

FLEXWELL
DISTRICT HEATING CABLE

The flexible, double-walled steel casing pipe
100% diffuse-tight

BRUGG
Pipes
Pioneers in Infrastructure

FLEXWELL DISTRICT HEATING CABLE

The intelligent alternative:
safe and economical through simplified planning and minimal civil construction costs

Flexibility during laying work thanks to small bending radii and the low levels of force required.

High-quality insulating foam combined with the best long-term lambda values in a composite system.







Safety furnished by the corrugated steel casing pipe

The convoluted steel casing pipe can absorb high soil and traffic loads. Armour plating of the FLEXWELL district heating cable construction.

Connection to other pipe systems

FLEXWELL district heating cable can be connected without difficulty to other mains systems, e.g. plastic-jacketed pipes and concrete trench systems.

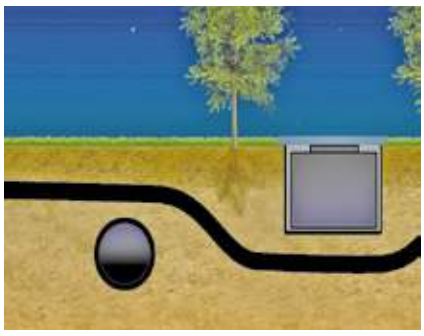
House connections with the loop-in method

Since FLEXWELL district heating cable is bendable and "endlessly" long it can be looped from one point to another. That way there are no buried branch connections. This method is conventionally used with buried electric cables.

Using FLEXWELL district heating cable both flow and return are laid using the shortest route from building to building. Inside the building, e.g. in the basement, branch connections are installed both to the house system and the supply mains to the next building. FLEXWELL district heating cable is looped in the same way to additional houses or heating system users down the line.

The results:

- no buried connections, no break in the original corrosion proofing
- shortest possible pipe route
- easy access to every cable connection
- no welding and leak tests required along the pipe route
- no need for T-pieces, expansion elbows, compensators and anchors
- small trench dimensions



Working around underground obstacles

FLEXWELL DISTRICT HEATING CABLE

The problem solver:
the heating cable which can be used in about any underground condition

Top quality for reliable product solutions with a long service life.

Reduced laying work due to long delivery lengths and sophisticated installation technology.





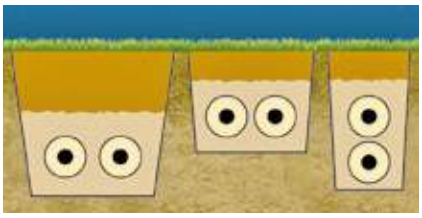


Safety when using the horizontal directional drilling method

Where it is not possible to lay pipes directly in open cut trenches, e.g. when a traffic throughway has to be crossed and cannot be closed down or for environmental reasons, the specific properties of FLEXWELL district heating cable allow it to be installed underground using this method which does not impair the surface.

To do this, a drill string which can be steered in all three dimensions, consisting of bendable sections of steel tubing is positioned in a starting trench. It is operated by injection and flushing an environmentally neutral drilling fluid which transports the fine-grained portion of the material to the starting or target trench.

The drill string is guided into the target trench with high accuracy. The required size of jet reamer is then mounted on the drilling rig together with the FLEXWELL district heating cable to be pulled through. In reverse gear and adding Bentonite drilling fluid the drill hole is enlarged, while the FLEXWELL district heating cable is pulled through simultaneously.



Trenching

* Standard pre-insulated pipe

Minimal cover required

The external steel casing of FLEXWELL district heating cable has a high degree of rigidity due to its corrugated construction and is thus able to take up high live and dead loads.

A test report from Dr. Ing. Veenker, officially approved expert, indicates: "The thickness of cover required for FLEXWELL district heating cable of the series 22/55 to 200/310 (primary pipe diameter/casing pipe diameter) is determined by assuming traffic loads in accordance with SLW 60. An effective cover of 0.20 m is sufficient for all cable sizes."

This minimal cover requirement is a great advantage when installing new pipes on top of existing concrete trenches (retro-fitting).

FLEXWELL DISTRICT HEATING CABLE

Quality and performance at its best

Benefit from our advice, experience and innovative spirit



Safety provided by multi-layer corrosion proofing

The external corrosion proofing has three layers. It provides protection against aggressive soils, water and stray currents. The same corrosion proofing has proven its worth in many decades of service on buried high-frequency and telephone cables.

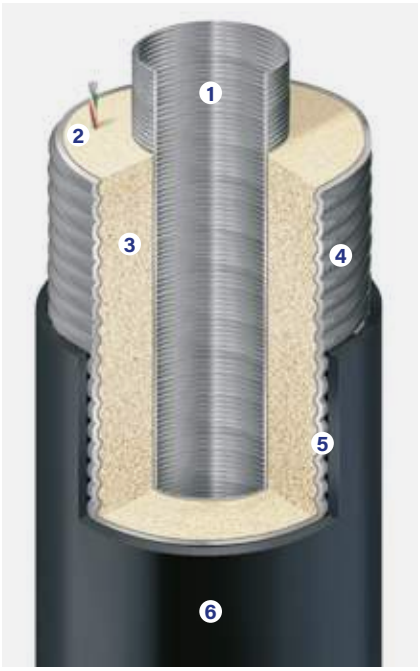
Safety through permanent surveillance

FLEXWELL district heating cable enable continuous and unbroken surveillance using the WIREM (resistance reference measurement) alarm system. This gives immediate warning of any ingress of moisture into the insulation layer, i.e. leaks in the primary or casing pipe as well as faults in the surveillance system itself, such as discontinuity of circuit.

The fault can be pinpointed with an accuracy of more than 0.2 % of the cable length under surveillance. Warning is given of leaks at an early stage, so that expensive water and heat losses can be avoided. The expenditure of time and money when digging up great lengths of pipe to locate the fault becomes unnecessary.

Universal connections

The mechanical, no-weld connections with a graphite packing can be installed in just a few minutes without the need for special tools, thus enabling FLEXWELL district heating cable to be connected to conventional piping systems.



Construction of FLEXWELL district heating cable

1 Convoluted stainless steel primary pipe
2 Alarm wires
3 Flexible solidified Polyurethane foam
4 Convoluted steel casing pipe
5 Polyment (bituminous mastic) layer
6 Polyethylene protective jacket

Operating range

Operating temperature: -170°C to +150°C
Operating pressure: 16/25 bar

Uses

Heating water, domestic hot water, potable water, condensate

Watertight wall glands for entry of FLEXWELL district heating cable into buildings and manholes are available to suit.

PRODUCT RANGE

Technical data
Twelve good reasons why you should choose FLEXWELL district heating cable



FLEXWELL district heating cable

Type FHK	DN	External diameter mm	Weight kg/m	Min. bending radius m	Max. supply lenghts m
30/ 91	25	94	3.9	1.0	1000
39/116	32	121	5.7	1.2	640
60/148	50	156	9.1	1.5	590
75/171	65	178	12.2	2.0	480
98/171	80	178	12.8	2.0	480
98/220	80	233	19.3	4.0	270
127/220	100	233	19.8	4.0	270
147/220	125	233	20.3	4.0	270
200/310	150	313	33.5	6.0	230

Installation in endless lengths without field joints
- Time savings due to shorter installation times
- No welding or insulation of field joints in the trench

Trenchless installation
- Pipe can be put directly into the ground without a ditch by using a plough
- FLEXWELL district heating cable can be combined with other cables in a single step – reducing costs

Renovation of old or damaged systems
- FLEXWELL district heating cable pipe can directly replace existing district heating or other existing pipes which are damaged or not in use anymore
- Existing PE tubes can be used to enter new flexible pipes without additional construction work

Flexible
- No prefabricated elbow fittings necessary
- Uninterrupted factory corrosion proofing jacket
- No particular precautions needed in areas prone to subsidence and on slopes

Self-ventilating
- The helically convoluted pipe is self-ventilating
- There is virtually no need for vents along the route

Lower costs as there is no need to keep trenches free of water
- Ease and safety of pipe laying even in wet soil conditions and where the water table is high
- Plus when crossing waterways

Self-compensating
- No U-bends, compensators, expansion elbows or anchors needed in the ground
- Low planning and construction supervision costs

Minimal excavation costs
- Narrow trench widths and shorter routes
- Less excavation quantities
- Cost savings when restoring the surface
- Minimal laying depth
- Lower costs for securing the site and for road and pedestrian bridges

Loop-in method instead of T-branches
- Less risks and improved longevity
- No interruption in the corrosion proofing jacket
- Fast and economical installation

Underground installation
- Horizontal directional drilling method
- in ducts and protective pipes

Circumnavigating obstacles
- Obstacles can be passed above or be low at no extra cost
- Extra work for relocation of other underground lines not necessary

Environmentally friendly installation
- The pipe route can simply be tailored to suit local conditions
- Trees and shrubs can be skirted at a suitable distance
- No lowering of the water table necessary
- Routing can be chosen to fit the local topography

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