

Product info

The annular space seal Hydrocord™ UKP 2K is used specially for corrugated and preisolated pipes and is the optimal product to seal penetrations for pipelines of various purposes (gas, water, sewage) and the cables from pressure and non-pressure groundwater. Compression plates are made of stainless steel.

The annular space seal Hydrocord™ 2K can be detachable - Split version, which is used for already installed pipes and when it is not possible to mount the seal from the pipe end.

Application

Hydrocord™ UKP 2K seal is used for sealing and waterproofing penetrations of sewerage, water supply, heat supply and other networks through the enclosing structures of buildings (usually monolithic or prefabricated reinforced concrete walls and ceilings), as well as for sealing penetrations of networks in cases during trenchless laying of pipes.

The principle of seal operation is the expansion of the sealing element (rubber core), under the action of the compressive force of the pressure steel plates when tightening the bolts that unite the structure.

Advantages

- Proven water resistance up to 5 bar;
- Installation does not depend on ambient temperature;
- Instrumental quality control (Dynamometric wrench);
- Gas and waterproof;
- Fast installation;
- Durability;
- Can be made to order for any size and modification;
- Modification for contact with oils and oil products (made of oil and petrol resistant rubber) is possible;
- Application in contact with potable water is possible (modification with food rubber);
- Modification with an extended operating temperature range (from -60°C to +200°C) made of silicone caoutchouc is possible.





Notes

- The drilled hole must be treated with epoxy compound;
- Hydrocord™ UKP **should not support** the pipe;
- The pipe must be centered and fixed on special pipe supports.

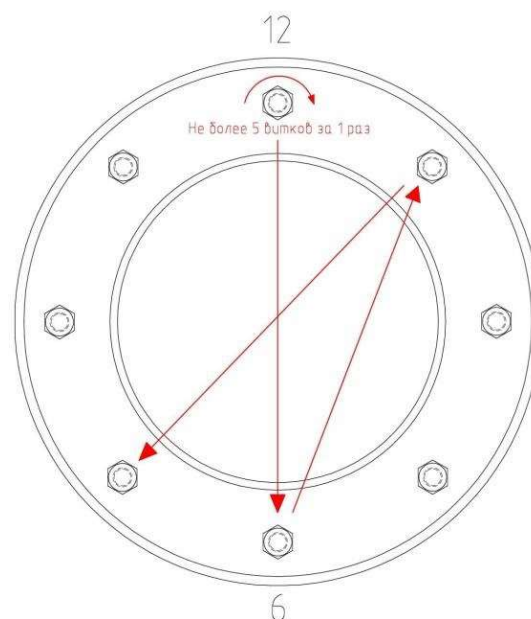
Materials

Annular space seal Hydrocord™ UKP can be made of the following materials:

1. EPDM (Standard);
2. Oil and petrol resistant rubber (Optional);
3. Food grade rubber (Optional);
4. Silicone caoutchouc for high temperatures (Optional);

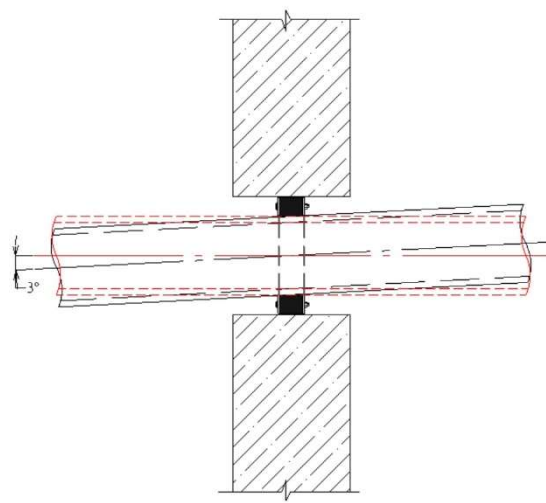
Installation

1. Clean the hole (sleeve, drilled hole, case, etc.) and pipe;
2. Check the pipe and hole diameters and compare with the seal diameters;
3. Install Hydrocord™ UKP on the pipe (for the Split version - close and assemble the seal on the pipe);
4. Put the seal into the hole. The nuts of the tightening bolts must be directed towards the installer. (It is recommended to install the seal in such a way to provide access to the tightening nuts during the building operation);
5. Using a torque wrench, tighten the tie bolts in a star pattern (image below). The tightening torque must be in accordance with the table below. Each bolt must be tightened in several passes until the required torque is reached, several passes are required;
6. It is allowed to mount the seal on pipes that are installed under a longitudinal slope of up to 30° (or up to 50‰).



| Maximum tightening torque, Nm | | |
|-------------------------------|---------------------------------------|--|
| Bolt diameter | Standard pipes | Thin-walled and pre-insulated (corrugated) pipes |
| M6 | 5 Nm | 5 Nm |
| M8 | 10 Nm (For standard UKP and 2K type) | 8 Nm (For standard UKP and 2K type) |
| | 20 Nm (For individual version of UKP) | 15 Nm (For individual version of UKP) |
| M10 | 30 Nm | 22 Nm |
| M12 | 36 Nm | 26 Nm |

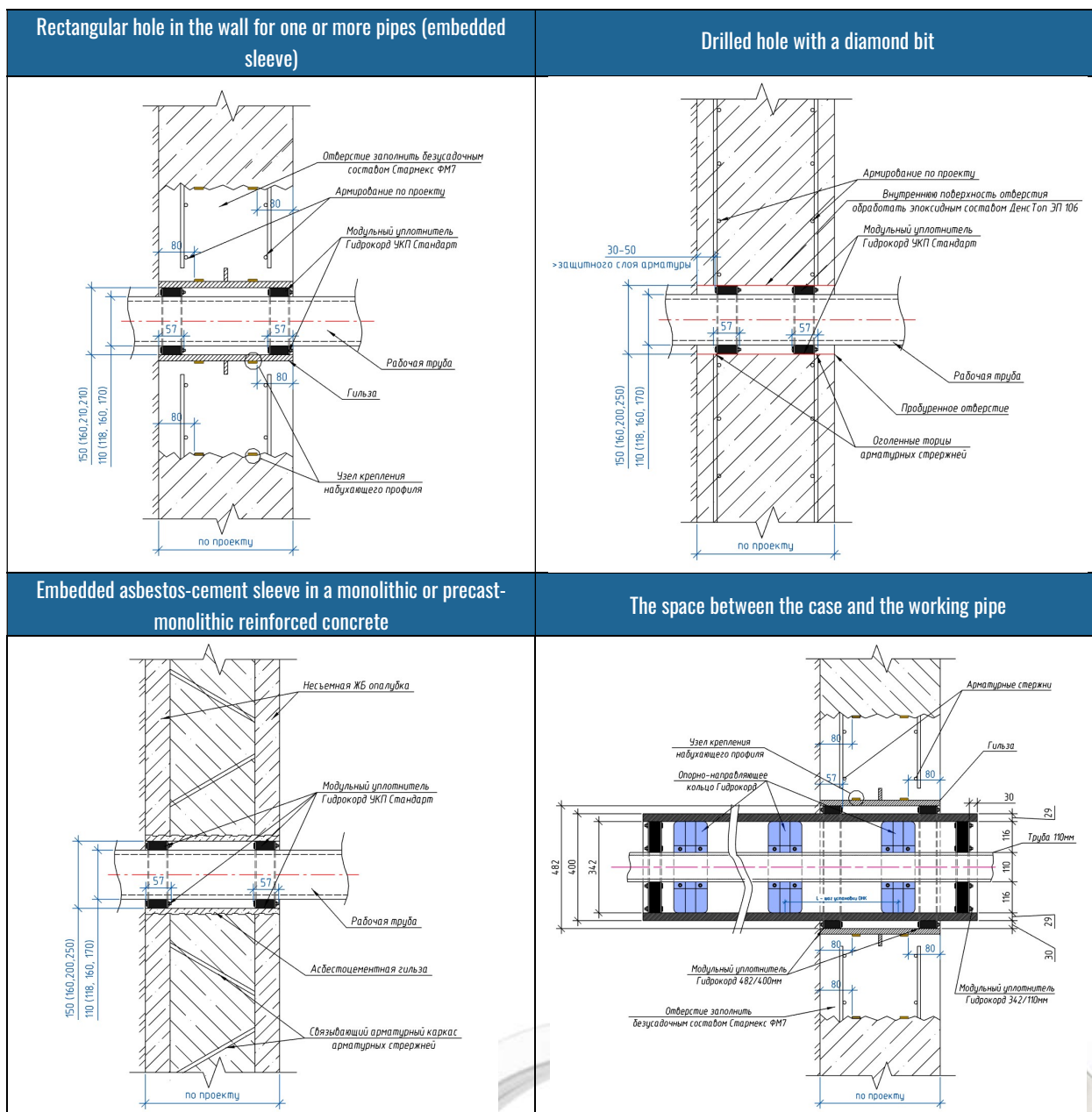
| Bolt diameter | Tool dimensions for bolts |
|---------------|---------------------------|
| M6 | 10mm |
| M8 | 13mm |
| M10 | 17mm |
| M12 | 19mm |





Options for technical solutions

The annular space seal Hydrocord™ UKP can be used in various cases:



Upon request, the design department of Hydrocord LLC can develop technical solutions for your project. According to your initial data, our specialists will develop a project for sealing penetrations of networks with specifications and detailed nodes.

The album of typical solutions can be downloaded by the link of our website in the section "Solutions for designers":





Specifications of seal types *

| Specification | Hydrokord™ UKP | Hydrokord™ UKP Individual | Hydrokord™ UKP 2K | Hydrokord™ UKP FL (FL-K) | Hydrokord™ UKP Electro | Hydrokord™ UKP Seismo |
|-----------------------|----------------|---|-------------------|--------------------------|------------------------|-----------------------|
| Max/min hole diameter | 50-600mm | 40-3000 mm | 50-600 mm | 50-600 mm | 50-600 mm | 350-2000 mm |
| Waterproofing | Up to 5 bars | Up to 1 bars | Up to 5 bars | Up to 5 bars | Up to 1.5 bars | Up to 1 bars |
| Rubber core thickness | 40 mm | Outer diameter up to 800mm - 40mm, more than 800mm - 80mm | 80 mm | 40 mm | 40 mm | 80 mm |

Specifications of rubber types

| Specification | Hydrocord™ UKP made of EPDM rubber | Hydrocord™ UKP made of food grade rubber | Hydrocord™ UKP from silicone caoutchouc | Hydrocord™ UKP from MBS rubber |
|-----------------------|------------------------------------|--|---|--------------------------------|
| UV resistance | Good | Good | Good | Weak |
| Shore hardness, A | 45 ±5 | 55 ±5 | 45 ±5 | 50 ±5 |
| Operating temperature | -30°C up to +80°C | -30°C up to +80°C | -60°C up to +200°C | -30°C up to +80°C |
| Color | Black | Black | Grey | Black |

*- Any seal can be made from the required rubber material on order, upon request.

TA №1-3.02



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Product page on website



Technical solution selection for seal design

| Seal type | Centered single penetrations | Non-centered penetrations | Stranded penetrations | Holes without pipes | Seismic conditions | The need for attaching with external waterproofing |
|------------|------------------------------|---------------------------|-----------------------|---------------------|--------------------|--|
| Standard | • | | | | | |
| Individual | • | • | • | | | |
| 2K | • | | | | | |
| FL (FL-K) | • | | | | | • |
| Electro | | | • | | | |
| Seismo | • | • | | | • | |
| Plug | | | | • | | |

Choice of technical solution by the type of communication networks

| Seal type | Water supply networks | Sewer networks | Heating networks* | Steel, cast iron, HDPE, PVC pipes | Thin-walled and pre-insulated (corrugated) pipes | Cable penetrations |
|------------|-----------------------|----------------|-------------------|-----------------------------------|--|--------------------|
| Standard | • | • | • | • | | |
| Individual | • | • | • | • | • | |
| 2K | • | • | • | • | • | |
| FL (FL-K) | • | • | • | • | • | |
| Electro | | | | | | • |
| Seismo | • | • | • | • | • | |
| | | | | | | |

*- For heat supply networks, it is necessary to use a seal material - silicone caoutchouc, if heat supply pipes are pre-insulated in polyurethane foam insulation, then it is necessary to use a seal design - 2K.

Choice of technical solution by material and affecting environment

| Seal type | Standard Conditions | Influence of aggressive acids and alkalis | Contact with petroleum products | Contact with drinking water | Increased operating temperature over 80 °C | Low operating temperature down to – 60°C |
|-------------------|---------------------|---|---------------------------------|-----------------------------|--|--|
| EPDM rubber | • | • | | | | |
| MBS rubber | • | | • | | | |
| Food grade rubber | • | | | • | | |
| Silicone | • | | | | • | • |

