









Pipes and components for geothermal energy

-  Corrosion resistant pipes
-  Clad pipes
-  Special pipes and components ready for installation
-  Prefabricated piping/spools
-  Vessels, tanks and columns
-  Assemblies



BUTTING

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
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Pipes and components for geothermal energy

Geothermal energy describes the heat stored in the accessible part of the earth's crust. It includes all the energy stored in the earth which can be extracted and used, and is classified as a renewable energy source. The possible uses are many and various, and so the same applies to the use of pipes and pipe materials in energy branch.

In a number of areas of use involving geothermal power, what is to be transported demands highly corrosion resistant materials.

For this purpose, BUTTING offers a wide variety of solutions for the entire plant structure:

- Casings
- Components ready for installation, such as
 - „Float equipment“
 - „Line hangers“
 - „Tie back parts“ for depth drilling (for production and injection)
- Transport pipes (cross-country line pipes) in 12 m lengths between the well and the power station
- Prefabricated piping / spools for process piping in the power station

Prefabrication, unlike "on-site" completion, brings benefits in terms of quality and time. Welding and testing the individual components (e. g. X-ray, dye-penetrant and ultrasonic testing) take place under optimum workshop conditions.

Another advantage is the full-body and spray pickling of the piping components, which is only possible on site to a very limited extent, with high, cost-intensive environmental conditions. In addition, optimum anti-corrosion protection of the pipe surfaces is ensured.





Casings manufactured to customers' specifications

Casings

In order to cope with the high degree of corrosion resistance required by geothermal power, BUTTING offers casings in a variety of materials, such as

- Duplex
- Superduplex
- Alloy 625
- Titanium

The customer can select from a whole range of dimensions. The casings are manufactured in line with standard codes (e. g. API 5CT) and customer specifications and are provided with the required licensed threads. The threads are mainly connected by flush threads.

Tolerance requirements

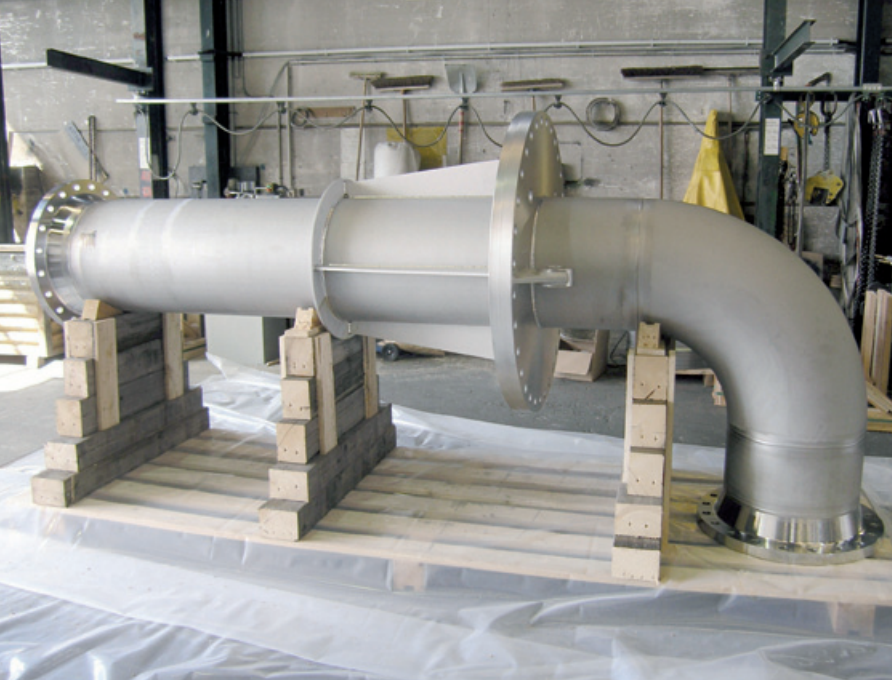
The casings are made from steel plates at BUTTING and welded longitudinally. The specified tolerances for roundness and ovality are extremely tight, at < 0.5 %. Thus the current requirements such as the drift test and above all cutting the threads on the pipe bodies (with relatively thin wall thicknesses) can be ensured.

Tests such as an X-ray test of the longitudinal weld, corrosion tests and a collapse test on the pipe body are part of our standard procedure. In addition, the casings can be provided with centralizers at the outside circumference.

Mechanical and technological properties

BUTTING is able to optimise the casings with a cold work. This procedure offers you a whole series of advantages: the cold work allows the strength and the yield strength to be increased; the latter is important for constructive laying. As a result, the wall thicknesses at the casing can be considerably reduced, and the same applies to both the weight and the costs.





Ready-to-install spools – prefabrication in our plant ensures good quality BUTTING in Knesebeck

Components ready for installation

Fittings for geothermal drilling

As well as the casings, BUTTING also supplies the appropriate components, such as

- Float collars
- Float shoes
- Cross over subs
- Drill bits
- Lifting plugs
- Tie back components

The basis of these components is always our high-quality, longitudinally welded pipe, calibrated to very tight roundness tolerances. The pipes go through a complete turning and milling process and are equipped with compatible threads.

Transport pipes

To transport thermal water from the bore hole to the power station, BUTTING also manufactures the required

pipes, using material grades including duplex, super-duplex and nickel alloys. Delivery lengths of 12 m reduce the number of circumferential welds to be performed on site, and thus also cut the laying costs. The increased demands imposed by the customer specifications of the tolerances for the roundness and ovality allow the pipes to be fitted together on site using orbital technology with no problems whatever, and are the basis for the high quality of the circumferential weld seam.

Prefabricated piping/spools for power station construction

For the piping systems of a plant, BUTTING buys in the required fittings and flanges and welds the pipes it has constructed itself into prefabricated piping/spools. Here the standard codes like PED 97/23/EC, ASME B31.1 and B31.3, are used as desired by the customer.



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