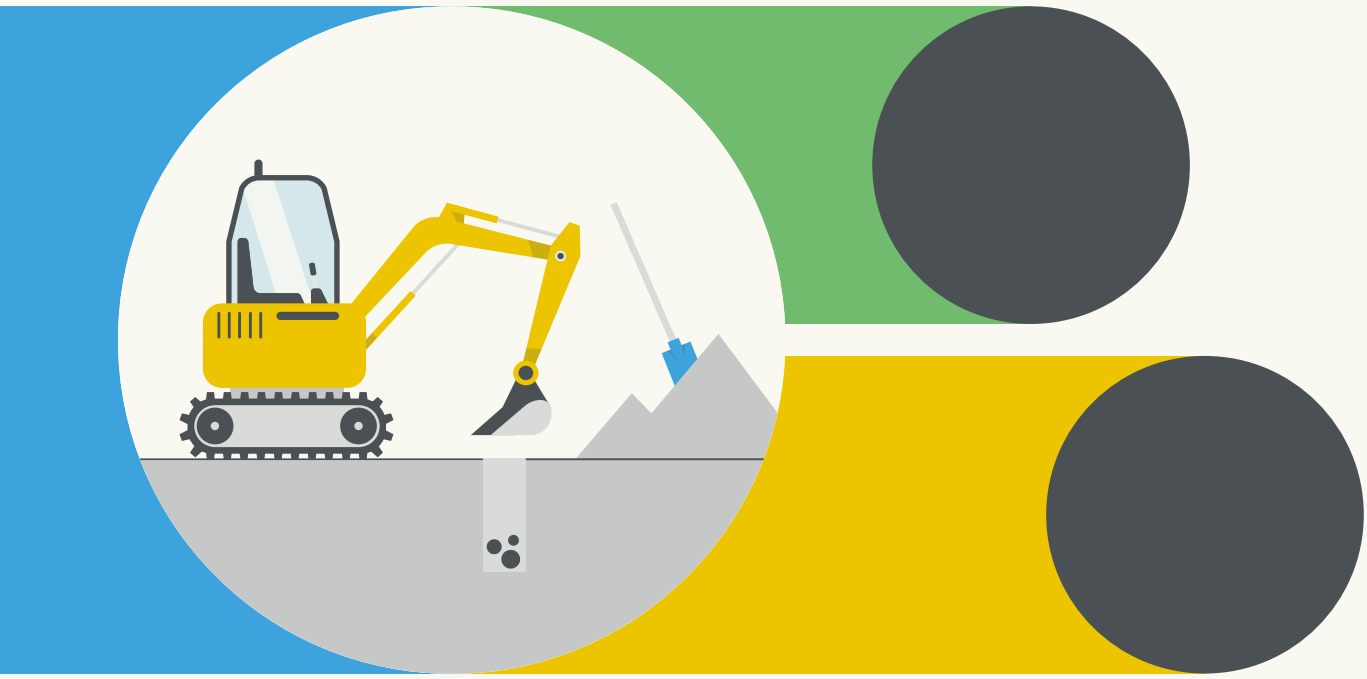
GUIDE FOR
STATE AID PROJECTS

Version 1.0 – 10.2025



Gemeinsam Großes gestalten.

Deutsche Glasfaser

INTRODUCTION

These guidelines are aimed at all parties involved in civil engineering works and technical services for subsidised FTTH roll-out.
Together, we want to ensure standardised and consistent quality.

For State Aid projects, special requirements concerning roll-out and documentation must be fulfilled.
In this guide, we provide additional information on these special requirements and regulations.

CONTENTS

ATTENTION

Finding bombs and warfare agents – how to proceed?

The following steps explain how to proceed when bombs and explosive ordnance are found.

Bomb / Do NOT touch the explosives!

If the bomb has already been picked up, put it down CAREFULLY!

If the bomb was picked up or loaded with construction machinery, immediately switch off and secure the machinery!

Stop all work at the site immediately to avoid further vibrations!

Mark the location!

Move as far away from the discovery site as possible!

Keep residents and unauthorised persons away and warn them!

Alert the police and, if necessary, wait until help arrives!

IMPORTANT INFORMATION

Contact persons, Construction:

Contact person on site:
Construction manager of the **construction partner** and DG construction manager.

In the event of damage to DG cables, please contact the **damage centre** . Please contact the relevant supplier for external cables.

Information / emergency contacts: All relevant emergency numbers such as **energy suppliers, telecommunications providers and municipal utilities** must be available at the construction site before construction begins.

Contact persons for residents:

Please refer residents with questions about the extension to the **construction hotline**.

The construction hotline contact card shown here should always be available for the employees of the construction team as soon as they are on site.

DG_1393_0_Kontaktkarte_Bauhotline

DG_1100_1_Karte_Duldungsanspruch

Damage centre:
+49 2861 8906 00

Construction hotline:
+49 2861 8906 0940

Rescue service:
112

Fire brigade:
112

Police:
110

SUBSIDISED FTTH ROLL-OUT

In addition to the company's own FTTH roll-out, Deutsche Glasfaser uses state subsidies to build fibre networks in areas that cannot be realised by the private sector. In this way, Deutsche Glasfaser is supporting the goal of nationwide FTTH coverage in Germany.

Within State Aid projects, there are clear guidelines for planning, roll-out and documentation, which must be followed. These specifications may also deviate from the specifications in private projects. It is therefore important to study this guide carefully in order to complete the project successfully.

Should any questions or problems arise during the roll-out, we at Deutsche Glasfaser are at your assistance.

Your contact for queries

Via e-mail:
baupartner-support@deutsche-glasfaser.de

OVERVIEW OF REQUIREMENTS IN STATE AID PROJECTS

Plan changes:
Changes to the Low Level Design (LLD) approved by Deutsche Glasfaser are only permitted after written approval by Deutsche Glasfaser.

Further details can be found on page 8.

Changes in the roll-out:
Changes to the roll-out are generally prohibited without prior written approval of the rescheduling.

Unforeseeable events:
Should unforeseeable events occur during construction (e.g., concrete under paving, special requirements of the authorities, etc.), construction must be stopped immediately and Deutsche Glasfaser must be informed.

Further details can be found on page 9.

Photo documentation:
During the roll-out, all construction works must be documented with georeferenced images. Subsequent editing of the images is strictly prohibited.

GIS documentation:
All removal works must be documented during removal.

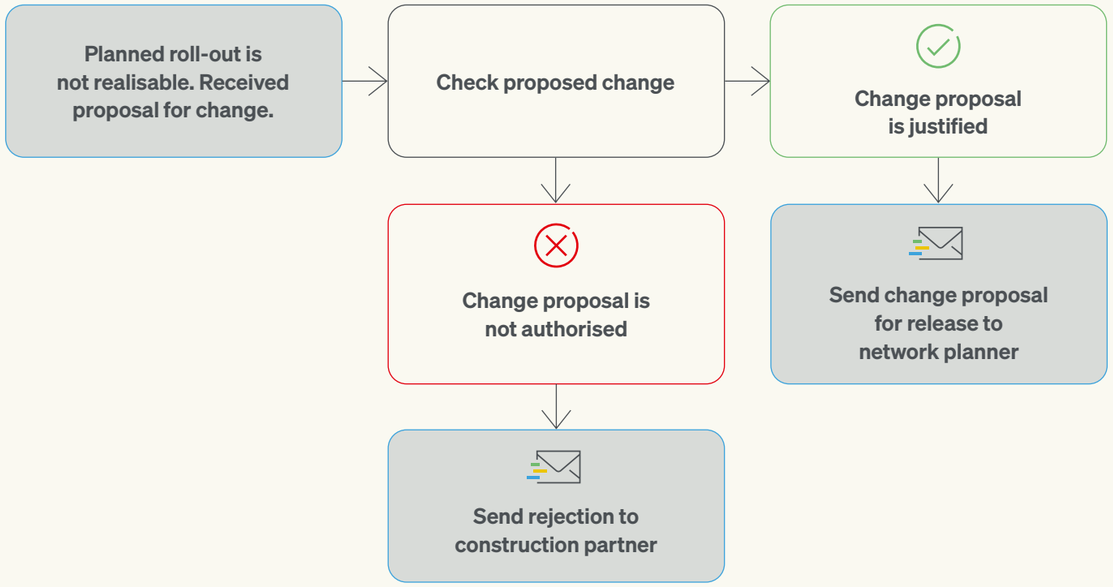
Protocols:
All logs (HDD / OTDR) that are created during the roll-out must be provided to Deutsche Glasfaser immediately with the corresponding documentation.

Addition of addresses:
The unauthorised addition of addresses is prohibited without the written approval of Deutsche Glasfaser!

PROCESS
TRENCH AMENDMENTS

Changes to the Low Level Design (LLD) approved by Deutsche Glasfaser are only permitted after written approval by Deutsche Glasfaser.

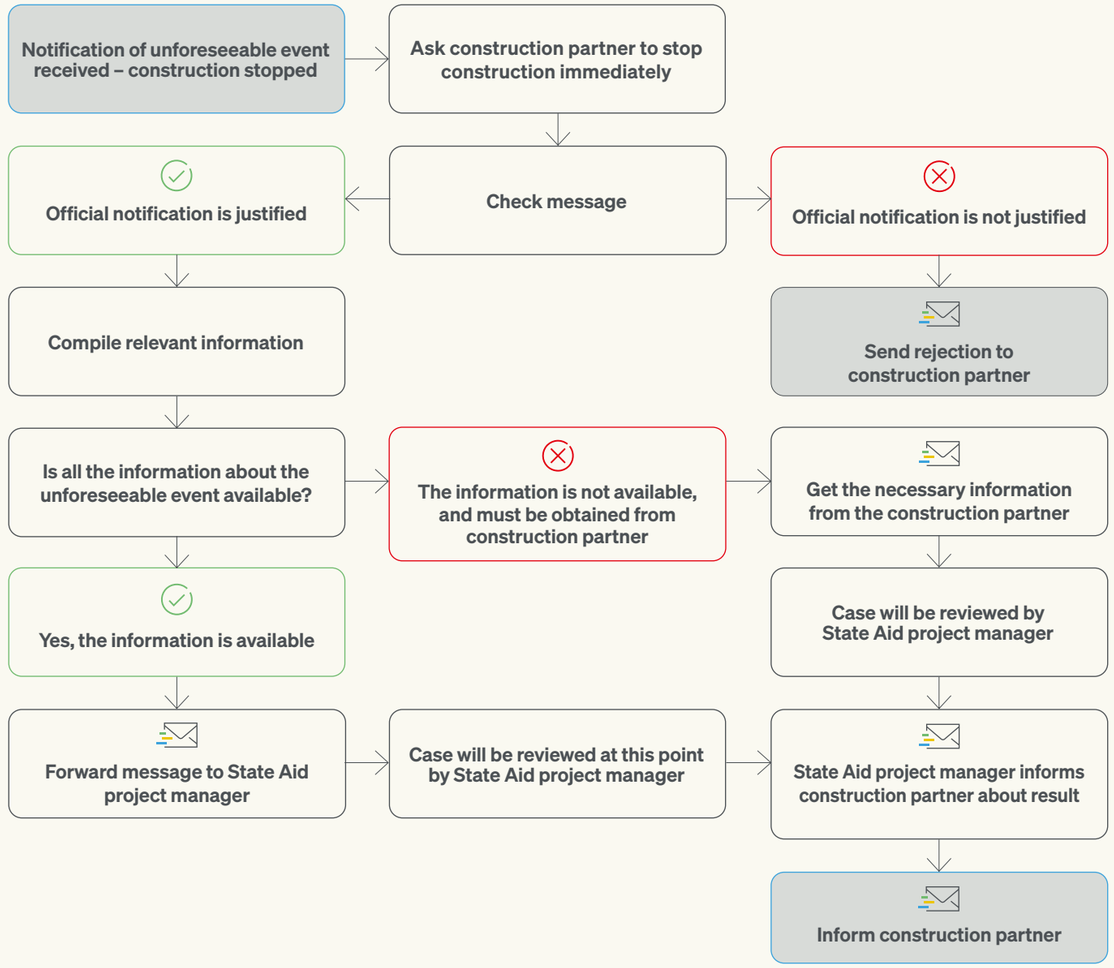
Responsible person(s):
Construction manager State Aid



UNFORESEEABLE
EVENTS

Should unforeseeable events occur during construction (e.g., concrete under paving, special requirements of the authorities, etc.), construction must be stopped immediately and Deutsche Glasfaser must be informed.

Responsible person(s):
Construction manager State Aid



PREPARATION OF CONSTRUCTION SITE

1 Necessary documents

- VRAO (traffic law order)
- Authorisation for demolition
- External line plans of all relevant suppliers
- Current trench plan
- Current splice plan for sleeves
- Risk assessment / Health and safety plan
- Escalation matrix
- Telephone numbers of local suppliers
- ALKIS data (official cadastral information system) / properties (property boundaries)

2 Construction communication

Notify residents at least **3 working days in advance** about the planned start of construction.

DG_1101_1_Infoblatt_Auto_umparken

3 Protective work clothing

- Helmet
- Safety vest
- Safety glasses
- Gloves
- Safety shoes
- Hearing protection

Warning vest orange, **members of staff**

High visibility vest yellow **German-speaking employee (site management)**

4 Language skills

Accessibility of a **German-speaking employee of the construction partner** on site and for external parties (residents, customers, civil engineering office, etc.)

5 Vehicle labelling

Label all construction vehicles correctly.

6 Sanitary facilities

Set up sanitary facilities that can be quickly reached.

7 Construction site safety

Secure the construction site in accordance with the approved traffic regulations (VRAO).

8 Resident friendliness

Secure the construction site in a customer-friendly manner.

9 Work in the area of external lines

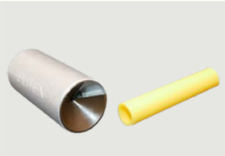
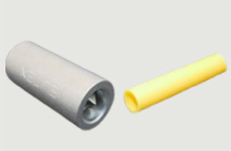
Attention Gas pipes!

Attention Explosion hazard!

Attention Electric shock!

TOOLS AND CONSTRUCTION MACHINERY

1 Provide professional tools.

	Pipe cutter		Deburrer – external –
	Calibration mandrel		Deburrer – internal –
	Cutter knife		Outer sheath cutter

2 Provide professional construction machinery.

	Excavator		Displace-ment mole
	Pneumatic hammer		Compressor

PIPES AND CONNECTORS

1 Pipe types used in State Aid projects (DIN colour code):

Only use translucent tubes!

7 x 16/12 | 12 x 10/6 | 24 x 10/6

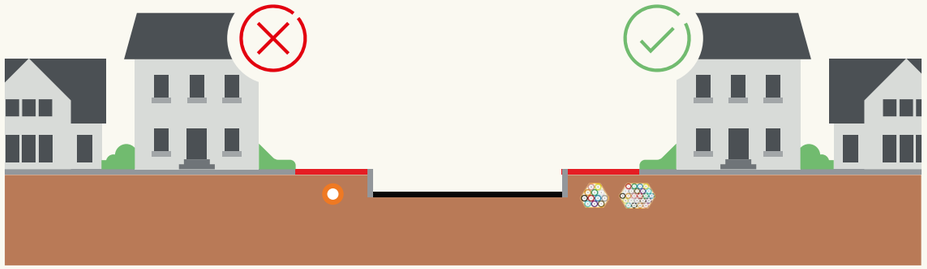
Number of tubes x outer diameter **(OD)** / inner diameter **(ID)** in mm

Only **gas blockers, connecting couplers, reducers and end caps approved by Deutsche Glasfaser** may be installed.
(partially shown, see illustration).

Attention:
Only compatible materials approved by Deutsche Glasfaser may be used for the roll-out! These can be accessed digitally in the ‘Material Viewer Geostruct’.

PROHIBITIONS AND REQUIREMENTS IN STATE AID PROJECTS

1 Laying pipes



The laying of individual pipes along the road is prohibited!

Up to the property boundary of the address to be supplied, the specified empty conduit system must always be laid up to the property boundary of the address to be supplied.

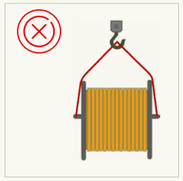
A Homes Passed address (HP) is considered to be developed if the empty conduit is located directly at the property boundary.

Placing the empty conduit on the other side of the road does not constitute a finished installation!

2 Transportation & storage

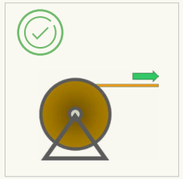
Take care when transporting pipes and cables!

Only load and unload the cable reel with suitable equipment, for example, forklift truck or crane.

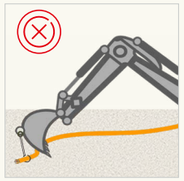


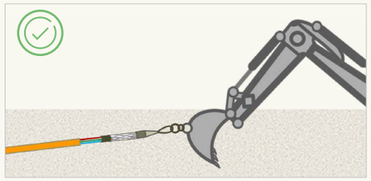
Lifting slings must always be used. These are to be attached to a rod in the centre of the drum and to a corresponding rod above the drum.

This applies to all materials on cable drums.



Always unwind fibre-optic cables and pipes from a drum reel from above; see Illustrations.





The composite pipes should be rolled onto drums as shown in the picture on the right (pulled with the excavator).

3 Storage area

Store all materials properly.

⚠ **Attention:**
Observe the manufacturer’s instructions!

4 Security

Enclose and lock the storage area.

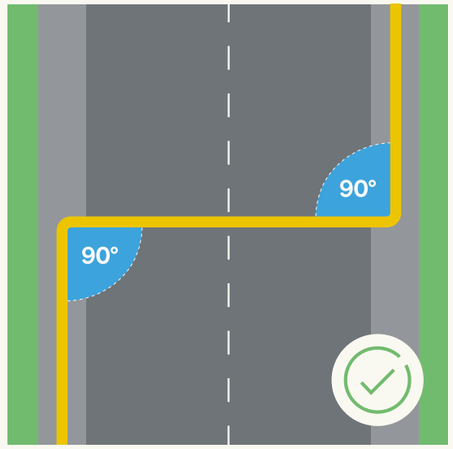
CIVIL ENGINEERING

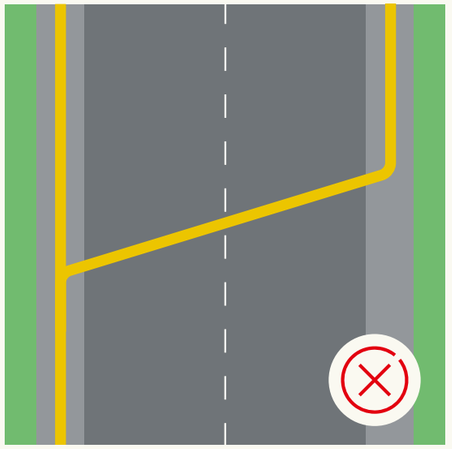
1 Road crossings

When crossing roads, ensure that the pipework is laid at right angles.

⚠ **Attention:**
The external cable plans (cable protection instructions) of the local energy supplier must be observed.

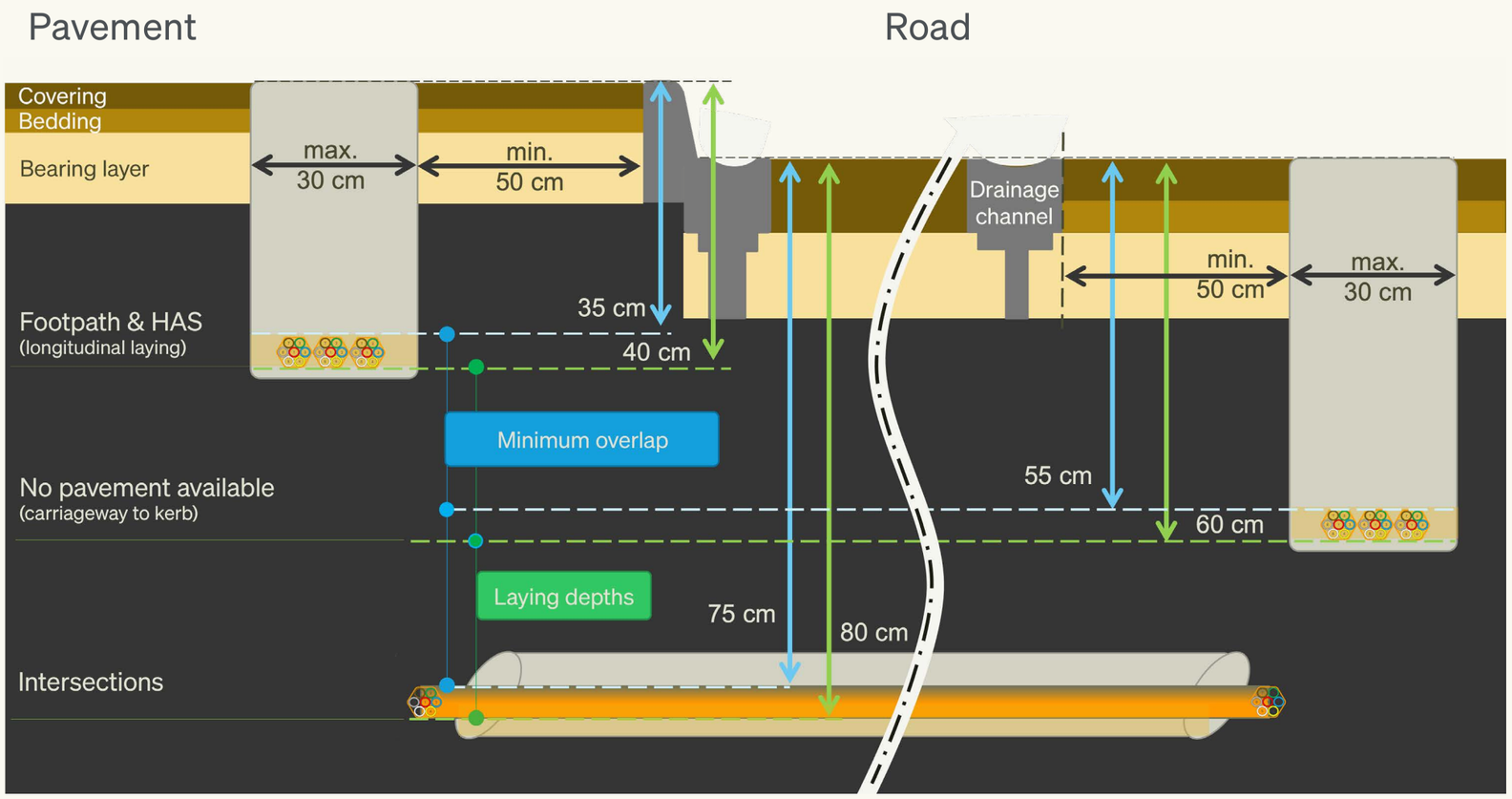
⚠ **Attention:**
Different regulations for crossings.





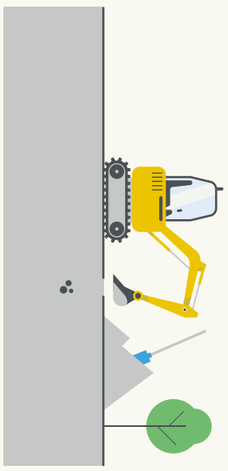
2 Laying depths

The respective installation depth must comply with the requirements of DIN 18220:2022.



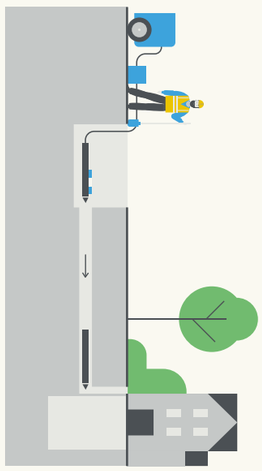
3 Construction process

Open civil engineering

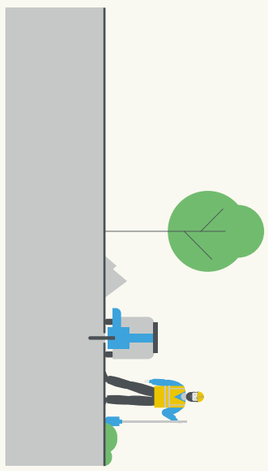


Slot up to 30 cm wide

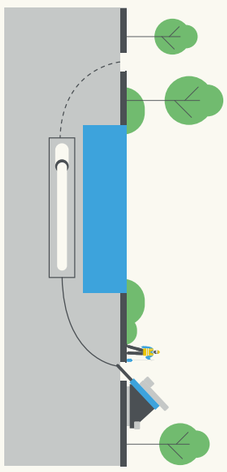
Pressing process



Milling



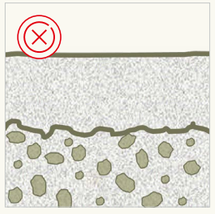
Flush drilling

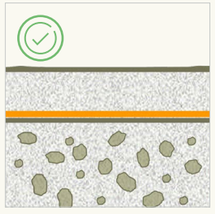


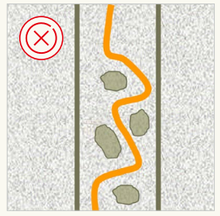
4 Open construction

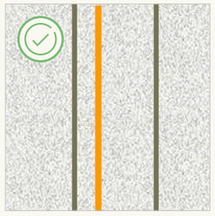
⚠ **Attention:**
Observe external wiring diagrams!

Always ensure an even excavation. Store the excavated material next to the trench for later reuse.



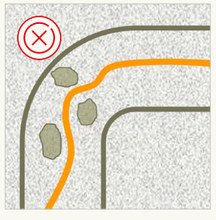


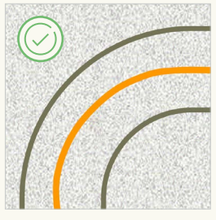


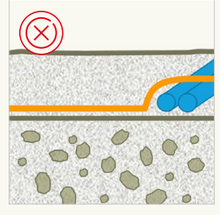


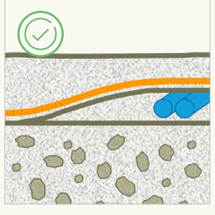
Professional design of the composite pipes in the trench.

⚠ **Attention:**
Observe bending radius!









5 Clean trenches

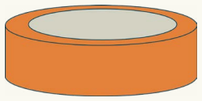
Keep the ditch free of rubbish.

6 Labelling the cables

Correct labelling of pipes and pipework
(in urban areas every 2.5 metres, out of town every 5 metres).

7 Marking the trench

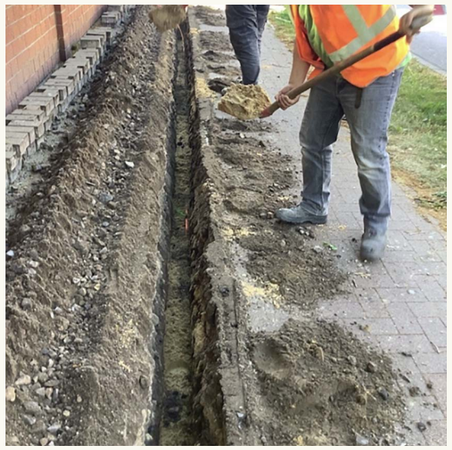
Lay the trench warning tape 20 cm above the sand cover.
A yellow ‘Attention fibreglass’ warning tape must be used for all excavations.



When using earth sleeves, orange marking tapes or excavator mats must be laid 20 cm above the sand cover.

8 Restoring the surface

Reinstall the floor in layers and sand the pipes with at least 5 cm of sand.



Restore the final surface properly.
Sand before shaking off.

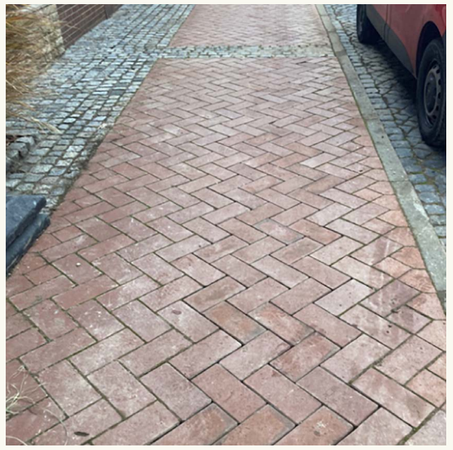


PHOTO DOCUMENTATION IN STATE AID PROJECTS

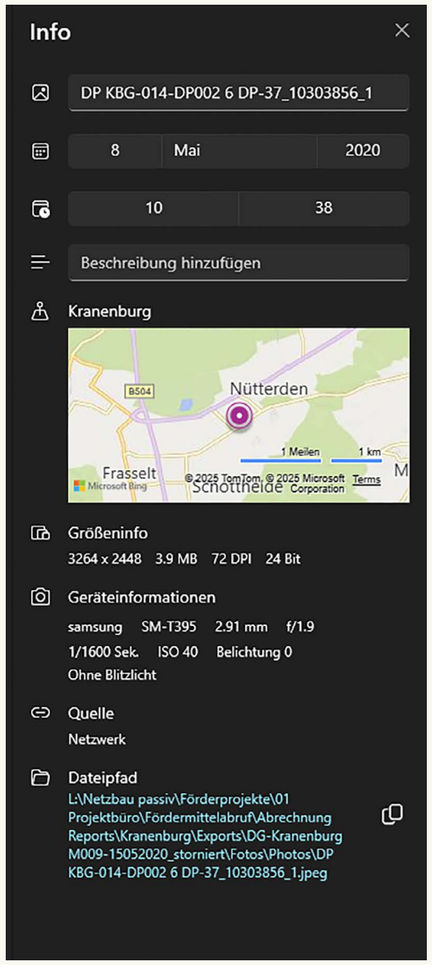
The roll-out of State Aid projects has special documentation requirements. In addition to the measurement and documentation according to GIS-NB, these also include verification photos.

Photo object: What must be photographed?	**Photo distances/quantity:** How many photos per object (minimum number)?	**Photo content:** What needs to be visible and sharp?
Trench (open civil engineering)	every 500 m = 1 photo Example: 1,670 m = at least 4 photos	Number of empty conduits planned in accordance with the LLD In the case of joint-installation (FTTH/ FTTS or third parties), these materials are also part of the image
Drilling (HDD, displacement mole)		Start and finish pit including all empty conduits
Plough		Insertion of the plough including all empty pipes (do not forget the 500 m rule)

Photo object: What must be photographed?	**Photo distances/quantity:** How many photos per object (minimum number)?	**Photo content:** What needs to be visible and sharp?
Distribution facilities (above ground)		
PoP	2 photos	1x photo outside: including signage according to conveyance conditions 1x photo inside: built-in passive components visible
FCP	3 photos	1x photo outside: including signage according to conveyance conditions 1x photo inside: built-in passive components visible 1x photo open base: including the 3 F-ducts and gas stops
DP	2 photos	1x photo outside: including signage in accordance with Conveyance conditions 1x photo inside: built-in passive components (patch cable and splitter), visible
Distribution facilities (underground)		
DP	2 photos	1x photo closed 1x photo opened: including pipe bracing and splice cassette
In-house access point, service interchange point		
	2 photos	Service interchange point including cable ID Complete installation (house entry and service interchange point), if possible on one picture

File properties of the photos

What must be submitted?



GPS coordinates
Date
File format: JPG

Attention:
If one of the photos is incorrect, the invoice cannot be approved!

Attention:
Do not send photos using WhatsApp or similar messenger apps. Many messengers delete the geoinformation from the image when it is sent!

CIVIL ENGINEERING PHOTO DOCUMENTATION IN STATE AID PROJECTS

1 Note for the photo documentation

- All photos must be labelled with GPS data and date.
- Photos should show all relevant parts and installed components.
- If necessary, change the perspective in order to minimise subsequent search or cutting work.
- If third parties are also used (e.g.; FTTH, FTTS, etc.), these should also be taken into account as part of the image in order to avoid mass damage and business damage.
- Non-essential image elements (such as shoes or tools) should be avoided.

2 Photo documentation examples

Examples – Trench and drilling

ROLL-OUT OF HOMES PASSED (HP) IN STATE AID PROJECTS

1 When is an HP finalised?

A Homes Passed address (HP) is considered as finalised if the empty conduit is located directly at the property boundary.

Placing the empty conduit on the other side of the road does not constitute a finished installation!

⚠ **Attention:**
Double longitudinal track construction on both sides of the road is prohibited!

HP not finalised

⊗ The addresses are not correctly finalised

HP finalised

✓ The addresses are correctly finalised

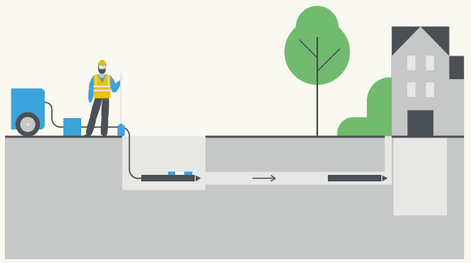
HOUSE CONNECTION
HOMES PASSED (HP) / HOMES CONNECTED (HC)

1 Preparation of drilling

Creating the drilling.

2 Property’s drilling

From the pavement across the owner’s property to the house or road crossing.



Attention:
The house drilling must always be drilled from the inside to the outside and with a negative slope to the outside of the house!

3 Decoupling at the property boundary

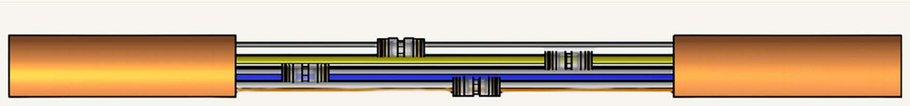
Locate the composite pipe, cut open the outer sheath, select the correct microduct and separate.

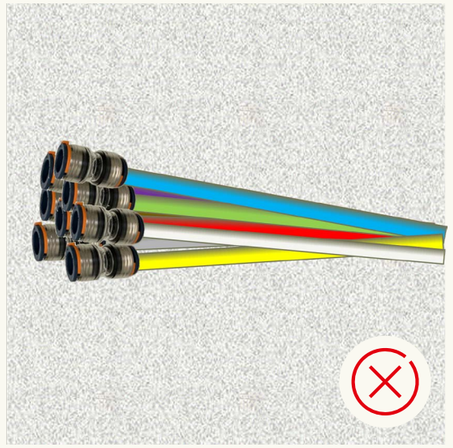
4 Chamfering and joining pipes

After clean chamfering on the inside and outside, it is important that the pipes are inserted into the connecting piece as far as they will go.

5 Connection instructions – Pipe connection

After removing the outer sheathing, cut the pipes in staggered lengths (see illustration).

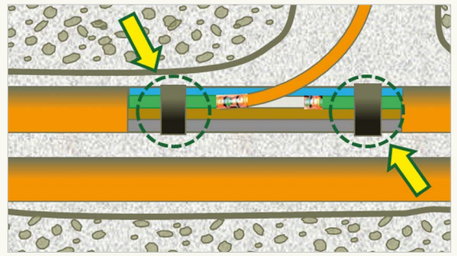




6 House connection Homes Connected (HC)

Micropipe to the customer with the connection coupler on the composite pipe.

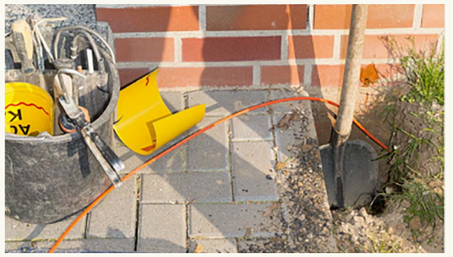
Secure the composite pipe with tape.



Attach the pipe ends to the composite pipe.

Lay out trench warning tape.

Installation of the house connection.



Please follow the manufacturer's installation instructions!

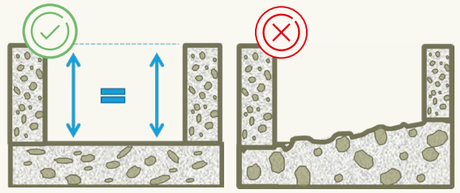
Attention:
Seal professionally!

7 HAS tubes on the house wall

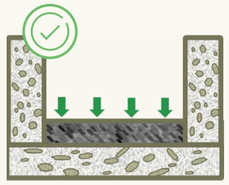
Close the end of the tubes with an end cap laying at the house wall.

SHAFTS

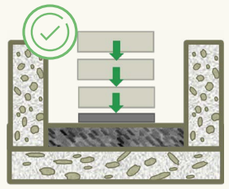
1 Create shaft trench and install shaft



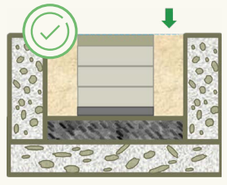
In preparation, the underground/ bottom of the shaft trench must be ‘level’ with the surface .



Compact the bottom of the trench with gravel.



Set the base plate and attach the shaft frame. Prepare feedthroughs on the shaft. Pipes and pipe connections, if necessary.

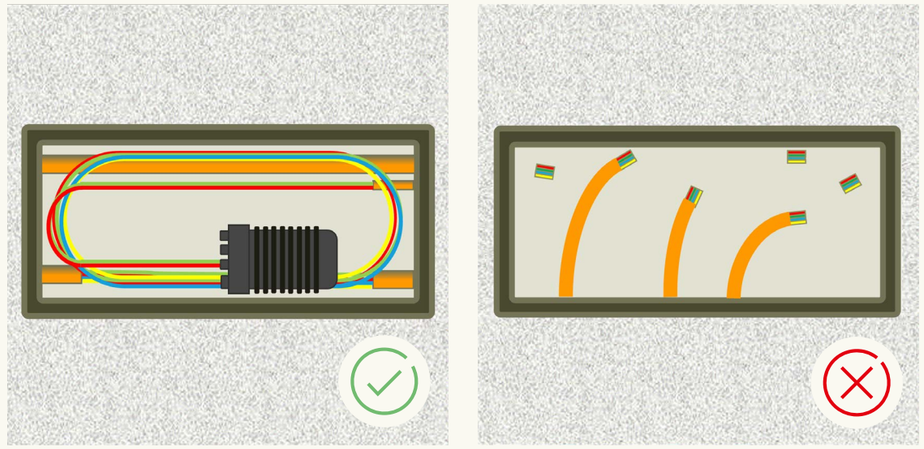


Backfill the shaft trench with suitable compaction material and compact it.

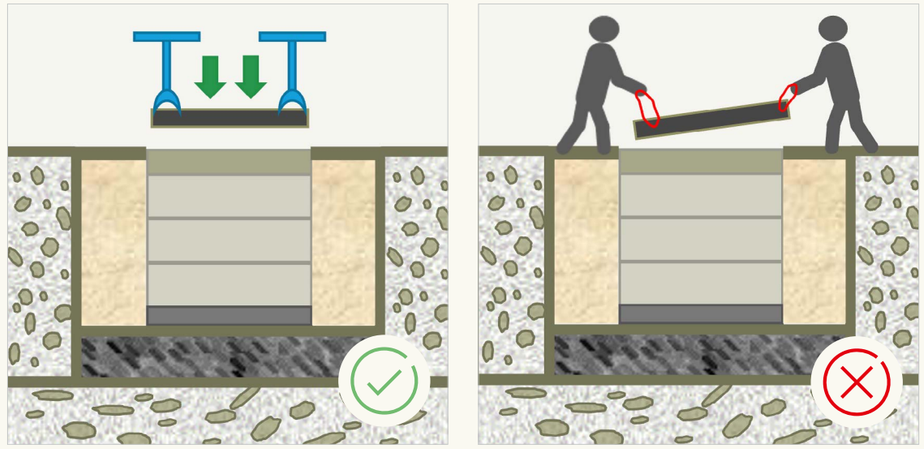
⚠ **Attention:**
When installing the shaft, the manufacturer’s specifications and the floor conditions must be taken into account!

2 Inserting the pipes and pipe fittings into the shaft

Only insert the pipe ends at the front (opposite each other).



Attach concrete or cast iron covers.



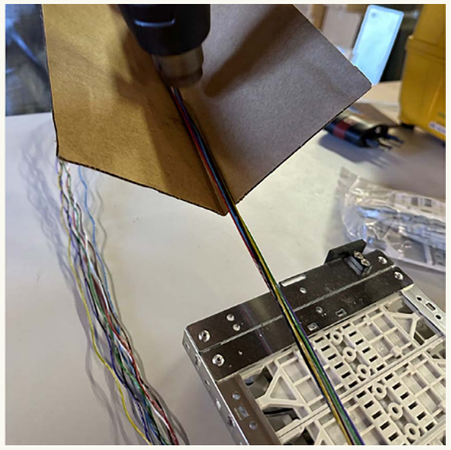
Attention:
Only use suitable tools to move the shaft cover!

SLEEVES

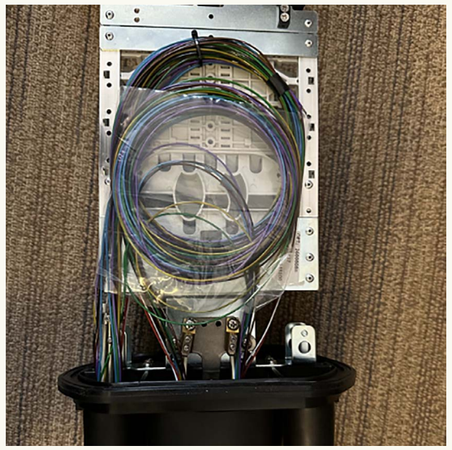
1 Installation and labelling of sleeves

Please follow the manufacturer's installation instructions!

Preparation of sleeve and cable:
Drilling of the cable entry



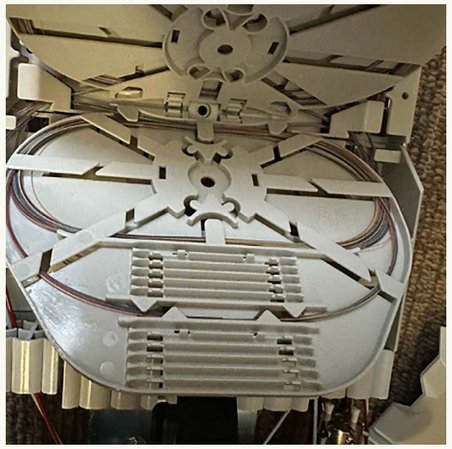
Set down cable 2-2.50 m
(outer sheath),
blow-dry bundle wires until smooth.



Excess length (min. 1.50 m)
in the sleeve.

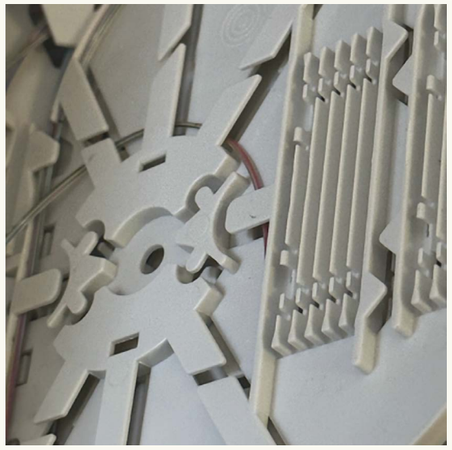
Water-resistant labelling of cables.

⚠ **Attention:**
Ensure proper installation of the seal!
Observe a reserve length of 8-10 m when laying the sleeve!

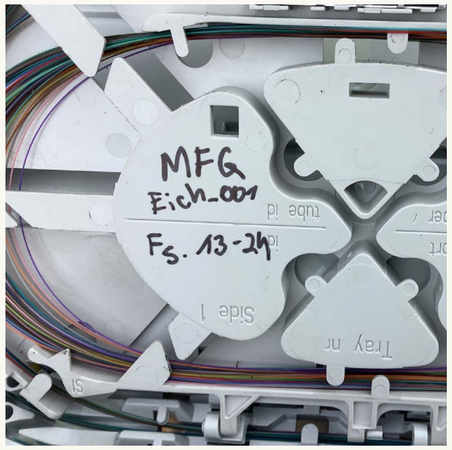


Set down loose tubes and clean fibres, insert fibres into the cassette of the sleeve without any stress.

Ensure that only earth sleeves that meet the material specifications of Deutsche Glasfaser are used.



Splice fibres, shrink hose protection and place in the protective comb.



Labelling splice cassettes
(A&B direction).

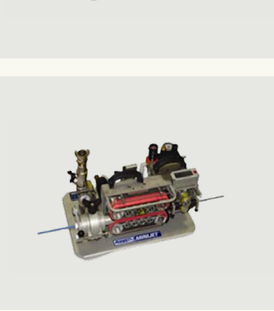
Assemble the sleeve correctly.

BLOWING IN FIBER-OPTIC CABLES

1 Materials & procedure

Materials required for blowing in fibre-optic cables:

Compressor

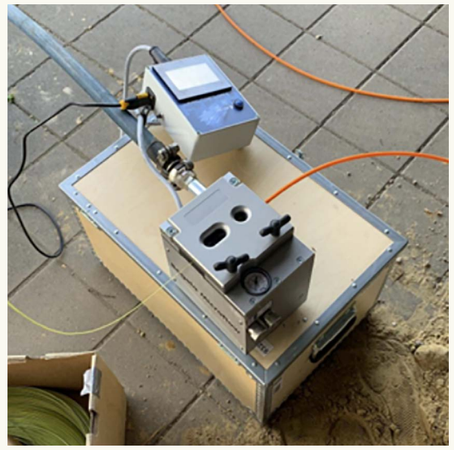


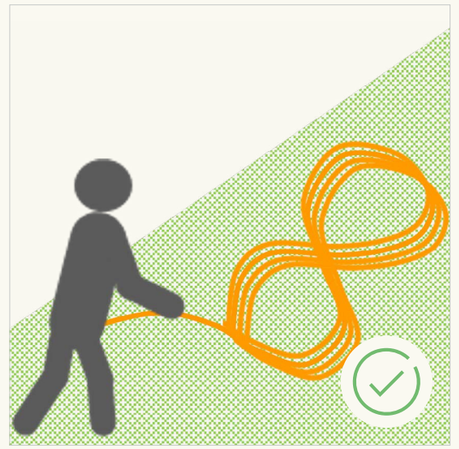
Blow-in machine (Jetter)

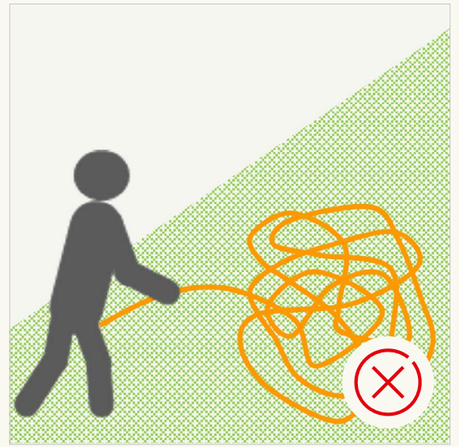
Calibre/Connector

Search device

⚠ **Attention:**
Note the cable reserves at the start and finish points!







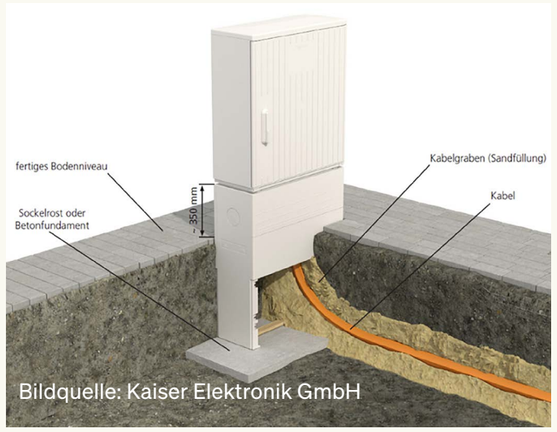
Lay the glass fibre in a figure-eight shape to minimise material tension and facilitate blowing.

DISTRIBUTION POINTS (FCP/DP)

1 Installation of distribution points

Attention:
Please check in advance whether authorisations are required. Site security including photo documentation is necessary.

Please follow the manufacturer's installation instructions!



Bildquelle: Kaiser Elektronik GmbH

Eigentum der
Deutsche Glasfaser Wholesale GmbH
Bei Störungen oder Beschädigungen:
02861 8133 255
deutsche-glasfaser.de
Deutsche Glasfaser

DG_1342_Aufkleber_Street_Cabinet

- Install the earth terminal of the distribution cabinet flush with the ground and level (backfill and compact).
- Install the distribution point on an earth base.
- The distribution cabinet must be labelled with the 'Street Cabinet' sticker.

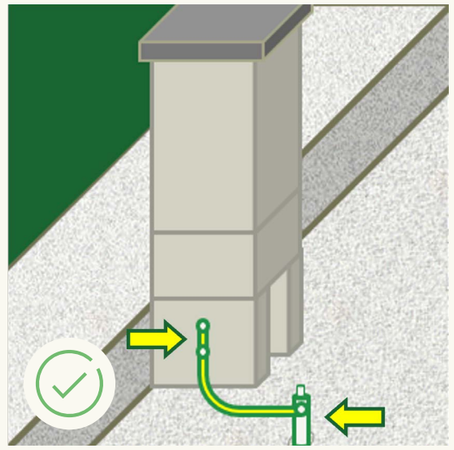
Attention:
Distribution points must be labelled with the promotional logos.

The stickers are ordered exclusively by the site managers via the Rehms shop.

→ **shop.deutsche-glasfaser.de**

General quality requirements for DP enclosures






Attention:
Metal enclosures must be earthed! Protect incoming pipe assemblies against dirt and water with end caps!

Attention:
Observe the specifications for photo documentation of distributors (3x photos). A detailed description can be found on pages 26/27.

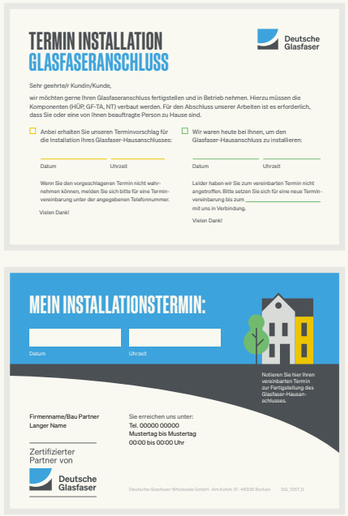
HOUSE INSPECTION

1 House inspection

A trained and German-speaking employee must do the house inspection.

The house inspection is done according to the specifications of Deutsche Glasfaser.

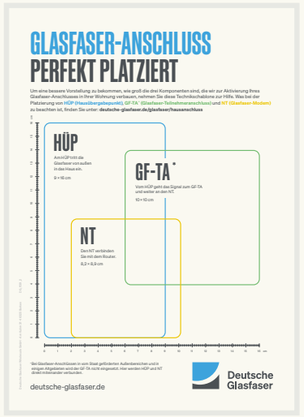
The relevant brochures and information must be made available to the customer.



DG_1357_0 _Terminvereinbarung_Hausbegehung

DG_1137_7 _Servicepaket_Leitungsweg

DG_1144_4 _ Erklärbroschüre_GF-TA



DG_1139_2_Technikkarte

SERVICE INTERCHANGE POINT (HÜP)

1 SERVICE INTERCHANGE POINT

Attention:
The service interchange point must be approved in accordance with the relevant State Aid network concept.

Installation of the service interchange point

Installing the base plate

Prepare cable

Splicing pigtails

Discard fibres

OTDR measurement

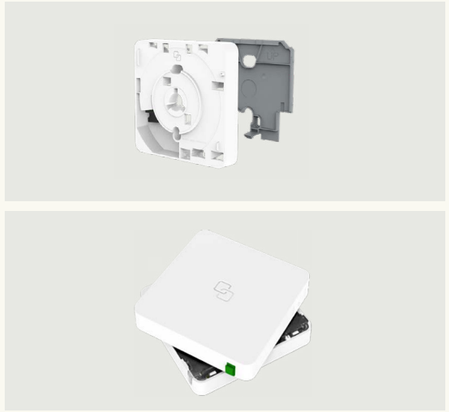
Close with cover and control seal.

Attention:
OTDR measurement protocols are a mandatory component of State Aid projects! Observe the specifications for photo documentation of the service interchange point.

FIBRE-OPTIC SUBSCRIBER CONNECTION (GF-TA)

1 GF-TA / NT (fibre-optic modem)

Attaching the fibre-optic subscriber connection



Install the GF-TA base plate and establish connection to the service interchange point – splice fibres at the service interchange point –

Connect cover

GF-TA
(for multi unit dwelling)

NT (fibre-optic modem)
or connecting a standard router

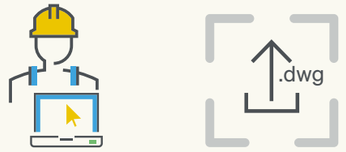
Connections to the NT (fibre-optic modem) (patch cable)

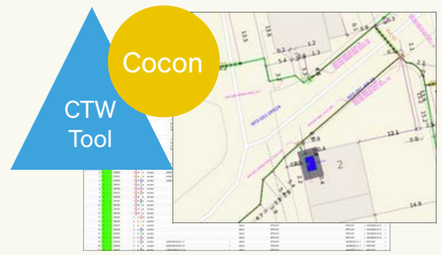
DOCUMENTATION IN THE IT SYSTEMS

1 Documentation by the construction partner

Note:
The construction partner is fundamentally obliged to properly document the project in accordance with DIN 18220:2022 during and at the end of construction. Further information can be found in the currently valid building partner contract.

Document as-built network infrastructure





Document house connection installation

GO FIBERCONNECT

APEE Tool

Upload protocols and documents

NOTIFICATION OF MATERIAL DEFECTS

1 Construction site

Employee discovers material shortage during assembly

Info to foreman / site manager of the construction partner on site

3 Excellence Lab

Supplier is contacted and material is blocked if necessary

2 Construction manager

of the construction partner has been informed

4 Supplier

DG Site manager is informed if construction delay occurs

Procedure for reporting a material shortage to the Excellence Lab:

Please send the documents to the following e-mail address:
excellence-lab@deutsche-glasfaser.de

Subject: Material shortage

- Photos, batch number
- A brief description of the error
- Contact information of the site manager of the construction partner
- Project data

NOTES

For reasons of linguistic simplification, the three genders are not mentioned where a gender-neutral formulation was not possible. In these cases, the masculine terms used also include the feminine and diverse forms.

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Christian Liversidge Duer · Ruben Queimano · Roman Schachtsiek
Company headquarters: Gronau · **District Court:** Coesfeld
Registry number: HRB 14842 · **VAT No.** DE287261064

DG_5694_0

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