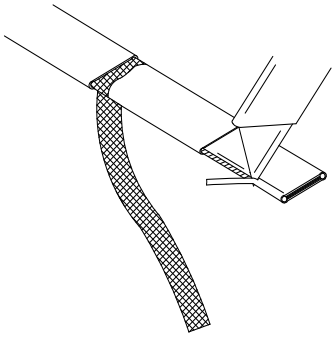


❶ Lightly cut around heater outer jacket 76mm (3") from the end. Bend cable to break outer jacket.

❷ Lightly cut the outer jacket up the center between the first cut mark & the cable end. Bend cable to break outer jacket.



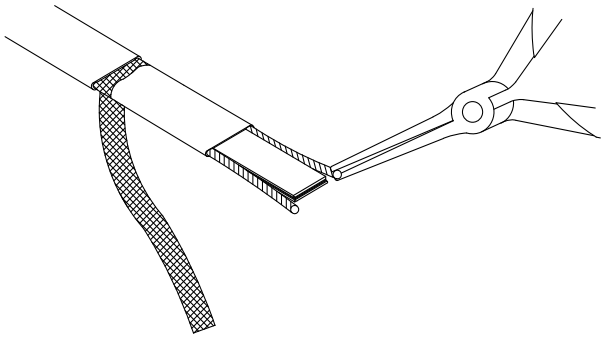
❸ Remove the jacket from the heater cable.



❹ Shave the core material from the outside of each bus wire.

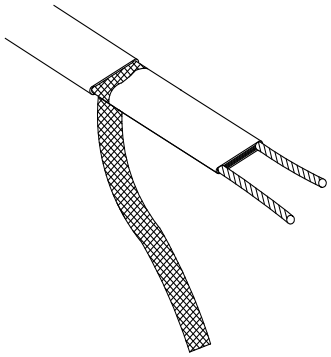
⚠ WARNING:

DO NOT CUT BUS WIRES



❺ Starting at the end, pull each bus wire away from the core material.

❻ Remove exposed core material.



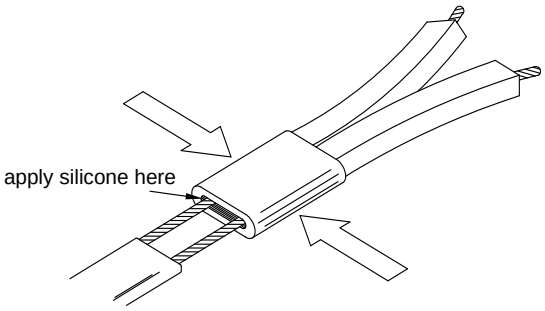
❼ Cut 6mm (0.25") off the end of each bus wire.

❽ Proceed to *"Power Termination"* on sheet 5.

POWER TERMINATION

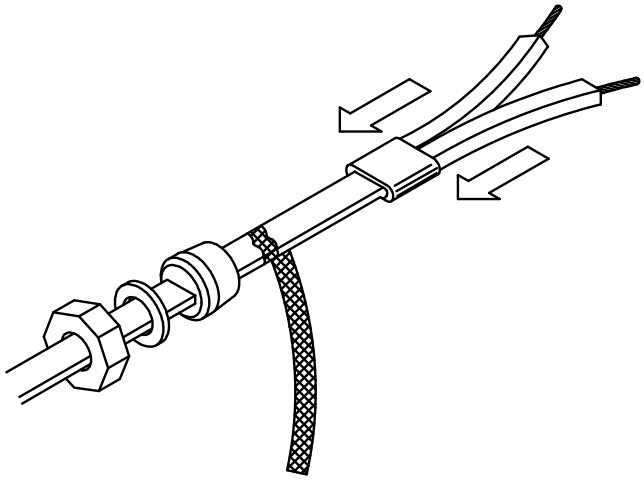
⚠ WARNING:

- **Bus wires must not touch or cross while inserting into power termination.**
- **Only power terminations specifically approved for the vendors style and type of heater cable must be used.**



❶ Insert bus wires into power termination.

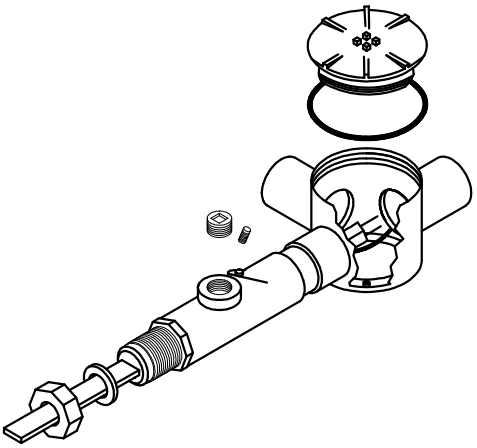
❷ Squeeze power termination opening and fill with silicone.



❸ Push power termination to overlap jacket.

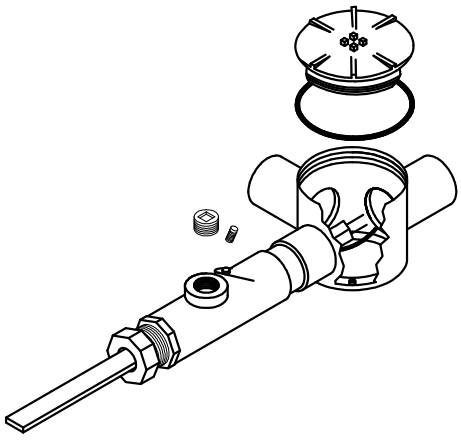
❹ Proceed to *"Seal Fitting Installation"* on sheet 6.

SEAL FITTING INSTALLATION



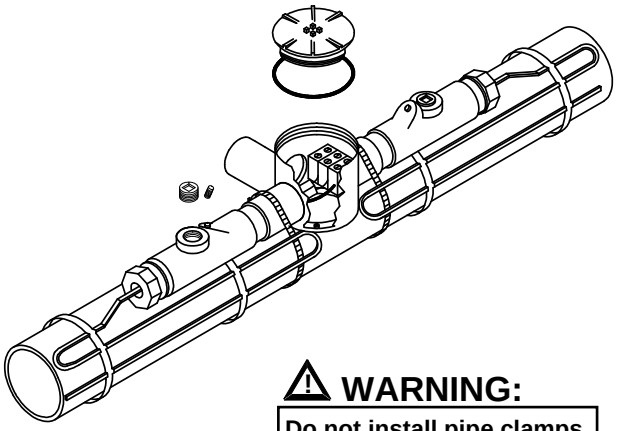
❶ Remove box cover and box cover gasket from junction box; place a power termination through each cable entry seal and seal fitting. Slide forward until the sealing grommet is flush with the entry seal.

Note: The heater cable must be positioned in the seal fitting so the braid transition point is visible through the seal fitting opening. See Detail "A" on sheet 8 for example.



❷ Slide the compression ring and metal end cap forward and thread onto the cable entry seal. Tighten to 51 foot pounds.

❸ Repeat steps 1-2 for the other seal fitting.



⚠ WARNING:

Do not install pipe clamps over the heater cables.

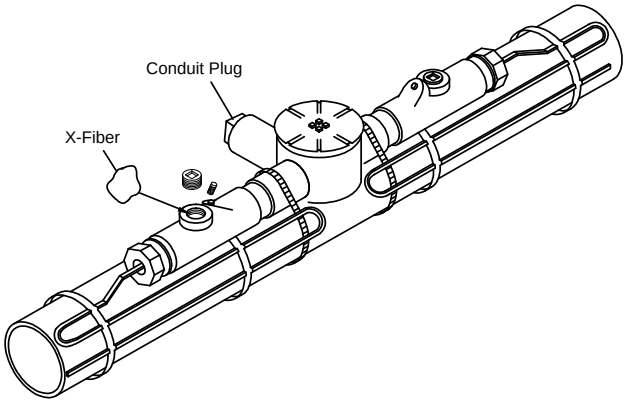
❹ Mount the junction box to pipe using pipe clamps.

❺ Connect bus wires to the terminal block. Connect ground braid from both heater cables to green ground screw.

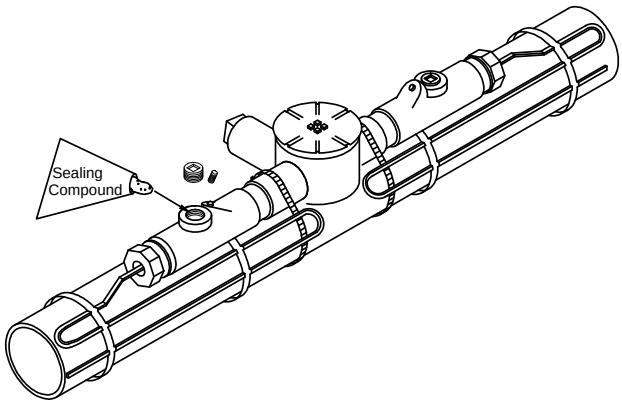
❻ Place the box cover gasket and box cover onto the junction box and plug the unused conduit opening using the conduit plug.

❼ Proceed to *"Sealing Compound Procedure"* on sheet 7.

SEALING COMPOUND PROCEDURE



❶ Center the heater cable in the conduit opening. Using the X fiber, pack around the heater cable forming a dam to hold the sealing compound.

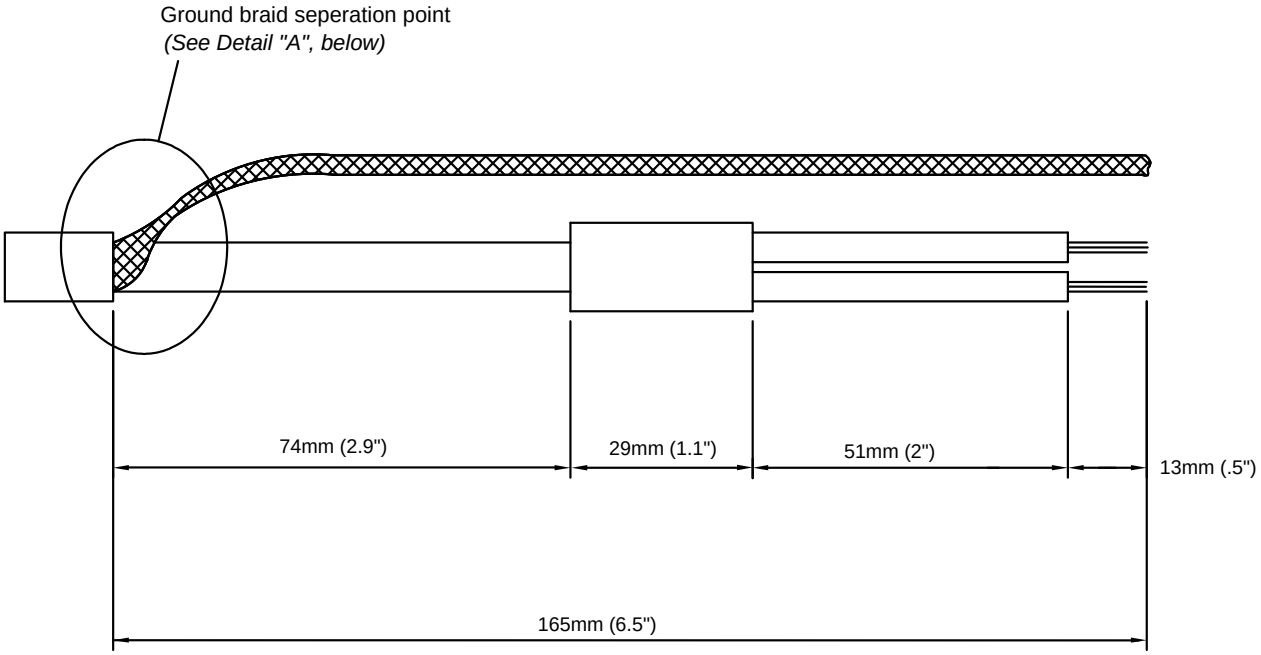


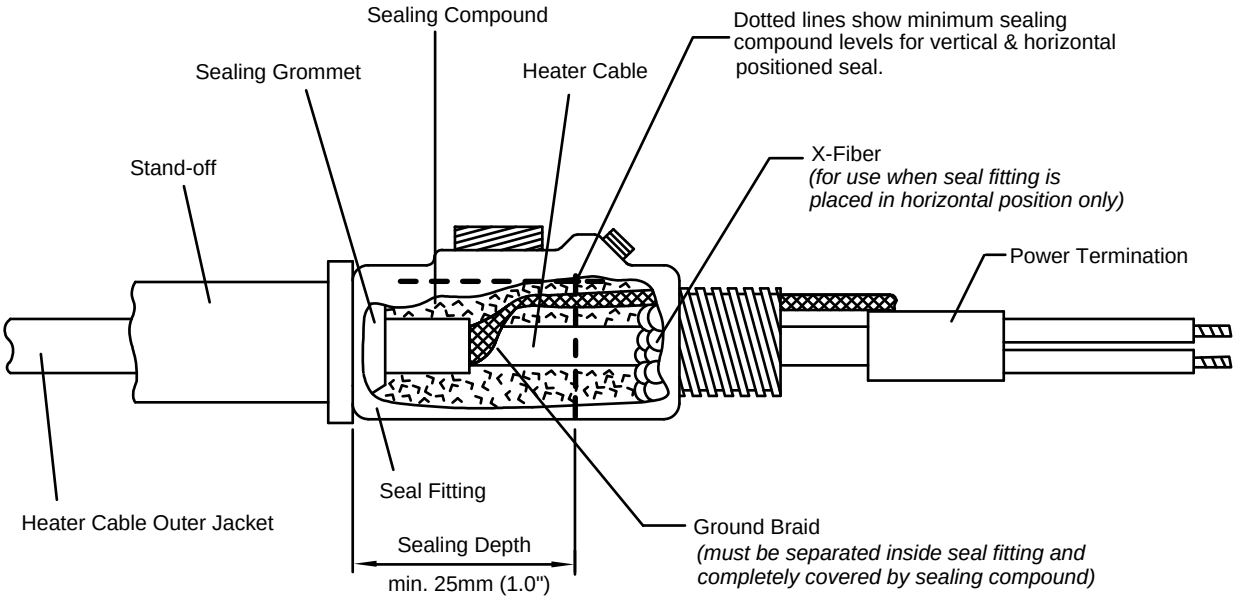
❷ Mix the sealing compound according to instructions on the pouch, (knead to mix liquid and powder in pouch). Snip off a corner of the pouch and fill the seal.

⚠ WARNING:

Sealing compound must completely cover the braid transition point. See Detail "A" on sheet 8 for reference.

TEMPLATE





DETAIL "A"

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