

Instruksjon/Instruction

Skjøting, terminering og tilkobling av selvbegrensende varmekabel i ikke-Ex-områder
Splicing, termination, and connection of self-limiting heating cables in non-Ex areas

English:

Content:

Splicing to cold lead:

2 pcs	3x25 mm heat shrink tubings for conductors
1 pc	3x25 mm heat shrink tubing for ground conductor (y/g)
1 pcs	12x20 mm heat shrink tubings
1 pc	20/6x150 mm heat shrink tubing
2 pcs	Insulated crimp connectors
1 pc	Crimp connector 1.5 – 2.5 mm ²
1 pc	120 mm vulcanizing tape

Termination and connection:

2 pcs	3x80 mm heat shrink tubings for conductors (black)
1 pc	3x80 mm heat shrink tubing for ground wire (g/y)
2 pcs	12x30 mm heat shrink tubings
1 pc	16x60 mm heat shrink end cap
1 pc	Instruction

Tools needed:

Knife
Flat pliers
Crimp connector tool
Wire-cutter
Hot air gun with reflecting shield

1. Splicing to cold lead:

Preparation of power connection end:

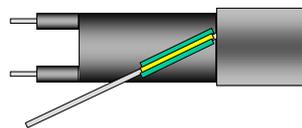
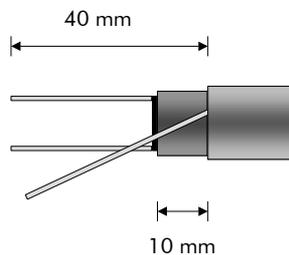
Strip back the outer sheath by 40 mm. Remove the aluminium foil, and free the ground conductor. Carefully remove approx. 30 mm of the inner sheath so that the black semi-conductive core is completely exposed, and approx. 10 mm is left.

Carefully strip back the conductive core to expose the conductors. Ensure that they are not damaged.

Cut the free overshooting core material away.

Insulate the conductors by using the two small 3x25 mm black heat shrink tubings. The ground conductor is insulated by using the 3x25 mm yellow/green heat shrink tubing. Heat and shrink down.

Pull one 12x20 mm heat shrink tubing over the two conductors and the remaining inner sheath. Shrink and pinch the cable angle with small pliers whilst the heat shrink tubing is still hot.



Norsk:

Innhold:

Montering av tilleder:

2 stk.	3x25 mm krympeslanger for lederne
1 stk.	3x25 mm krympeslange for jordleder (g/g)
1 stk.	12x20 mm krympeslanger
1 stk.	20/6x150 mm krympeslange
2 stk.	Isolerte presshylser
1 stk.	Presshylse 1,5 – 2,5 mm ²
1 stk.	120 mm vultkape

Terminering og tilkobling:

2 stk.	3x80 mm krympeslanger for lederne
1 stk.	3x80 mm krympeslange for jordleder (g/g)
2 stk.	12x30 mm krympeslanger
1 stk.	16x60 mm krympehette
1 stk.	Instruksjon

Nødvendig verktøy:

Kniv
Flattang
Presshylsetang
Avbitertang
Varmluftpistol med reflektor

1. Montering av tilleder:

Klargjøring av tilkoblingsenden:

Avisoler ytre kappe i angitt lengde (40 mm). Fjern aluminiumsfolien, og frigjør jordlederen.

Avisoler ca. 30 mm av indre kappe forsiktig slik at det svarte halvledende kjernematerialet er fullstendig avdekket og ca. 10 mm er igjen.

Tre de to kobberlederne ut fra kjernematerialet ned til kanten av den indre kappen. Påse at de ikke blir skadet.

Klipp bort mellomliggende overflødig kjerne-materiale.

Trekk de to tynne, svarte 3x25 mm krympeslangene over hver av lederne, og den gul/grønne over jordlederen. Varmes og krympes.

Tre en 12x20 mm krympeslange over de to lederne og de gjenværende 10 mm av indre kappe, og varm opp. Klem sammen med en liten tang mellom lederne mens krympeslangen ennå er varm.



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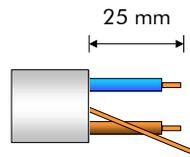
Preparation of the cold lead:

Use a cable type appropriate for the area.

Dismantle the outer sheath by 50 mm

Free the ground conductor, and push back the braid if any.

Cut off 25 mm conductor and dismantle approx. 7 mm.



Splicing:

Pull the outer 20/6x150 mm heat shrink tubing over the cold lead cable.

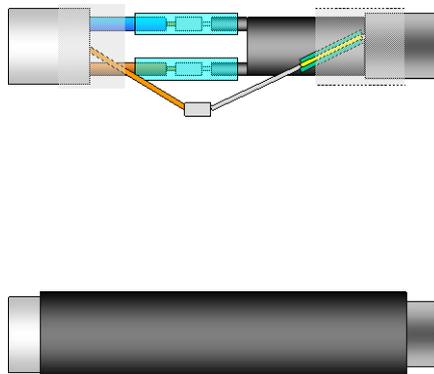
Splice the conductors by using the insulated crimp connectors. NB! Use the correct tool! Heat and shrink.

Splice the ground conductors by using the uninsulated crimp connector.

Cover the end of the outer sheath both on the cold lead and the heating cable with vulcanizing tape. Stretch the tape when applying.

Cover the entire splice with the outer heat shrink tubing, and shrink down. Start from the center of the splice, and work towards both ends. Make sure that the heat is applied around the tubing, and that overheating is avoided. If the tubing starts to get glossy, it is a sign of overheating. Stop heating when the outer tubing is tight and some excess liquid sealant protrudes from both ends.

Allow the finished splice to cool off for 5 to 10 minutes.



Klargjøring av tillederen:

Bruk tilleder godkjent for det området kableen skal monteres i, f.eks. PFSP. Avisoler ytre kappe 50 mm.

Trekk jordlederen fri og brett evt. skjerm tilbake.

Kapp lederne 25 mm tilbake og avisoler ca. 7 mm.

Skjøting:

Tre den ytre 20/6x150 mm krympeslangen inn over tillederen.

Skjøt lederne med de isolerte pressshylsene. NB! Husk riktig pressverktøy! Hylsene varmes og krympes.

Jordlederne skjøtes sammen med den uisolerte pressshylsen.

Ytterkappe-enden på både varmekableen og tillederen omvikles med vulktape. Strekk tapen under påføring.

Sentrer den ytre krympeslangen over skjøten og krymp ned med varmluftpistol. Start fra midten og fortsett utover mot hver side. Hvis krympeslangen begynner å bli blank, er det et tegn på overoppheting. Avslutt når noe lim kommer til syne i hver ende.

La skjøten avkjøles i 5 til 10 minutter etter nedkrymping.



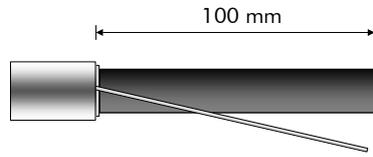
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2. Connection

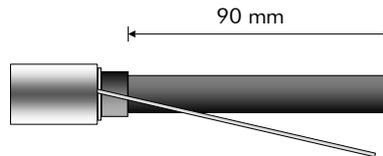
Note that this operation applies when the heating cable is to be connected directly into a junction box without a cold lead.

Preparation of connection end:

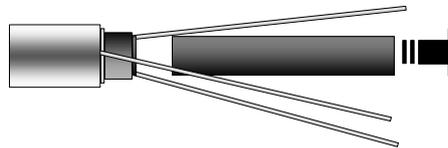
Strip back the outer sheath by approx. 100 mm. Remove the overshooting aluminium foil, and free the ground conductor.



Carefully remove the inner sheath by approx. 90 mm so that the black semi-conductive core is completely exposed. Leave approx. 10 mm of the inner sheath.

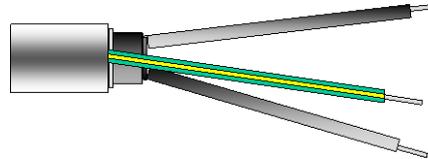


Carefully strip back the conductive core to expose the bus-bars. Ensure that they are not damaged.

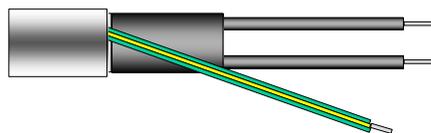


Cut off and remove the overshooting free end of the semi-conductive core material.

Pull the two slim 3x80 mm heat shrink tubings over each of the bus-bars, and the yellow/green one over the ground conductor. Heat and shrink down.



Pull the 12x30 mm heat shrink tubing over the two conductors. Shrink and pinch the cable angle with small pliers whilst the heat shrink tubing is still hot.



This end is now ready for connection directly into a junction box.

2. Tilkobling

Merk at denne operasjonen kun er nødvendig når varmekabelen skal kobles direkte i en koblingsboks uten tilleder.

Klargjøring av tilkoblingsenden:

Avisoler ytre kappe med ca. 100 mm. Fjern aluminiumsfolien, og frigjør jordlederen.

Indre kappe avisoleres forsiktig slik at the svarte, halvledende kjernematerialet er fullstendig avdekket.

Tre de to lederne ut fra kjernematerialet ned til kanten av indre kappe. Påse at de ikke blir skadet.

Klipp bort mellomliggende, overflødig kjerne-materiale.

Tre de to tynne 3x80 mm krympeslangene på hver av lederne, og den gul/grønne på jordlederen. Varmes og krympes ned.

Tre en 12x30 mm krympeslange over de to lederne og de gjenværende 10 mm av indre kappen, og varm opp. Klem sammen med en liten tang mellom lederne mens krympeslangen ennå er varm.

Tilkoblingsenden er nå klar for tilkobling direkte i en koblingsboks.

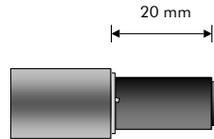


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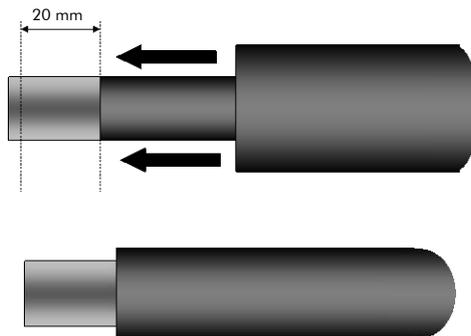
3. End termination

Strip back the outer sheath by 20 mm.

Remove the aluminium foil and cut away the ground conductor at the end of the outer sheath. Pull a 12x30 mm heat shrink tubing over the end in to the edge of the outer sheath. Shrink down and pinch the end of the tubing with small flat pliers. If the tubing is moving during shrinking, push it towards the outer sheath.



Fold the pinched end of the tubing inwards, and pull the larger heat shrink end cap over the end until it overlaps the outer sheath by min. 20 mm. Shrink down with a heat source until some glue protrudes from between the end cap and the outer sheath.



Final control before installation:

(Applies to all operations described in this instruction leaflet)

Each cable length/section of the installation should be tested before fitting the pipe insulation.

Ground connection:

Test all ground connections with a DC ohmmeter in order to ensure that all connections are electrically sound.

Insulation resistance:

Test the insulation resistance with a min. 500 V insulation tester (megger) between live/neutral conductors and ground.

Validity

This instruction covers self-limiting heating cable types DEFROST PIPE and WARM WATER PIPE delivered by Nexans Norway AS for connection to 220 – 240 V AC systems. The cables can be cut-to-length within the limitations given in the data sheets for these cable types.

3. Endeavslutning

Avisoler 20 mm av ytre kappe.

Fjern aluminiumsfolien, og kutt jordlederen ved kanten av ytre kappe. Tre én 12x30 mm krympeslange over enden inn til kanten av ytre kappe. Krymp og klem sammen den ytre delen av krympeslangen med en flattang. Hvis slangen glir under krymping, skyv den inn mot ytterkappen.

Brett den klemte enden på slangen inn, og tre på endehetten slik at den overlapper ytterkappen med min. 20 mm. Krymp endehetten til lim presses ut mellom endehetten og ytterkappen

Kontroll før installasjon:

[Gjelder alle operasjoner beskrevet i dette monteringsanvisningen]

Hver kabellengde/seksjon skal kontrolleres før rørisolasjon monteres.

Jordingsforbindelser:

Test alle jordingsforbindelser med et DC ohmmeter for å kontrollere at alle forbindelser er i orden og at de har god kontakt.

Isolasjonsmotstand:

Test isolasjonsmotstanden med en min. 500 V isolasjonstester (megger) mellom faselederne sammenkoblet og jordleder.

Gyldighet

Denne anvisningen omfatter selvbegrensende varmekabeltyper DEFROST PIPE og WARM WATER PIPE levert av Nexans Norway AS for tilkobling til 220 – 240 V AC systemer. Kablene kan kuttes i vilkårlige lengder innenfor de begrensningene som er angitt i kablens produktblader.



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