

Product info

The annular space seal Hydrocord™ UKP FL with a special, wider flange on one side, designed for special cases to fix the seal with significant hydrostatic pressure. This seal 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.

Hydrocord™ UKP FL 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.

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..

Annular space seal Hydrocord™ UKP FL-K with a special flange on one side is designed to fix the seal with fasteners to the enclosing structure. And also, for joining the seal with external waterproofing through a special butyl caoutchouc tape.

Application

Hydrocord™ UKP FL (FL-K) 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.





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.

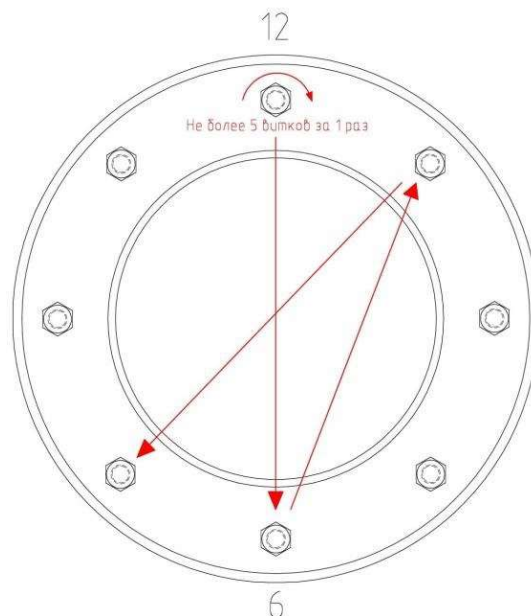
Materials

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);

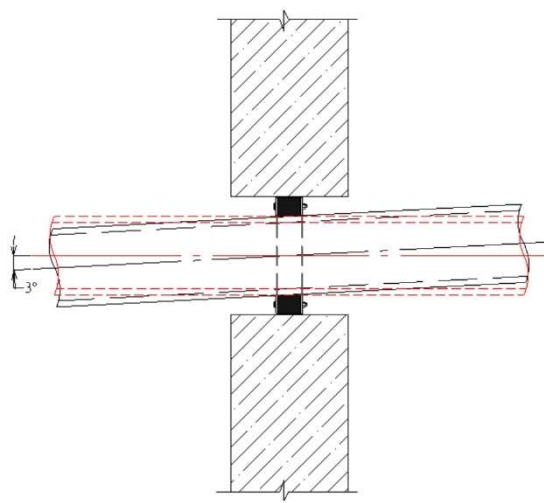
Installation

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

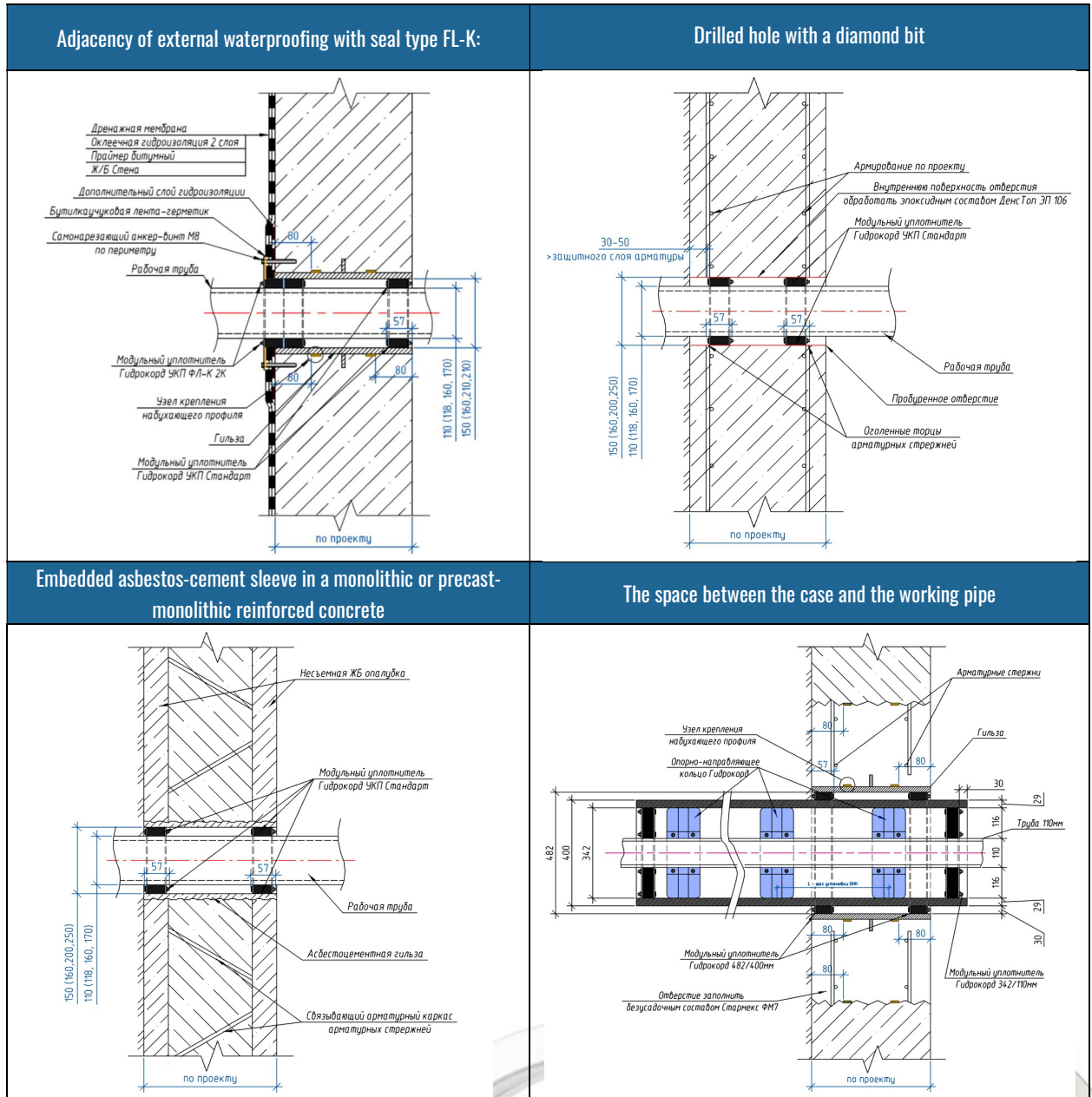
Bolt diameter	Tool dimensions for bolts
M6	10mm
M8	13mm
M10	17mm
M12	19mm





Options for technical solutions

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



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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.

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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	•				•	•



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