guiding connections

IDS 29 BRANCHING NOVONET AERIAL - GELWRAP

FIELD OF APPLICATION
Installation of Aerial branch with gelwrap

PRODUCTS
Novonet Aerial
Novonet aerial drop duct
Aerial branch off closure, art. 4056416.

CONTENTS
- Preparing Novonet Aerial window cut
- Preparing drop duct for branch off
- Installing the branch off gelwrap

TOOLS NEEDED
- Web slitter
- Circumferential cutter
- Longitudinal cutter
- Microduct cutter
- Pincer
- Tool for tightening tie wraps

PRECHECKS BEFORE INSTALLATION
Check whether the installation temperatures are within the field of application.

INSTALLATION CONDITIONS
Respect product performance as described in TDS documents.

SPECIAL RECOMMENDATIONS
When separating the messenger from the Novonet part, make sure to cut parallel to the duct in order to prevent damage to the duct system.

The circumferential cutter is prepared to the right depth according to the thickness of the outer- and inner sheath of the Novonet aerial. This will make sure that circumferential cuts will have to be made only once whereas the inner microducts will not be damaged.

SAFETY
General safety rules should be respected all times, in addition it is recommended to wear protection gloves during installation.
In case of questions, do not hesitate to contact Wavin.

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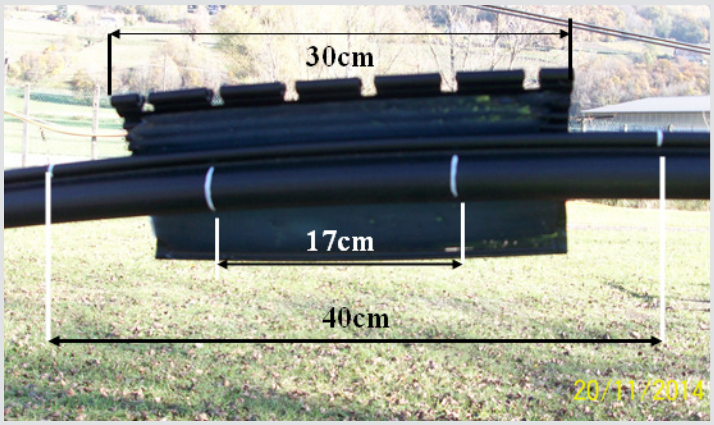
PREPARING NOVONET AERIAL WINDOW CUT



1. Measure the size of the gelwrap. Keep 75 mm free at both sides for a good sealing

2. Connect the Web slitter to the duct at the place of the web and make sure to lock it. Separate the messenger from the Novonet part by moving it back and forth. Remove the messenger over a distance of 40 cm.

3. Cut around the Novonet at the two inner markings, using a circumferential cutter

4. Remove the outer sheet with longitudinal cutter

5. Resulting a window cut

PREPARING DROP DUCT FOR BRANCH OFF

1. Remove the outer sheath of the drop at the place of the yarn with a cutter

2. Cut the outersheath at a length of 20 cm with a microduct cutter and open it using the yarn as a ripcord.

3. Remove the outersheath, using a standard pincer

4. Cut the innersheath with the microduct cutter and remove it

5. Final result

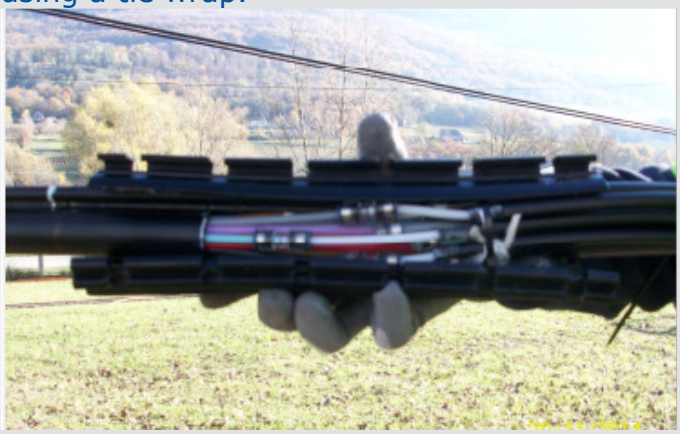
INSTALLING THE BRANCH OFF CLOSURE

1. Cut the Microduct of the Figure 8 Novonet

4. Connect the ducts with the connector, close the end with a endstop

3. Connect the drop ducts on the connector and fasten the yarn to the Novonet Aerial using a tie wrap.

4. Continuation



5. Place the gelwrap over the branch off and close it by firmly pressing the bottom part together.

6. Tightn the gelwrap with cable ties using a tool.

guiding connections

IDS 26 NOVONET AERIAL

FIELD OF APPLICATION
Installation of Aerial products

PRODUCTS
Novonet Aerial
Novonet Aerial single DB
Anchoring clamps ACFO1214 (art. 4053549) or
Anchoring clamps ACADSS8 (art. 4053550)
Suspension clamps SC711C (art 4037481)

CONTENTS
- Installation types
- Fixing anchoring clamps
- Fixing with suspension clamp

TOOLS NEEDED
- Universal pole bracket
- Bolts 14-16 mm or pole bandings with 2 buckles
- Temporary rollers
- Come-along clamp
- Winch
- Dynamometer
- 13mm 6-points spanner
- Tensioner

PRECHECKS BEFORE INSTALLATION
Check whether the installation temperatures are within the field of application.
Check the maximum load of the Novonet aerial product (see TDS)

INSTALLATION CONDITIONS
See IDS 27 for installing an aerial branch.

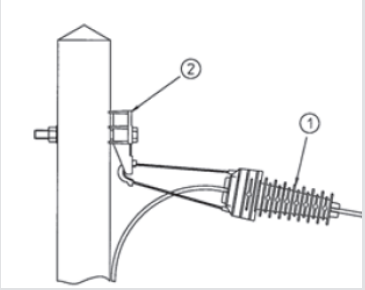
SPECIAL RECOMMENDATIONS
Take care to not pull more than the maximum load of the Novonet aerial product.
On a pole with an angle between 70° and 90°, use a tensioner between the ACFO1214 and the pole for a better bending radius of the Novonet aerial assembly.

SAFETY
General safety rules should be respected all times, in addition it is recommended to wear protection gloves during installation.
In case of questions, do not hesitate to contact Wavin.

1. INSTALLATION

Different installation are possible

End poles: dead-ending

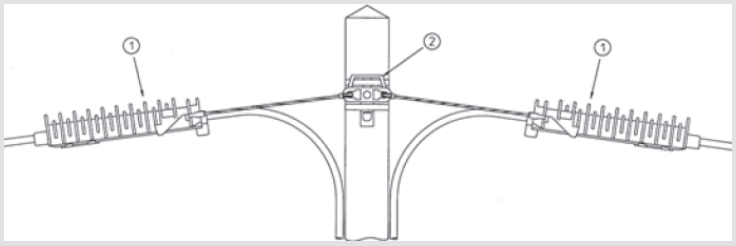


Consisting of:
1 anchoring clamp ACFO1214 (1) and
1 universal pole bracket (2)

Securing:
1 bolt Ø 14 or 16mm (drilled poles) or
2 pole bandings with 2 buckles.

Jointing poles: double head-ending
Used in the following cases

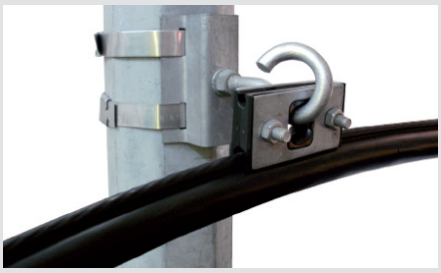
1. Intermediate angle poles (when route deviates by more than 20 °
2. When two spans are different in length
3. In hilly landscapes



Consisting of:
2 anchoring clamp ACFO1214 (1) and
1 universal pole bracket (2)

Securing:
1 bolt Ø 14 or 16mm (drilled poles) or
2 pole bandings with 2 buckles.

Jointing poles: double head-ending
Used at intermediate poles when route deviates less than 20°



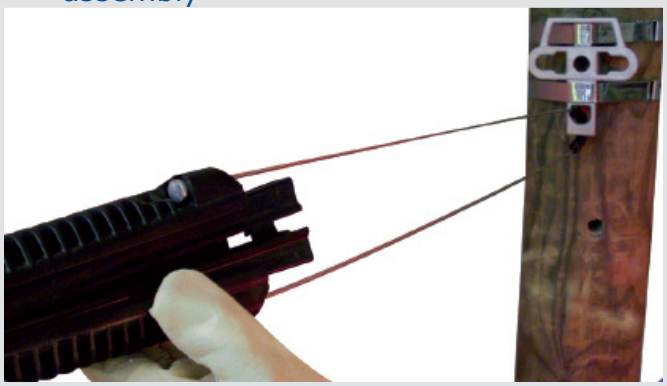
Consisting of:
1 suspension clamp SC711C

Securing:
Universal pole bracket, hook bolt and 2 pole bands or
14-16 mm hook bolt

2. FIXING WITH ANCHORING CLAMPS (ACFO1214 AND ACADSS8)

1. The anchoring clamp ACFO1214 is used on the messenger of the Novonet aerial assembly

2. The anchoring clamp ACADSS8 is used on the Novonet aerial drop duct



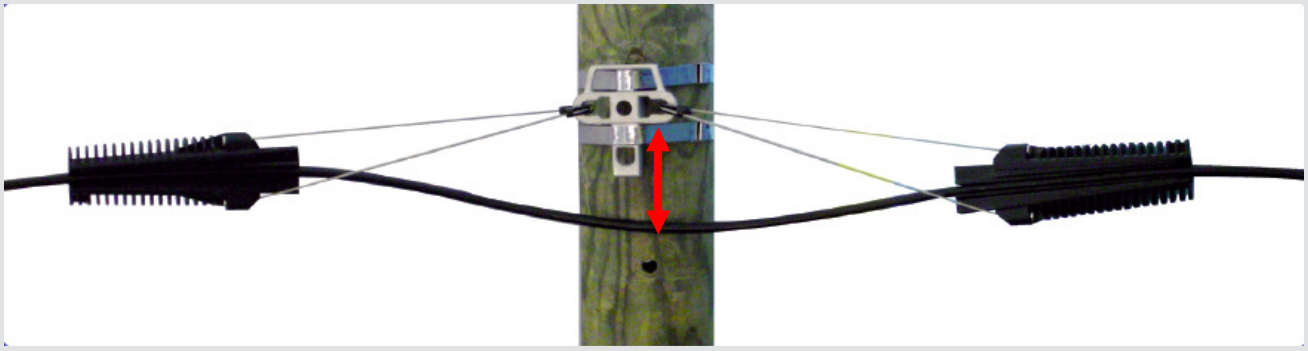
3. The clamp is attached to the pole fitting by means of its bail.

4. The clamp body is placed over the Novonet aerial with the wedges in their back position.

5. Push the wedges by hand to initiate the gripping on to the Novonet

6. Check the correct positioning of the Novonet between the wedges.

2. FIXING WITH ANCHORING CLAMPS (continuation)



7. When the Novonet aerial is brought to its installation load at the end pole, the wedges move further into the clamp body and grip onto the messenger outer sheath or the drop duct.

8. When installing a double dead-end leave some extra length (approx. 15 cm at 20 °C) of Novonet between the two clamps.

.

a

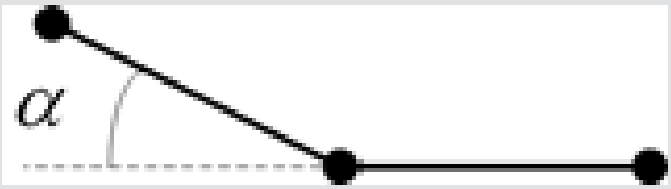
b

c

9. Tension the Novonet to its full installation load using a come-along clamp (a), a winch (b) and a dynamometer (c) before installation of the ACFO1214 on the messenger of Novonet aerial.
Respect the maximum tension as indicated in the TDS

10. Use a tensioner between the ACFO1214 and the pole to be able to create a better bending radius of the Novonet aerial assembly.

3. FIXING WITH SUSPENSION CLAMP (SC711C)

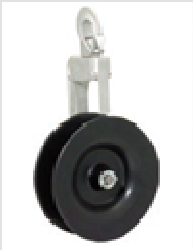


On a hook bolt

1. Secure pole brackets or hook bolts at all intermediate poles with angle <20°. The brackets and/or hook bolts should be positioned on the pole perpendicular to the cable route.

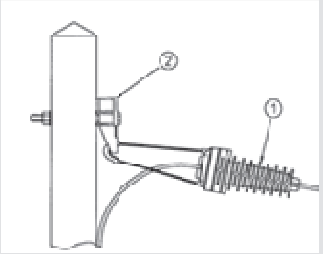
2. The clamp can also be installed on a 14mm or 16mm hook bolt on drilled wood poles.
   The length of the hook bolt depends on the pole diameter.

On bracket + a hook bolt



3. The clamp can be installed on wood poles, round concrete poles and polygonal metallic poles using a universal pole bracket or a suspension bracket, a hook bolt and 2 pole bands.

4. Install temporary running out rollers just above the bracket/hook bolt.



5. Dead-end the Novonet at the first end pole (see chapter 2 of this IDS).

6. Run the Novonet on the rollers to the last end pole and tension the Novonet to its full installation load using a come-along clamp, a winch and a dynamometer.

3. FIXING WITH SUSPENSION CLAMP (continuation)

7. Get back to the next intermediate pole and install the suspension clamp SC 711C so that the selected groove is situated below.
   Note: small groove from 7mm to 9mm and large groove from 9mm to 11mm.

8. Remove the Novonet from the roller and position the messenger in the groove. Hold the messenger in place with one hand and tighten the 2 nuts with a 13mm 6-points spanner with other hand.

9. Repeat the last operation on the other intermediate poles.

guiding connections

AERIAL - ANCHORING CLAMPS

PRODUCT DESCRIPTION

These anchoring clamps are made of an opened conical body, a pair of plastic wedges and a flexible bail equipped with an insulating thimble.

The bail can be locked onto the clamp body once passed through the pole bracket and re-opened by hand at any time when the clamp is not under full load.

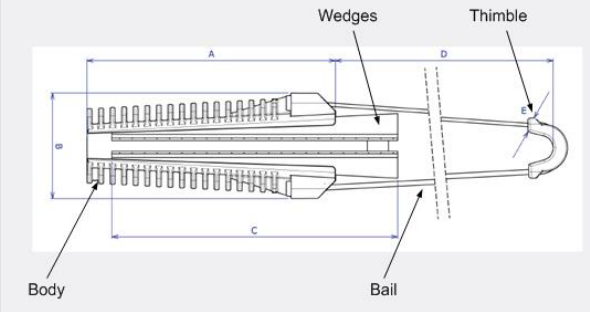
All parts are secured together to prevent any loss during installation.

The are two types available

- ACADSS8 is designed to provide an articulated anchoring for Novonet drop duct aerial with outside diameter from 8 to 10mm.
- ACFO1214 is designed for Novonet Aerial figure 8 pipe

ACADSS8 : Clamp for Novonet Drop duct

ACFO1214: Clamp for Novonet figure 8



APPLICATION AREA

These clamps are designed for duct dead-end at end poles (using one clamp) under following conditions.

- Novonet drop duct aerial
- Novonet figure-8 areal

Two clamps can be installed as double dead-end in the following cases:

- At intermediate angle poles when the duct route deviates by more than 20°
- At intermediate poles when the two spans are different in lengths
- At intermediate poles in hilly landscapes
- Or at jointing poles

Dead-ending

Double head-ending

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PRODUCT FEATURES

- High failing loads
- Installation on any pole hardware fitting: brackets, cross-arms or eye bolt with a min eye Ø of 15mm.
- All plastic parts are UV resistant and tested in conditions equivalent to min 25 years of service in tropical environment.
- Light and compact products.
- Easy, quick and safe dead-ending
- Installation takes seconds
- The flexible bail provides an extra protection to the duct against vibrations.
- No need to remove the messenger outer sheath for product ACFO1214

PRODUCT RANGE

Article	SAP art. nr	Suitable for	Messenger diameter
ACADSS8	4053550	Novonet drop duct (diameter 8-10 mm)	Not applicable
ACFO1214	4053549	Novonet figure 8 areal	7 – 11 mm

*to be created

PRODUCT COMPONENTS

Description	No. of parts
Body	1
Wedges	2
Thimble	1
Bail	1

PRODUCT SPECIFICATIONS

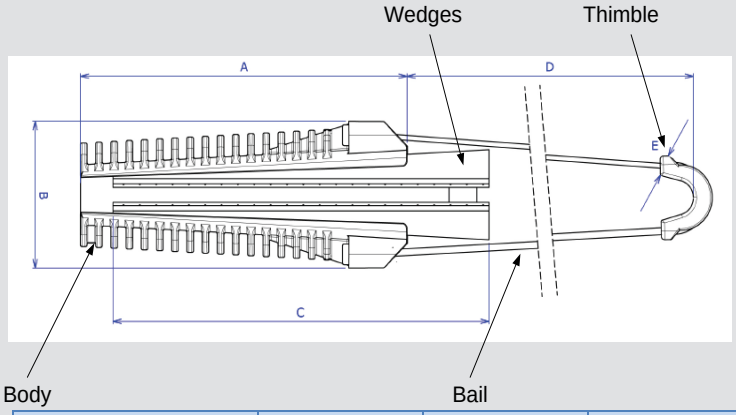
Materials

Body	UV protected thermoplastic
Wedges	UV protected thermoplastic
Thimble	UV protected thermoplastic
Bail	Stainless steel

Colours

Body	Black
Wedges	Black
Thimble	Black
Bail	Stainless steel

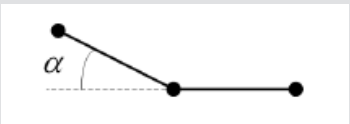
Dimensions



Article	A	B	C	D	E	Bail length	Weight
ACADSS8	150 mm	65 mm	165 mm	360 mm	13 mm	500 mm	0.44 kg
ACFO1214	200 mm	85 mm	230 mm	650 mm	13 mm	650 mm	0.18 kg

PRODUCT PROPERTIES

Property	Unit	ACADSS8	ACFO1214
Angle of duct route 1)	°	20 - 70	20 – 70 70 – 90 + tensioner
Maximum span	m	<100	50
Maximum load -30 C and 20 C	N	>5000	>7000
Diameter range duct	mm	8-10 mm	Not applicable
Diameter range messenger	mm	Not applicable	10-12



1)

PACKAGING AND LABELLING

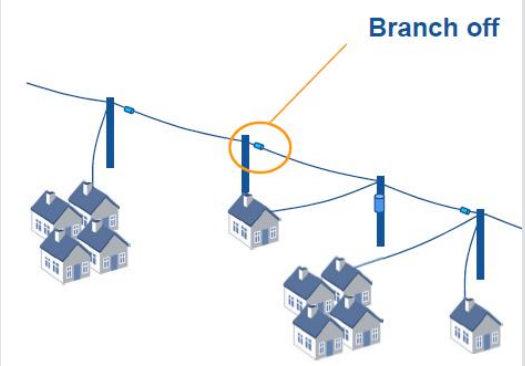
Packaging
The anchoring clamps are packed per piece.

Labelling
The products are labelled.

INSTALLATION
See installation data sheet IDS 26.

guiding connections

AERIAL _ BRANCH OFF CLOSURE



PRODUCT DESCRIPTION

This closure has been designed to branch off figure-8 aerial microducts assembly with dielectric messenger. This aerial branch off closure is a torch less, light weight branch off closure for branching off a drop duct in aerial applications providing both an effective mechanical and environmental protection without tapes, mastic, clamps or special tools.

This product offers both venting and draining functions.

It consists of three main components: two gel sealing units and a central part.

After splice preparation and bonding, the two gel end-pieces are placed over the Novonet aerial assembly. The central body is then closed over the end-pieces and splice to provide a secure cover. The body is locked by cable ties.

APPLICATION AREA

This closure we offer for overhead drops in an aerial network. It is designed for the Novonet aerial assembly near to a pole, the drop duct exit the closure and can be supported from the adjacent pole.

PRODUCT FEATURES

- This closure is fast and easy to install, requiring only three part of completion.
- Easy re-entry of splice.
- The closure accommodates both straight and branch configuration.
- Excellent environmental properties and UV resistance.
- Connection up to 4 drops.

PRODUCT RANGE

This product is available with SAP article nr 4053551

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PRODUCT COMPONENTS

Part	Description	No. of parts
1.	Central part	1
2.	Gel end-piece	2
3.	Cable tie	6
4.	Mounting Bracket for mechanical support	2
5.	Mechanical support	6
6.	Paper bag soaked in isopropyl alcohol	1
7.	Plastic protection	1
8.	Installation instruction	1

PRODUCT SPECIFICATIONS

Materials

1, 3, 4 and 5	UV resistant thermoplastic
2	Special gel sealing
6	Paper soaked in isopropanol
7.	Plastic
8.	Paper

Colours

Total product and components are black

PRODUCT PROPERTIES

Maximum nr of drops	4
UV resistance	yes

PACKAGING AND LABELLING

Packaging
The branch off closures are packed per piece.

Labelling
The products are labelled.

INSTALLATION
See installation data sheet IDS 27.

guiding connections

AERIAL _ BRANCH GELWRAP 50/20-300

PRODUCT DESCRIPTION

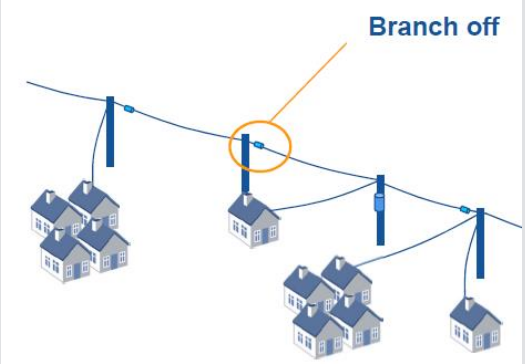
This Gelwrap can be used to branch of figure-8 aerial microducts assembly with dielectric messenger.

The design is robust and compact and prevent water intake in the Microduct system.

The product is suitable to branch of 3 drop ducts.

It consist of 1 housing with gel and 2 cable ties only.

APPLICATION AREA



This closure we offer for overhead drops in an aerial network. It is designed for the Novonet aerial assembly near to a pole, the drop duct exit the closure and can be supported from the adjacent pole.

PRODUCT FEATURES

- This closure is fast and easy to install.
- Simply wrap and snap the sleeve.
- Easy re-entry of splice.
- Excellent environmental properties and UV resistance.
- Suitable for 3 drops (type 50/20-300).
- Operating range -40 °C tot 95 °C.
- Excellent moisture seal.

PRODUCT RANGE

This product is available with SAP article 4056416.

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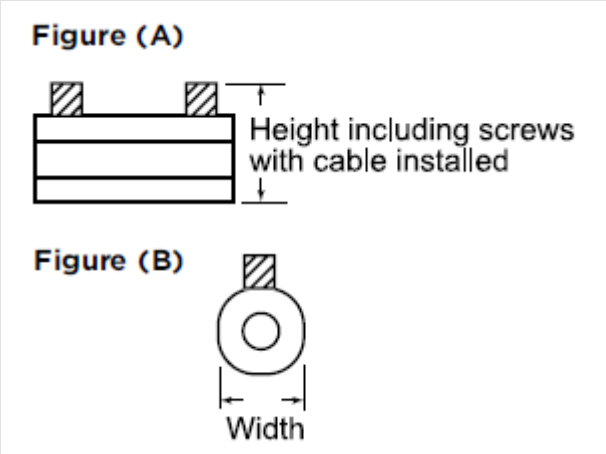
PRODUCT COMPONENTS

Part	Description	No. of parts
1.	Housing	1
2.	Cable ties	2

PRODUCT SPECIFICATIONS

Materials

1. Impact resistance PP snap lock, elastomer cover material with silicone gel
2. Plastic



Dimensions

Article	Sleeve Length [mm]	Max connector opening [mm]	General use diameter range [mm]	Weight [kg]
Gelwrap 50/20-300 Sap art. nr 4056416	300	150	20-38	0,46

Colours

Total product and components are black.
Gel is transparent.

PRODUCT PROPERTIES

Maximum nr of drops	3
UV resistance	yes
Chemical resistance	Fluid immersion 168 hours 23 °C / 75 % elongation retention - 10W-40 motor oil - 10% hydrochloric acid - 15 % sodium chloride - 20 % sodium hydroxide - ETX 60280 anti-freeze (1000 h)
Accelerated Aging	1000 hours at 135 °C - 93 % retention tensile strength - 82 % retention elongation at break
Minimum seal length needed	75 mm seal length on both sides for good sealing.

PACKAGING AND LABELLING

Packaging

The branch off closures are packed per 12 pieces.
Box 350x305x310 / 5,9 kg

Labelling

The products are labelled with Gelwrap 50/20-300.

INSTALLATION

See installation data sheet IDS 29.

guiding connections

AERIAL - SUSPENSION CLAMP

PRODUCT DESCRIPTION

The suspension clamp is composed of a UV resistant thermoplastic jaw reinforced with two galvanised steel plates.
Its unique design has been developed to offer a unique hardware fitting covering all articulated suspension configurations on wooden, metal or concrete poles.
Its straight grooves allow the clamp to be installed on Novonet Aerial assembly using a figure-8 technology at intermediate poles on ducts routes with angles up to 20°.

APPLICATION AREA

The suspension clamp SC711C is designed to provide an articulated suspension for figure-8 Novonet Aerial assemblies with dielectric messengers from 7 to 11mm at intermediate poles on duct routes with angle < 20° on spans up to 50m.

PRODUCT FEATURES

- The SC711C clamp has two grooves to cover all messenger sizes from 7 to 11mm (Ø over the outer sheath).
- The screws can be easily and quickly tightened
- The clamp plastic inserts act as a fuse to limit damage on the assembly in case of abnormal vertical overload (tree, car crash, …).
- The central hole allows an installation on hooks to provide some flexible suspension point and give extra protection to the assembly against wind induced vibrations.

PRODUCT RANGE

Article	SAP code
Suspension clamp SC711C	4037481

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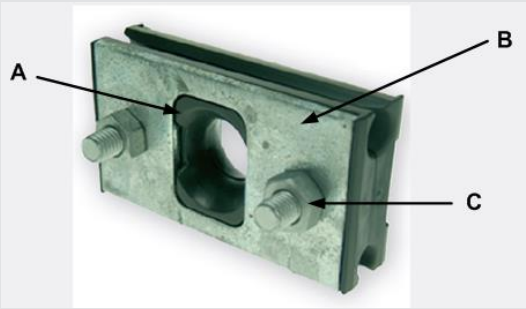
PRODUCT COMPONENTS

Part	Description	No. of parts
A.	Jaw	2
B.	Plates	2
C.	Screws	2



PRODUCT SPECIFICATIONS

Materials

A.	Jaw	UV resistant thermoplastic
B.	Plates	Hot dip galvanised steel
C.	Screws	Hot dip galvanised steel

Colours

A.	Jaw	Black
B.	Plates	Steel
C.	Screws	Steel

PRODUCT PROPERTIES

Maximum angle of duct route	<20 °
Maximum span	50 meter

PACKAGING AND LABELLING

Packaging

The suspension clamps are packed per piece.

Labelling

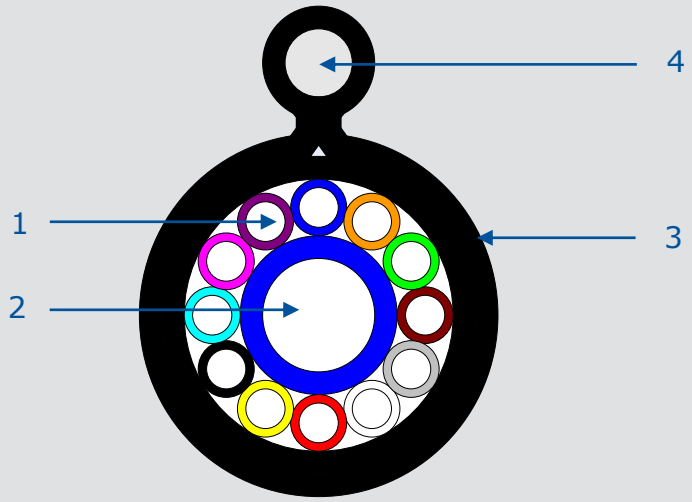
The products are labelled.

INSTALLATION

See installation data sheet IDS 26.

guiding connections

NOVONET AERIAL 1 x14x2 UD + 12x 5x0.75 UF



Component	Key number	Nominal outside diameter (mm)	Nominal thickness (mm)
Elementary duct	1	5 ± 0.1	0.75 ± 0.1
Secondary duct	2	14 ± 0.1	2 ± 0.1
Messenger	4	11 ± 1	2 ± 0.5
Component	**Key number**	**Width (mm)**	**Height (mm)**
Outer sheet	3	31 ± 1.5	44 ± 2

1 CHARACTERISTICS at 23°C (Nominal average values, indicated for information)

A NOVONET AERIAL

Crush resistance (according to IEC 60794-1-2): 2200 N / 1 min. / 100 mm

Nominal weight: ~ 520 kg/km

Excellent environmental properties an UV resistance.

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NOVONET AERIAL 1x 14x2 UD + 12x 5x0.75 UF

B Elementary Duct (5x0.75)

Crush resistance (IEC 60794-5-10):	500 N
Maximum pulling force:	~ 150 N
Nominal hydrostatic pressure resistance:	PN 18
Pre-lubrication class:	UF smooth

C Secondary Duct (14x2)

Crush resistance (IEC 60794-5-10):	1000 N
Maximum pulling force:	~ 1130 N
Nominal hydrostatic pressure resistance:	PN 20
Pre-lubrication class:	UD

D Internal element messenger

Thermal expansion coeff. (1/°C):	~ 5.2*E(-6)
Elongation at break:	> 2.7%
Maximum load:	> 7000 N

2 COLOUR IDENTIFICATION (see drawing)

Elementary duct: Blue RAL 5015, Orange RAL 2003, Green RAL 6017
Brown RAL 8011, Grey RAL 7031, White RAL 9010
Red RAL 3016, Yellow RAL 1023, Black RAL 9017
Turquoise RAL 6027, Pink RAL 4003, Violet 1 RAL 4005

NOVONET AERIAL 1x 14x2 UD + 12x 5x0.75 UF

2 COLOUR IDENTIFICATION (see drawing)

Secondary duct: Blue RAL 5015

Outer sheet: Black RAL 9017

3 MARKING

Elementary duct: " 0000 m – YYYY/MM/DD " *(every 1 m)*

Secondary duct: " 0000 m – YYYY/MM/DD " *(every 1 m)*

Outer sheet: " 0000 m WAVIN 35 NOVONET AERIAL 1*14x2*UD + 12*5x0.75*UF YYYY/MM/DD " *(every 1 m)*

***** Option: numbering and/or specific text in accordance with customer's specification.***

4 PACKAGING

Lost Wooden drum (2400 x 1400 x 1000) mm.
Length: 2000 m.

Lost Wooden drum (2000 x 1200 x 1000) mm.
Length: 1000 m.

5 PRACTICAL RECOMMENDATIONS

1/ Ends of Novonet must be protected by appropriate end-stops shrinkable materials, in order to prevent ducts from environment pollution.

2/ The order of colored (or numbered) assembly ducts must be strictly respected when positioning the Novonet reels in order to avoid connection misdoings resulting in twisted ducts for instance.

3/ Take care of difference between cable and duct shrinkage due to temperature variations.

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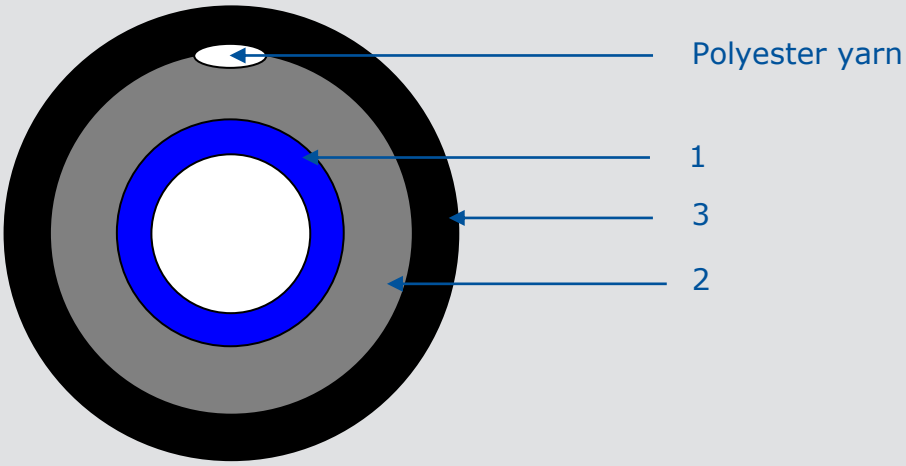
NOVONET AERIAL DROP DUCT 1x 5x0.75 UF



Component	Key number	Nominal outside diameter (mm)	Nominal thickness (mm)
Elementary duct	1	5 ± 0.1	0.75 ± 0.1
Inner sheath	2	8 ± 0.5	1.5 ± 0.2
Outer sheath	3	10 ± 1.5	1.0 ± 0.5

1 CHARACTERISTICS at 23°C (Nominal average values, indicated for information)

A Novonet

Crush resistance (according to IEC 60794-1-2): 2200 N / 1 min. / 100 mm

Nominal weight: ~ 60 kg/km

Tensile strenght: ~ 600 N

Excellent environmental properties and UV resistance.

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NOVONET AERIAL DROP DUCT 1x 5x0.75 UF

B Elementary Duct (5x0.75)

Crush resistance (IEC 60794-5-10):	500 N
Maximum pulling force:	~ 150 N
Nominal hydrostatic pressure resistance:	PN 18
Pre-lubrication class:	UF smooth

C Polyester yarn

Tensile strength at break:	~ 1000 N
Elongation at break:	~ 13%

2 COLOUR IDENTIFICATION (see drawing)

Elementary duct:	Blue RAL 5015 (1)
Inner sheath:	Black RAL 9017 (2)
Outer sheath:	Black RAL 9017 (3)

3 MARKING

Elementary duct: " 0000 m – YYYY/MM/DD " *(every 1 m)*

Assembly sheath: " 0000 m WAVIN 35 NOVONET AERIAL DROP DUCT 1*5x0.75*UF YYYY/MM/DD " *(every 1 m)*

***** Option: numbering and/or specific text in accordance to customer's specification.***

4 PACKAGING

Lost wooden drum (700 x 520 x 460) mm.

Length: 500 m.

NOVONET AERIAL DROP DUCT 1x 5x0.75 UF

5 PRACTICAL RECOMMENDATIONS

1/ Ends of Novonet must be protected by appropriate end-stops shrinkable materials, in order to prevent ducts from environment pollution.

2/ In case of long length installation (>50m), take care of difference between cable and duct shrinkage.