Waterproofing materials

Hydrocord®

Yekaterinburg 2025

РОССИЙСКАЯ ФЕДЕРАЦИЯ

ПАТЕНТ

НА ПОЛЕЗНУЮ МОДЕЛЬ

№ 207518

УСТРОЙСТВО ДЛЯ УПЛОТНЕНИЯ ВСТАВЛЕННЫХ В ОТВЕРСТИЕ КОНСТРУКЦИЙ КОММУНИКАЦИЙ ПРИ ЗНАЧИТЕЛЬНЫХ ПЕРЕМЕЩЕНИЯХ КОММУНИКАЦИЙ

Патентообладатель: *Общество с ограниченной ответственностью Торговый Дом «Гидромикс - Инжиниринг» (RU)*

Авторы: *Гусев Роман Андреевич (RU), Непряхин Артём Анатольевич (RU)*

Заявка № 2021122511
Приоритет полезной модели 28 июля 2021 г.
Дата государственной регистрации в Государственном реестре полезных моделей Российской Федерации 01 ноября 2021 г.
Срок действия исключительного права на полезную модель истекает 28 июля 2031 г.

Руководитель Федеральной службы по интеллектуальной собственности

Г.П. Ивлиев

+ In-house production-

From development to finished products

РОССИЙСКАЯ ФЕДЕРАЦИЯ

ПАТЕНТ

НА ПОЛЕЗНУЮ МОДЕЛЬ

№ 208924

УСТРОЙСТВО ДЛЯ УПЛОТНЕНИЯ ВСТАВЛЕННЫХ В ОТВЕРСТИЕ КОНСТРУКЦИЙ КОММУНИКАЦИЙ ПРИ ЗНАЧИТЕЛЬНЫХ ПЕРЕМЕЩЕНИЯХ КОММУНИКАЦИЙ В РАЗЛИЧНЫХ НАПРАВЛЕНИЯХ ОТНОСИТЕЛЬНО ОСИ КОММУНИКАЦИИ

Патентообладатель: *Общество с ограниченной ответственностью Торговый Дом "Гидромикс - Инжиниринг" (RU)*

Авторы: *Гусев Роман Андреевич (RU), Непряхин Артём Анатольевич (RU)*

Заявка № 2021122517
Приоритет полезной модели 28 июля 2021 г.
Дата государственной регистрации в Государственном реестре полезных моделей Российской Федерации 24 января 2022 г.
Срок действия исключительного права на полезную модель истекает 28 июля 2031 г.

Руководитель Федеральной службы по интеллектуальной собственности

Г.П. Ивлиев

+ Engineering

+ Designing

+ Technical solutions sets

Hydrocord® - registered trademark LLC “Hydrocord”.

Table of contents

Hydrocord ® UKP Standard seal

LLC “Plant of waterproofing materials “Hydrocord”
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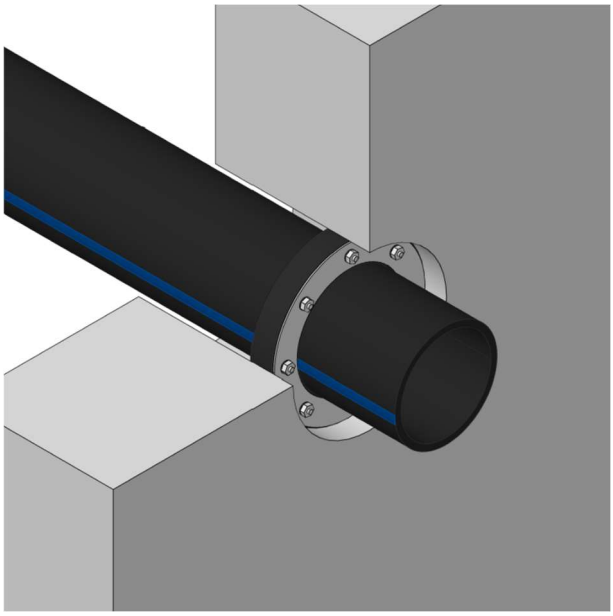
Web: hydrocord.ru E-mail: ukp@gydromix.ru



Product info

The annular space seal **Hydrocord™ UKP Standard** is the optimal product, which is used perfect sealing of 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™ UKP** 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.

For **Hydrocord™ UKP** products, EPDM rubber is used as standard material, and pressure plates are made of S304 stainless steel.

Application

Hydrocord™ UKP 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 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;
- Quick installation;
- Durability;
- Can be customized to, any size and modifications ;
- Modification for contact with oils and oil products (made of oil and petrol resistant rubber) is available;
- Application in contact with potable water is available (modification with food rubber);
- Modification with an extended operating temperature range (from -60°C to + 200°C) made of silicone rubber is available.

TD №1-1.03

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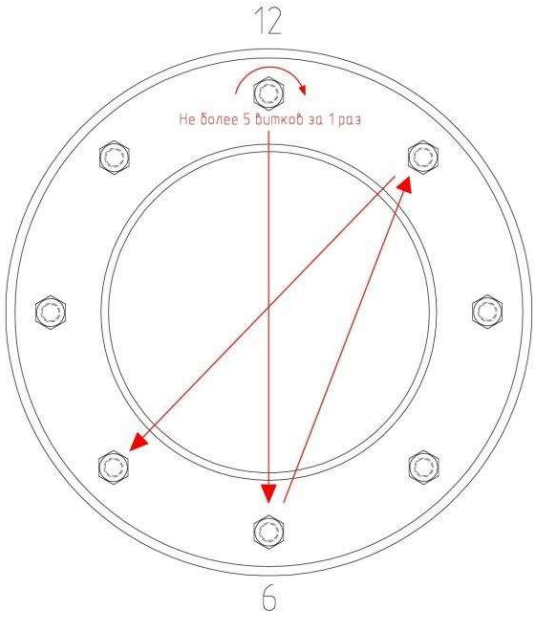
Product info on the website

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:

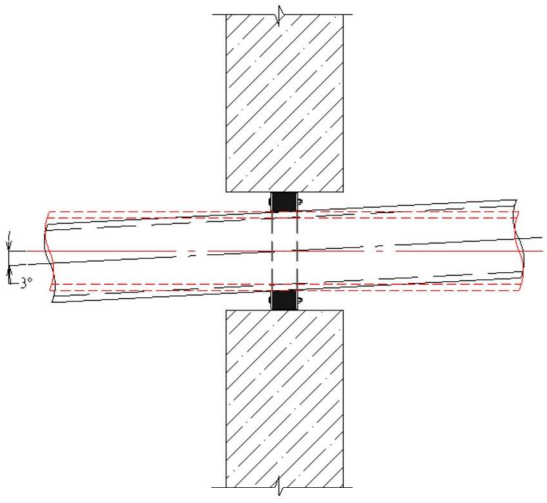
1. EPDM (Standard);
2. Oil and petrol resistant rubber (Optional);
3. Food grade rubber (Optional);
4. High temperature silicone rubber (Optional);

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. Tighten the tie bolts in a star pattern using a torque wrench (as it is shown below). The tightening torque must be in accordance with the table below. Each bolt must be tightened in several steps until the required torque is reached, several steps 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 customized version of UKP)	15 Nm (For customized 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



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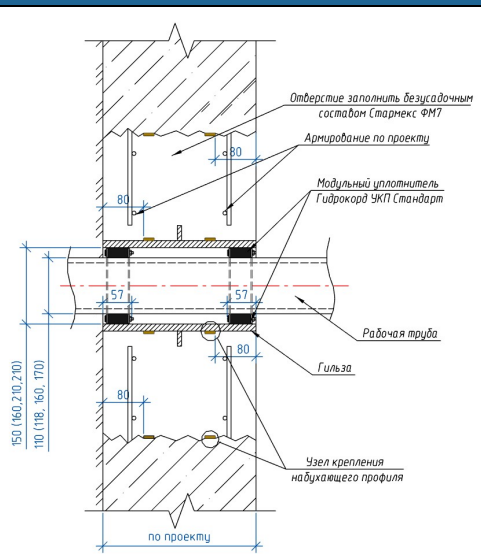
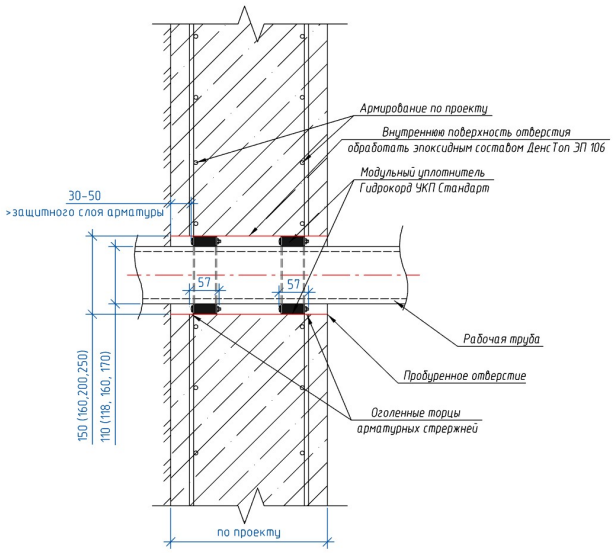
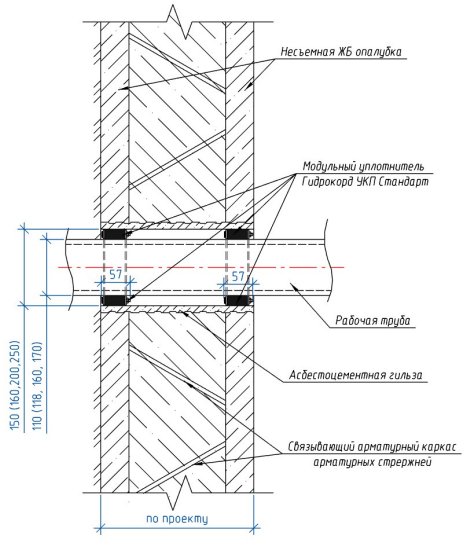
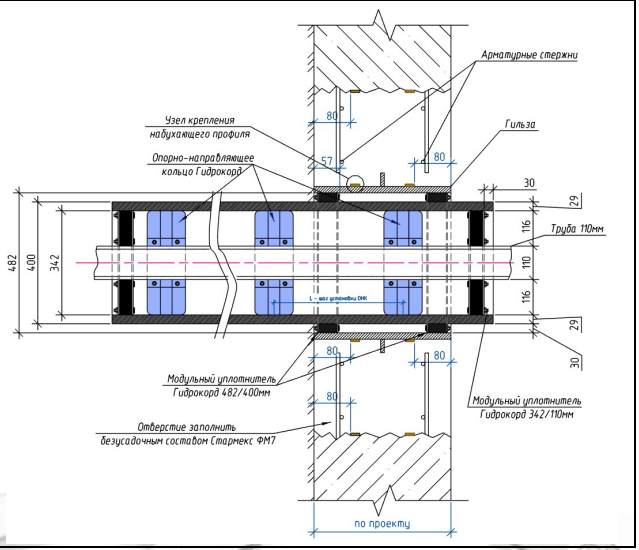
Product info on the website

Options for technical solutions

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

Rectangular hole in the wall for one or more pipes (embedded sleeve)	A hole drilled with a diamond bit
	
Embedded asbestos-cement sleeve in a monolithic or cast-inplace reinforced concrete	**The space between the case and the working pipe**
	

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.

Download the set of standard solutions following the link in the section "Solutions for designers" of our website:

TD №1-1.03

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Product info on the website

Hydrocord® UKP Individual seal

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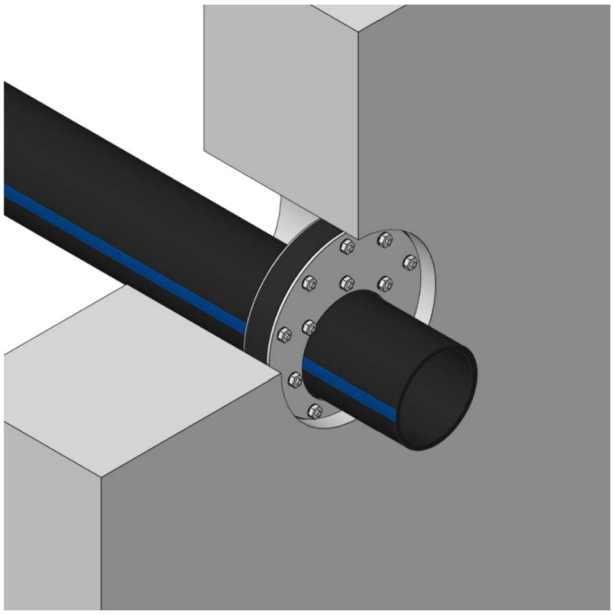


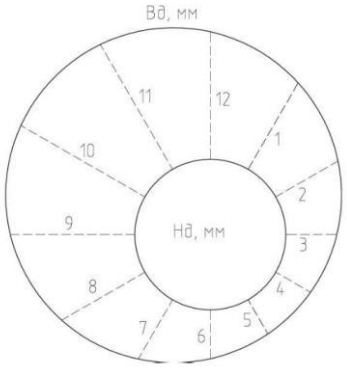
Product info

Annular Space Seal Hydrocord™ UKP Individual can be customized upon the customer's request. In such cases, almost any options are possible:

- Oval pipes;
- Rectangular holes;
- Eccentric position of a pipe in a hole (pipe not centered),
- Inlet of multiple pipes or cables.

For non-centered single penetrations, 12 measurements must be made in a clockwise direction from the top of a pipe in order to produce the seal properly. The measurement must be perpendicular to the pipe tangent. The distance between measurement points can be calculated by dividing the pipe circumference by 12.

When measuring penetrations in difficult conditions, for example, when driving 2 or more pipes in one hole, it is possible to use 3D laser scanning.



Advantages

- Proven water resistance up to 5 bar. (for the outer diameter of the UKP up to 600mm);
- Installation does not depend on ambient temperature;
- Instrumental quality control (Dynamometric wrench);
- Gas and waterproof;
- Quick installation;
- Durability;
- Can be customized to any size and modification;
- Modification for contact with oils and oil products (made of oil and petrol resistant rubber) is available;
- Application in contact with potable water is available (modification with food rubber);
- Modification with an extended operating temperature range (from -60°C to + 200°C) made of silicone rubber is available

TD №1-2.03

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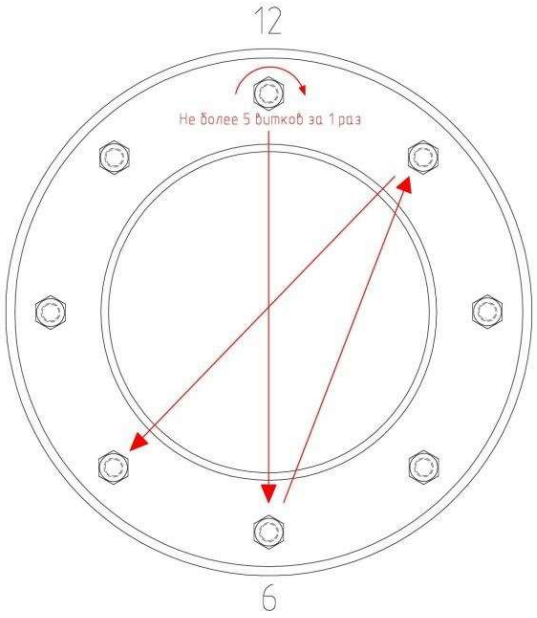
Product info on the website

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. High temperature silicone rubber (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. Tighten the tie bolts in a star pattern using a torque wrench(as it is shown below). The tightening torque must be in accordance with the table below. Each bolt must be tightened in several steps until the required torque is reached, several steps are required;
6. It is allowed to mount the seal on pipes that are installed with a longitudinal slope of up to 30 (or up to 50‰).

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

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 customized version of UKP)	15 Nm (For customized version of UKP)
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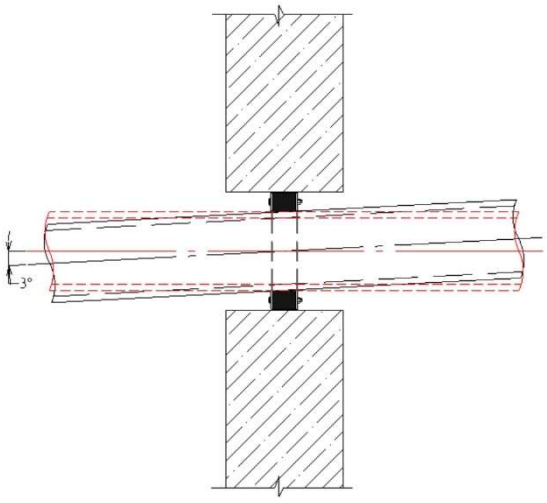

TD №1-2.03

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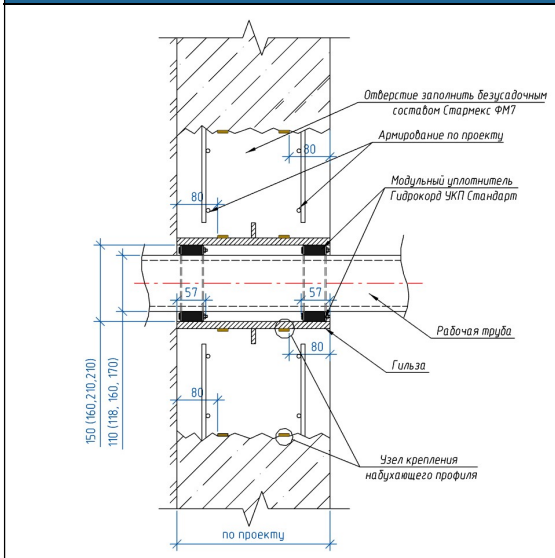
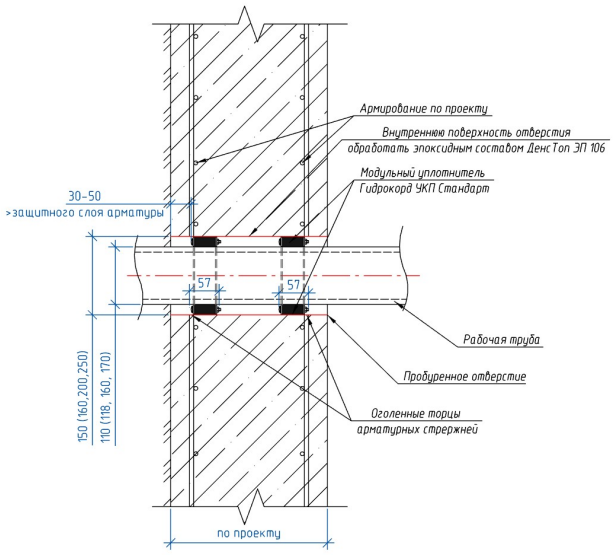
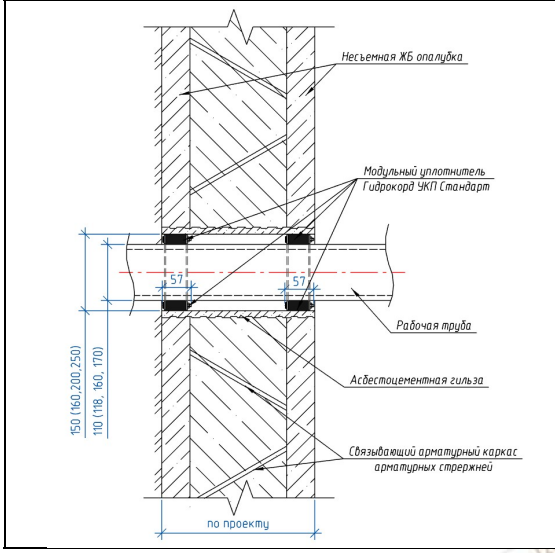
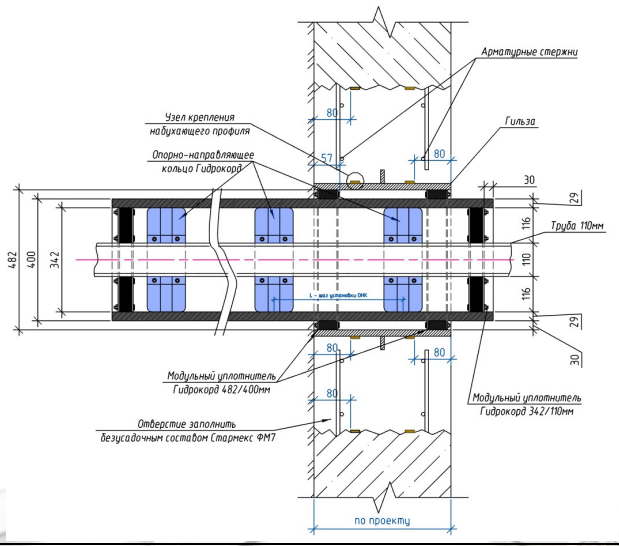
Product info on the website

Options for technical solutions

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

Rectangular hole in the wall for one or more pipes (embedded sleeve)	A hole drilled with a diamond bit
	
Embedded asbestos-cement sleeve in a monolithic or cast-inplace reinforced concrete	**The space between the case and the working pipe**
	

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.

Download the set of standard solutions following the link in the section "Solutions for designers" of our website:

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Product info on the website

Hydrocord® UKP 2K seal

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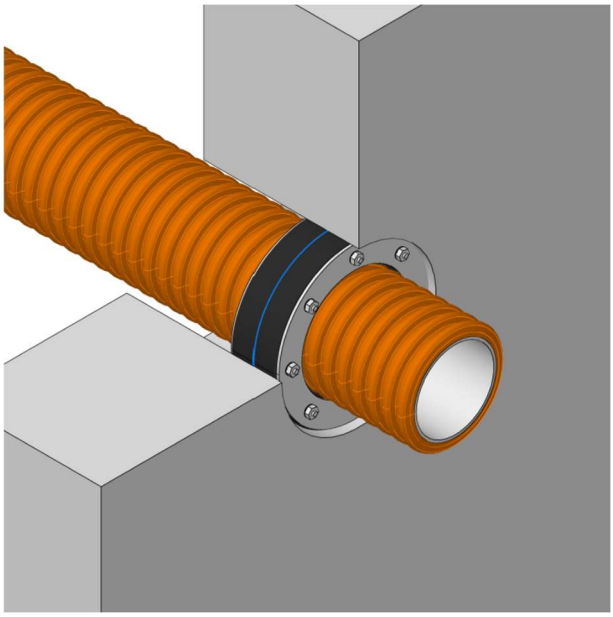

Product info

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 pipe laying.

The principle of seal operation is the expansion of the sealing element (rubber core), under 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;
- Quick installation;
- Durability;
- Can be customized to any size and modification;
- Can be adjusted for contact with oils and oil products (made of oil and petrol resistant rubber) ;
- Application in contact with potable water is available (modification with food rubber);
- Modification with an extended operating temperature range (from -60°C to + 200°C) made of silicone rubber is available.

TD №1-3.02

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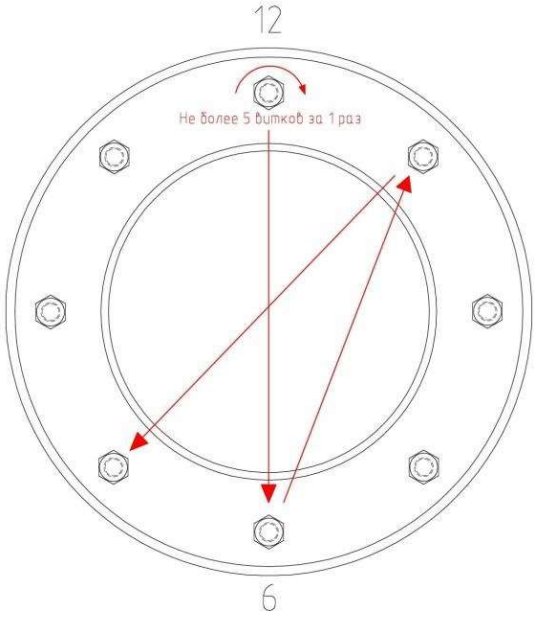
Product info on the website

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:

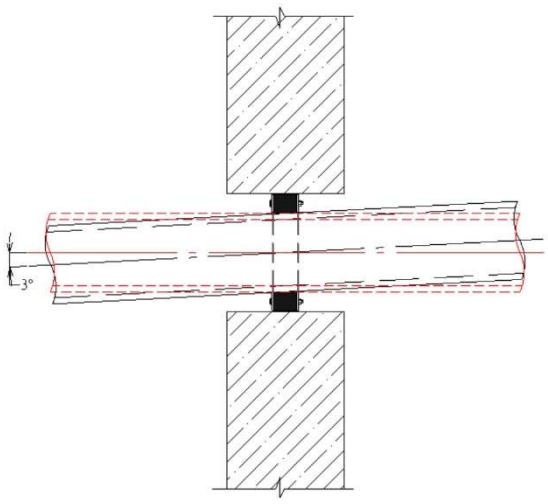
1. EPDM (Standard);
2. Oil and petrol resistant rubber (Optional);
3. Food grade rubber (Optional);
4. High temperature silicone rubber (Optional);

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. Tighten the tie bolts in a star pattern using a torque wrench (as it is show below). The tightening torque must be in accordance with the table below. Each bolt must be tightened in several steps until the required torque is reached, several steps are required;
6. It is allowed to mount the seal on pipes that are installed with a longitudinal slope of up to 30 (or up to 50‰).

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

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 customized version of UKP)	15 Nm (For customized version of UKP)
M10	30 Nm	22 Nm
M12	36 Nm	26 Nm



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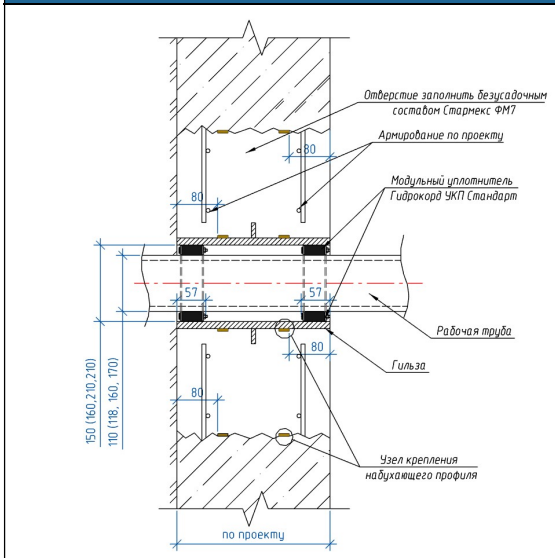
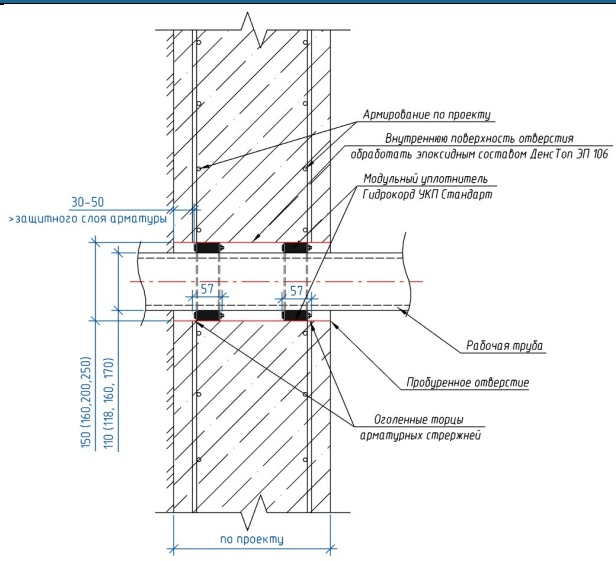
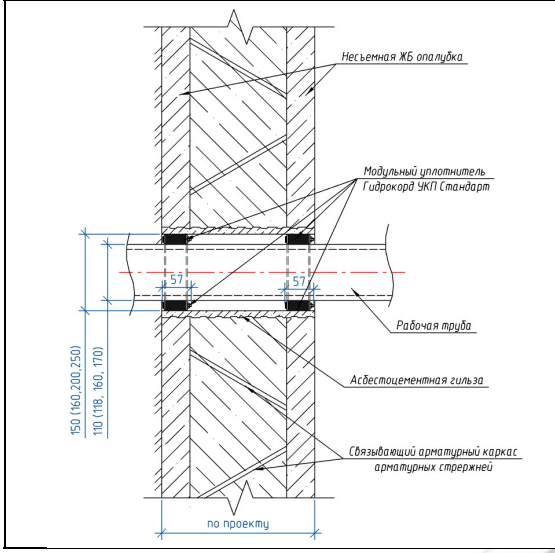
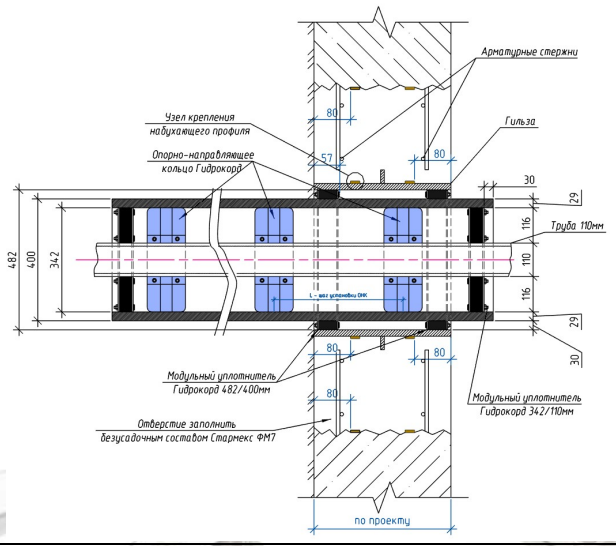
Product info on the website

Options for technical solutions

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

Rectangular hole in the wall for one or more pipes (embedded sleeve)	A hole drilled with a diamond bit
	
Embedded asbestos-cement sleeve in a monolithic or cast-inplace reinforced concrete	**The space between the case and the working pipe**
	

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Product info on the website

Hydrocord® UKP FL (FL-K) seal

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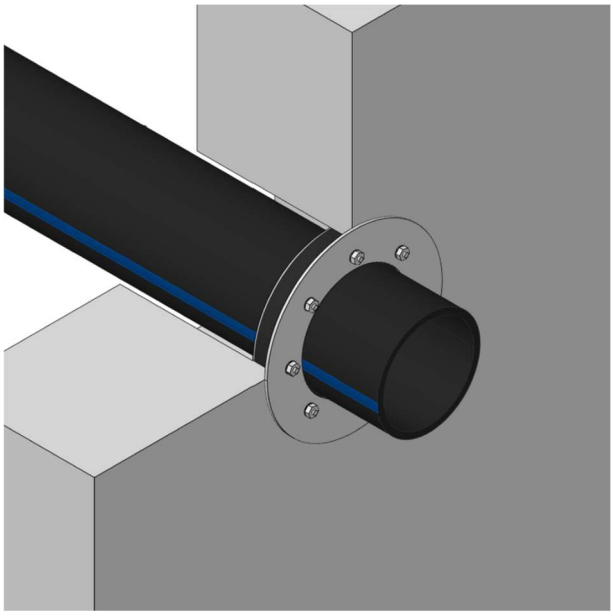

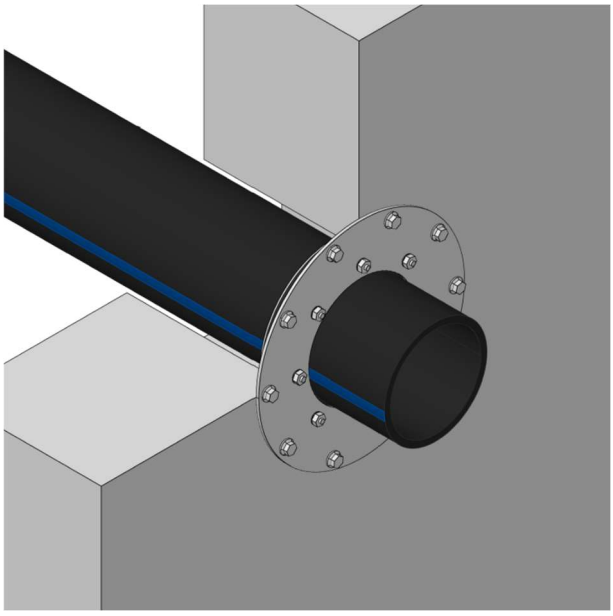

Product info

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;
- Quick installation;
- Durability;
- Can be customized to any size and modification;
- Can be adjusted for contact with oils and oil products (made of oil and petrol resistant rubber);
- Application in contact with potable water is possible (modification with food grade rubber);
- Modification with an extended operating temperature range (from -60°C to + 200°C) made of silicone rubber is available.

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 rubber 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 compressive force of the pressure steel plates when tightening the bolts that unite the structure.

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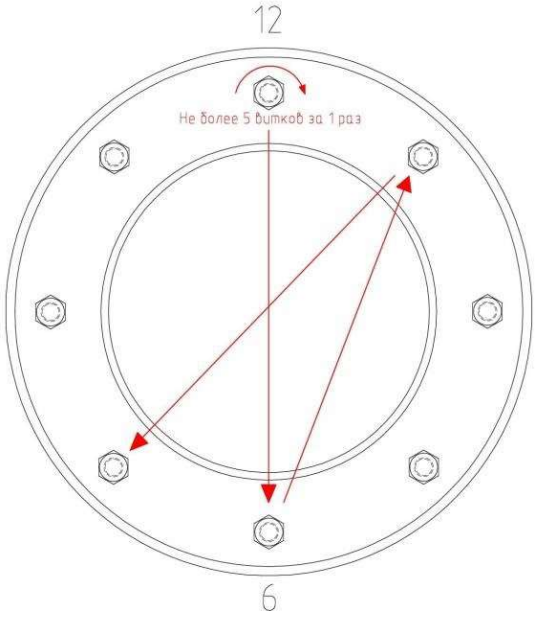
Notes

- 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:

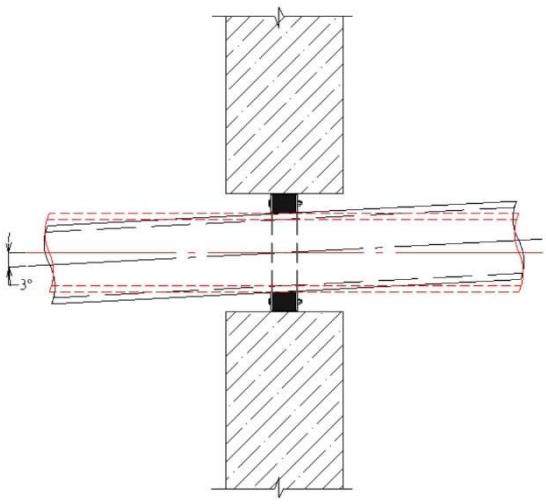
1. EPDM (Standard);
2. Oil and petrol resistant rubber (Optional);
3. Food grade rubber (Optional);
4. High temperature silicone rubber (Optional);

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. Tighten the tie bolts in a star pattern using a torque wrench(as it is shown below). The tightening torque must be in accordance with the table below. Each bolt must be tightened in several steps until the required torque is reached, several steps are required;
6. It is allowed to mount the seal on pipes that are installed with 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 customized version of UKP)	15 Nm (For customized 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



TD №1-4.02

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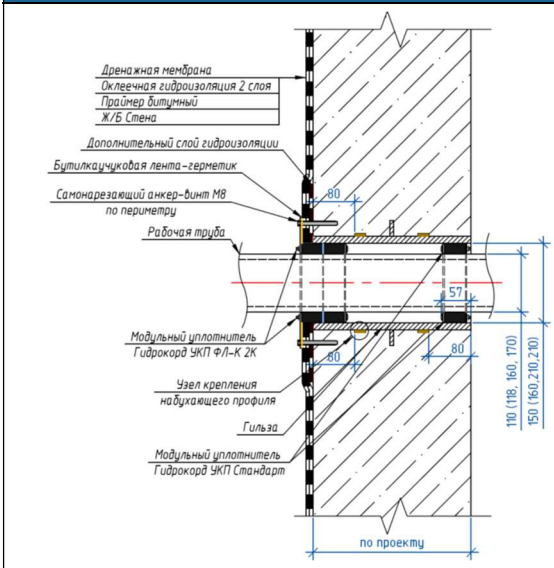
Product info on the website

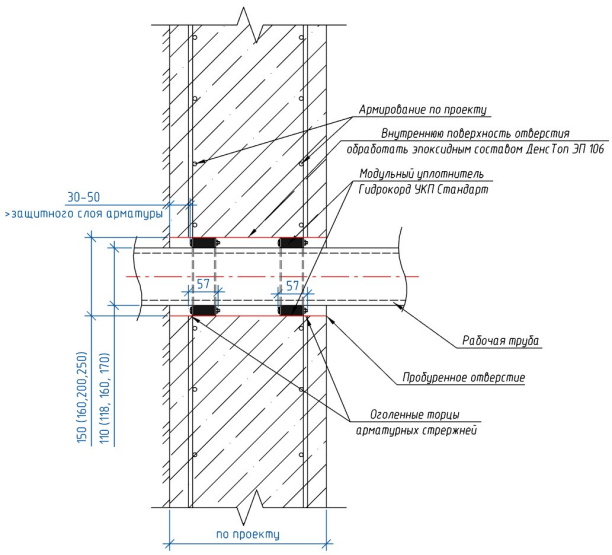
Options for technical solutions

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

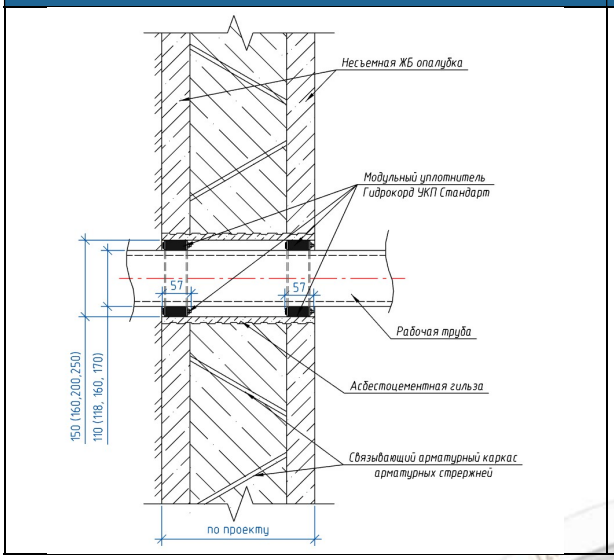
Adjacency of external waterproofing with seal type FL-K:



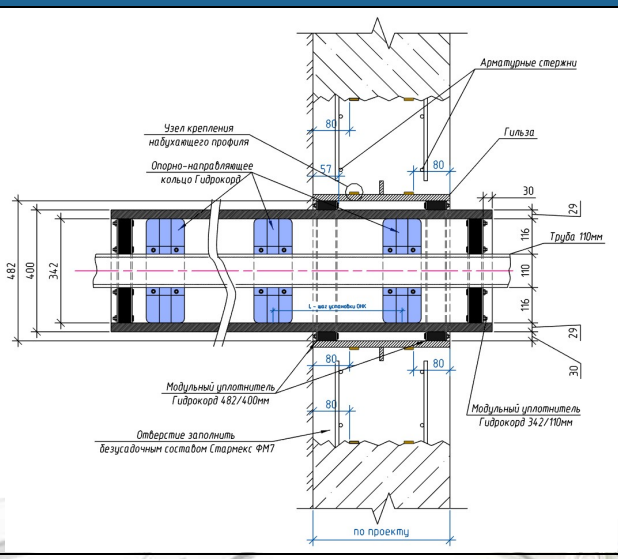
A hole drilled with a diamond bit



Embedded asbestos-cement sleeve in a monolithic or cast-inplace reinforced concrete



The space between the case and the working pipe



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.

Download the set of standard solutions following the link in the section "Solutions for designers" of our website:

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Product info on the website

Hydrocord® UKP Electro seal

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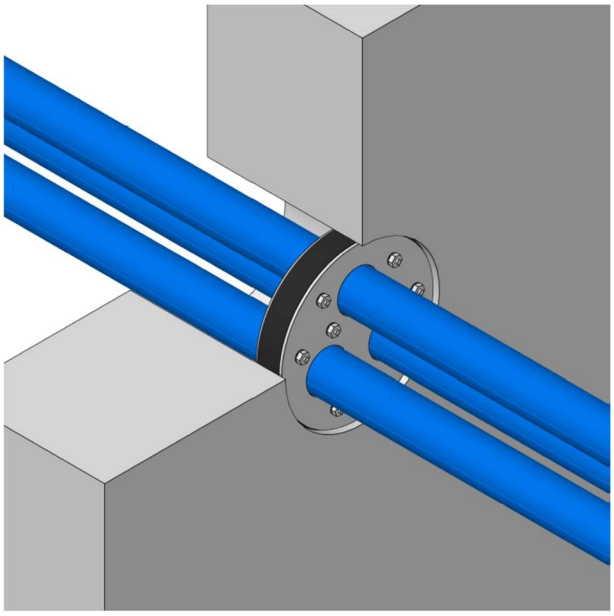

Product info

Annular space seal Hydrocord™ UKP Electro is designed for sealing cable penetrations, including multi-core penetrations. It is the optimal solution for sealing cable penetrations of various purposes from pressure and non-pressure groundwater. Compression plates are made of stainless steel.

Application

Hydrocord™ UKP Electro seal is used for sealing and waterproofing of cable penetrations 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 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;
- Quick installation;
- Durability;
- Can be customized to any size and modification;
- Can be adjusted for contact with oils and oil products (made of oil and petrol resistant rubber);
- Application in contact with potable water is available (modification with food rubber);
- Modification with an extended operating temperature range (from -60°C to + 200°C) made of silicone rubber is available.

Notes

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

TD №1-5.02

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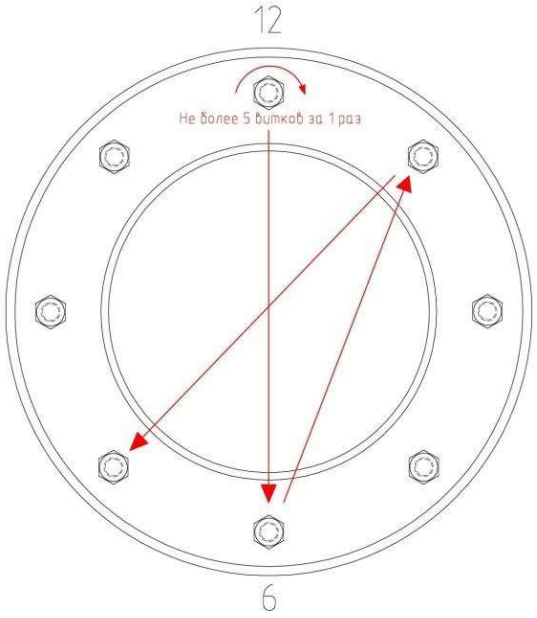
Product info on the website

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:

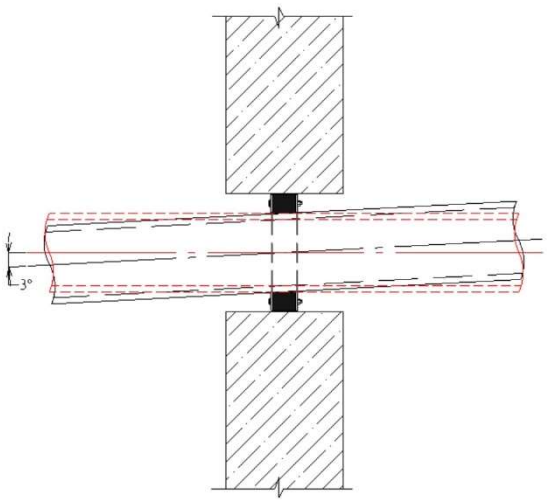
1. EPDM (Standard);
2. Oil and petrol resistant rubber (Optional);
3. Food grade rubber (Optional);
4. High temperature silicone rubber (Optional);

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. Tighten the tie bolts in a star pattern using a torque wrench (as it is shown below). The tightening torque must be in accordance with the table below. Each bolt must be tightened in several steps until the required torque is reached, several steps 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 customized version of UKP)	15 Nm (For customized 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



TD №1-5.02

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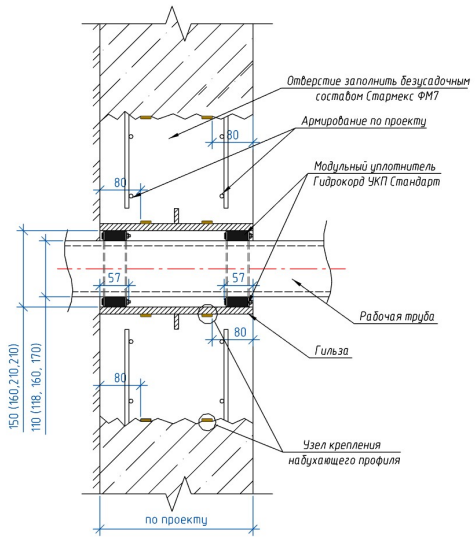
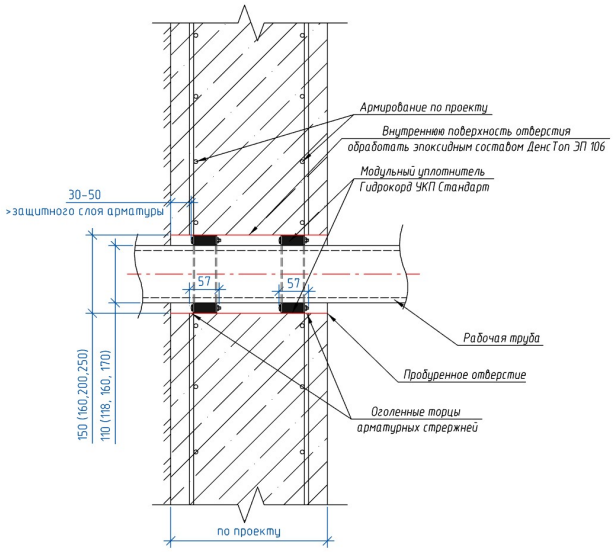
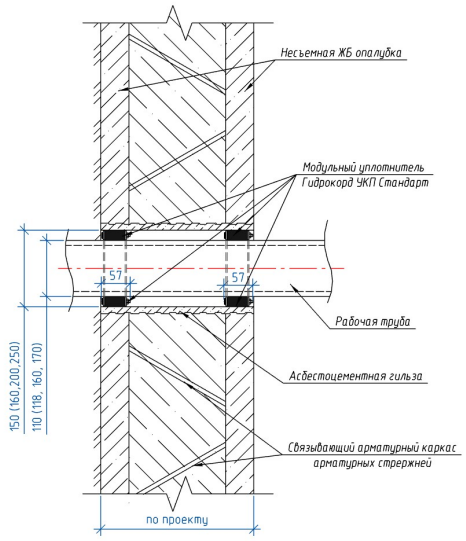
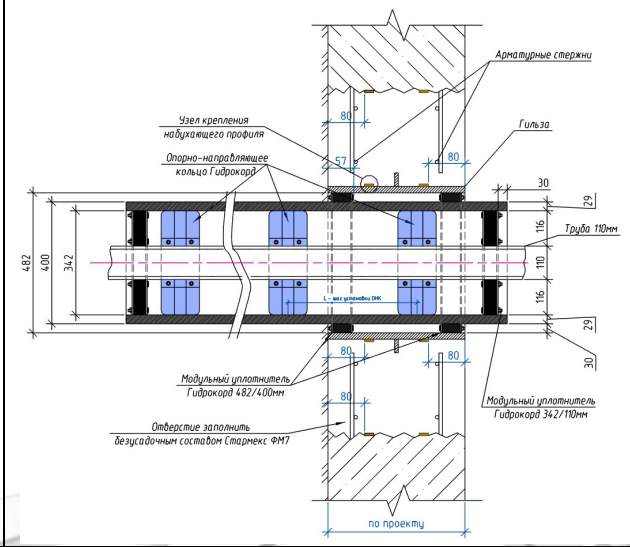
Product info on the website

Options for technical solutions

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

Rectangular hole in the wall for one or more pipes (embedded sleeve)	A hole drilled with a diamond bit
	
Embedded asbestos-cement sleeve in a monolithic or cast-inplace reinforced concrete	**The space between the case and the working pipe**
	

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.

Download the set of standard solutions following the link in the section "Solutions for designers" of our website:

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Product info on the website

Hydrocord® UKP Plug seal

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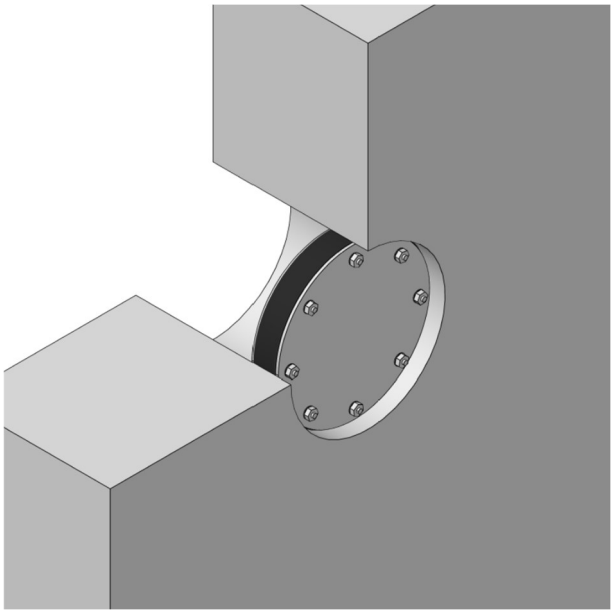


Product info

Hydrocord™ UKP Plug is designed for temporary or permanent sealing of holes without pipes. This seal is the optimal solution for protection against pressure and non-pressure groundwater. Compression plates are made of stainless steel.

Application

Hydrocord™ UKP Plug seal is used for sealing and waterproofing of holes in the enclosing structures of buildings (usually monolithic or prefabricated reinforced concrete walls and ceilings), as well as for sealing of edges 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.

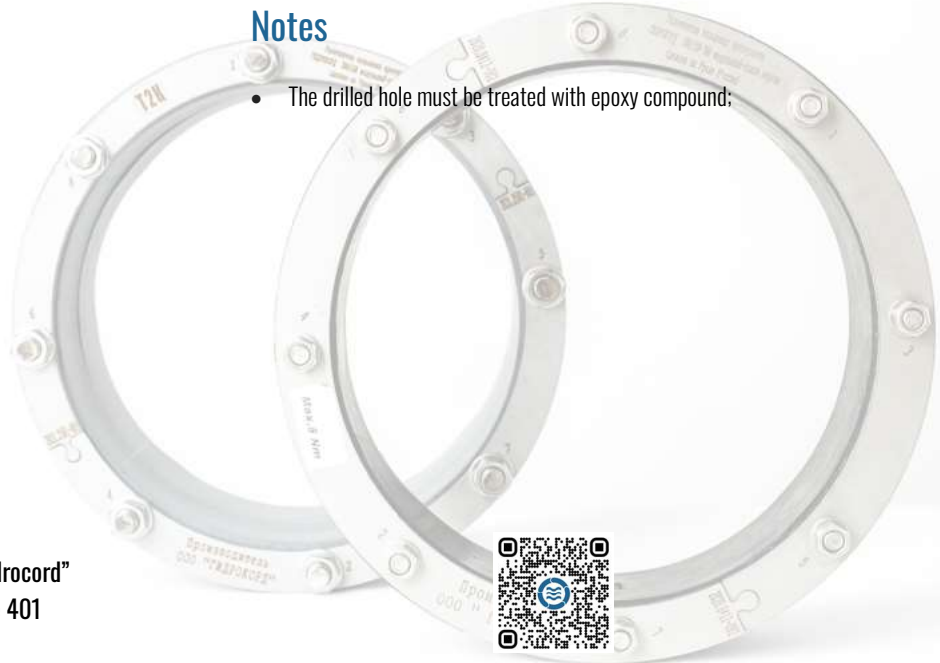
Advantages

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

Notes

- The drilled hole must be treated with epoxy compound;

TD №1-6.02



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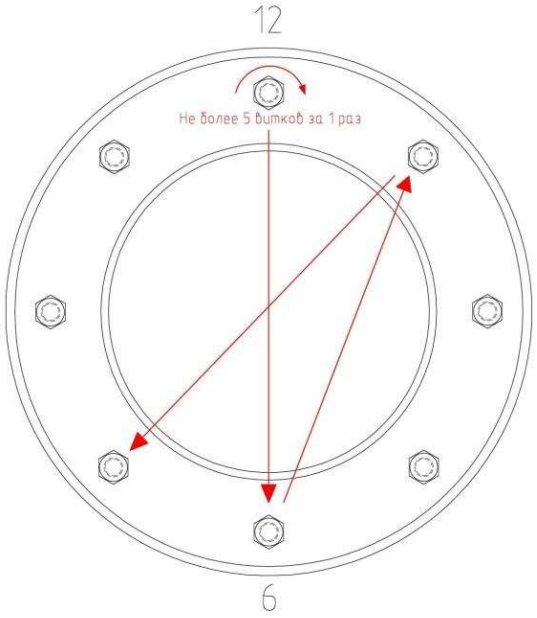
Notes

- 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. High temperature silicone rubber (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. Tighten the tie bolts in a star pattern using a torque wrench (as it is shown below). The tightening torque must be in accordance with the table below. Each bolt must be tightened in several steps until the required torque is reached, several steps 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 customized version of UKP)	15 Nm (For customized 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

TD №1-6.02

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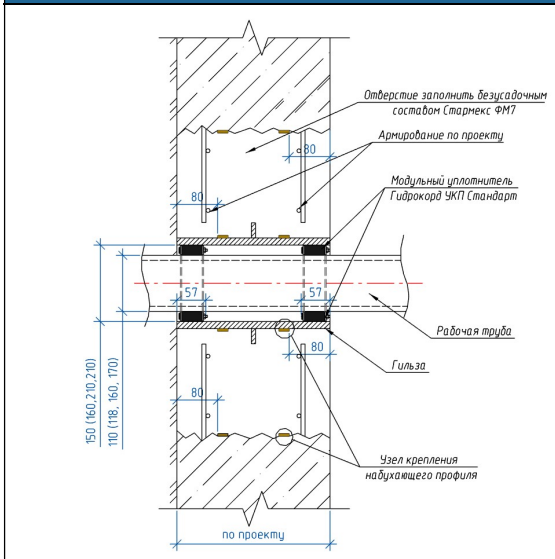
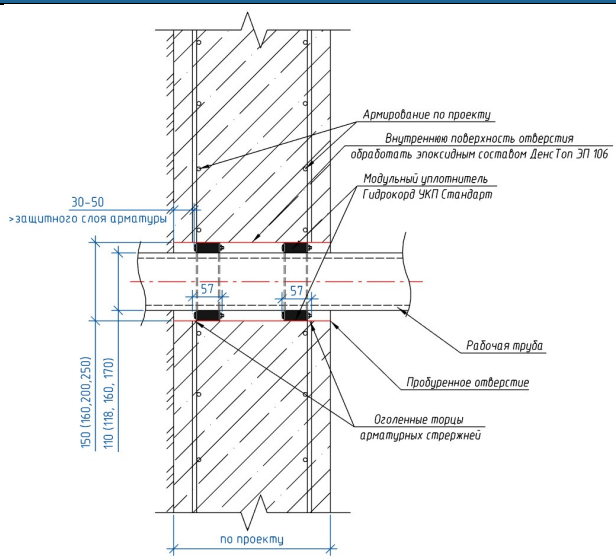
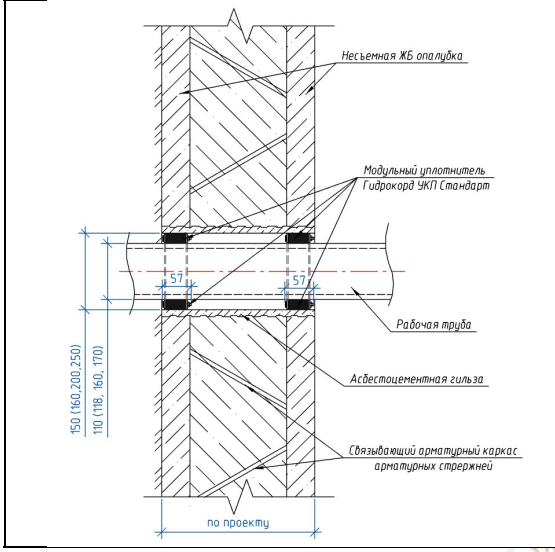
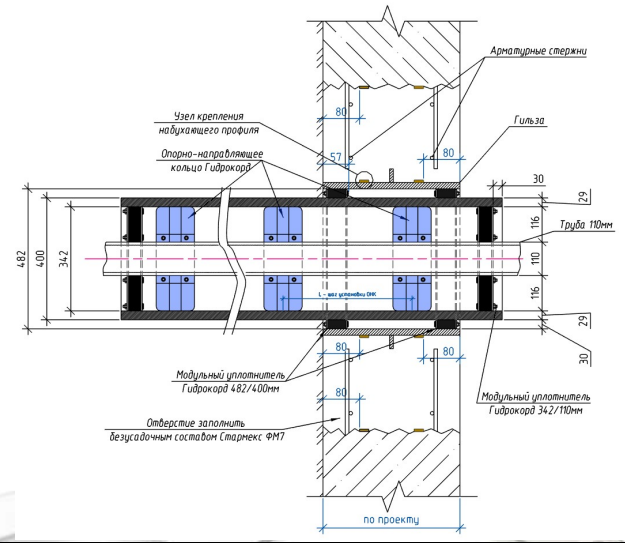
Options for technical solutions

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

Rectangular hole in the wall for one or more pipes (embedded sleeve)	A hole drilled with a diamond bit
	
Embedded asbestos-cement sleeve in a monolithic or cast-inplace reinforced concrete	**The space between the case and the working pipe**
	

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.

Download the set of standard solutions following the link in the section "Solutions for designers" of our website

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Product info on the website

Hydrocord® UKP Seismo seal

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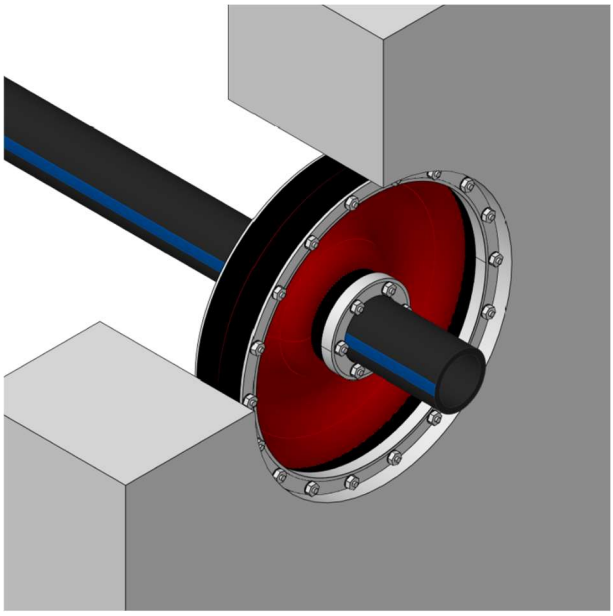

Product info

Hydrocord™ UKP Seismo is designed for sealing moving penetrations of pipes and communications. First of all, it is possible to use it in seismically active areas (more than 6 points), as well as with significant yields of the building foundation of buildings and structures during transverse shear of pipe penetrations.

Besides, the scope of such products is the sealing of penetrations near vibration-loaded equipment, where a significant vibration load is transmitted to the pipe.

Application

Hydrocord™ UKP Seismo seal is used for sealing and waterproofing penetrations of sewerage, water supply, heat supply and other networks through the enclosing structures of buildings (usually through monolithic or prefabricated reinforced concrete walls and ceilings), in conditions of increased seismic activity.

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

Advantages

- Proven water resistance up to 1 bar;
- Not a rigid seal for pipes;
- Corresponds to SP 14.13330.2018 (Russian regulatory document);
- Elastic sealing at a distance of more than 100mm between the pipe and the hole;
- It can be used in case of significant yields of the building foundation and transverse movements of pipes relative to walls;
- Can be used near vibro-loaded equipment;
- Works in different directions and when turning the pipe relative to the wall;
- Installation does not depend on ambient temperature;
- Instrumental quality control (Dynamometric wrench);
- Gas and waterproof;
- Quick installation;
- Durability;
- Can be customized to any size and modification;
- Can be adjusted for contact with oils and oil products (made of oil and petrol resistant rubber);
- Application in contact with potable water is available (modification with food grade rubber);
- Modification with an extended operating temperature range (from -60°C to + 200°C) made of silicone rubber is available.

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.

Patents

This desing is patented by Trade House "Gidromix" LLC and is an intellectual property.

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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:

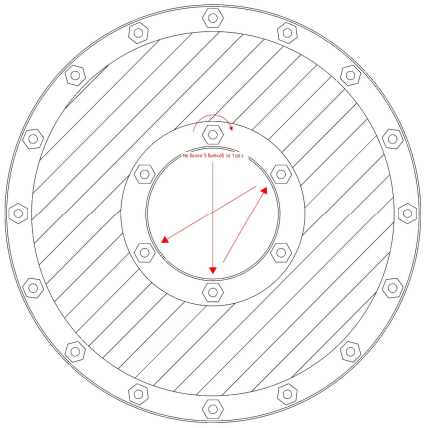
1. EPDM (Standard);
2. Oil and petrol resistant rubber (Optional);
3. Food grade rubber (Optional);
4. High temperature silicone rubber(Optional);

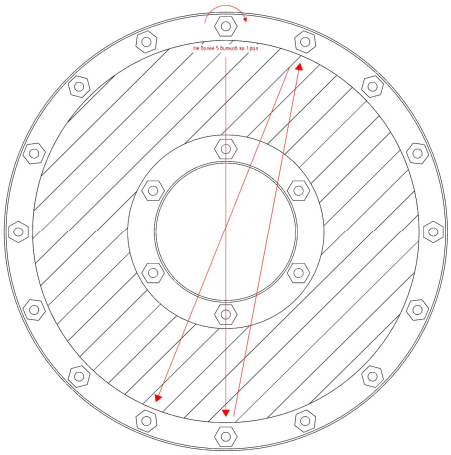
Installation

1. Clean the hole (sleeve, drilled hole, casing, etc.) and pipe;
2. Check the pipe and hole diameters and compare them with the seal diameters;
3. When installing in steel sleeves, inspect the sleeve weld and, if necessary, clean and smooth out any imperfections where the seals will be installed;
4. Install the Hydrocord™ UKP Seismo seal on the end of the pipe (if the pipe has a socket, install it from the opposite end);
5. Insert the seal into the hole. The tie bolt nuts should face the installer. (It is recommended to install the seal so that the tie bolt nuts are accessible during building operation).3
6. Tighten the tie bolts in a star pattern using a torque wrench (as it is shown 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. Multiple passes are required, with no more than 5 turns allowed at a time to ensure smooth and uniform tightening.
7. Do not use power tools to tighten bolts!
8. Within 12 hours of reaching the required tightening torque on all bolts, recheck the tightening torque on all bolts and, if necessary, tighten the bolts to the required torque.

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

You can begin the process of tightening the Hydrocord™ UKP Seismo seal from the outer contour or from the inner contour.





Maximum tightening torque, Nm		
Bolt diameter	Standard pipes	Thin-walled and pre-insulated (corrugated) pipes
M6	5 Nm	5 Nm
M8	10 Nm	8 Nm
M10	20 Nm	18 Nm
M12	20 Nm	20 Nm

TD №1-7.06

LLC “Plant of waterproofing materials “Hydrocord”
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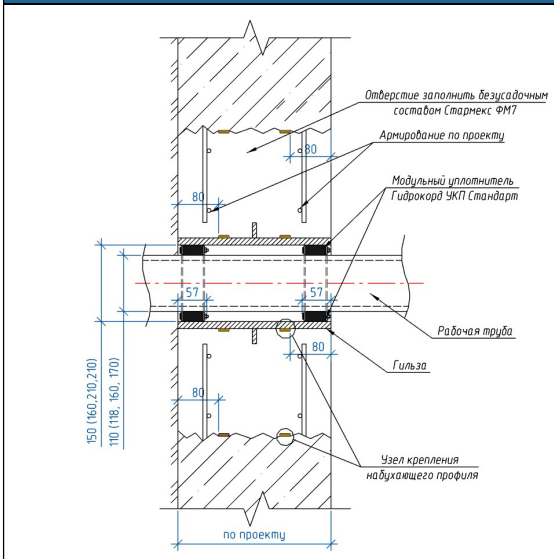
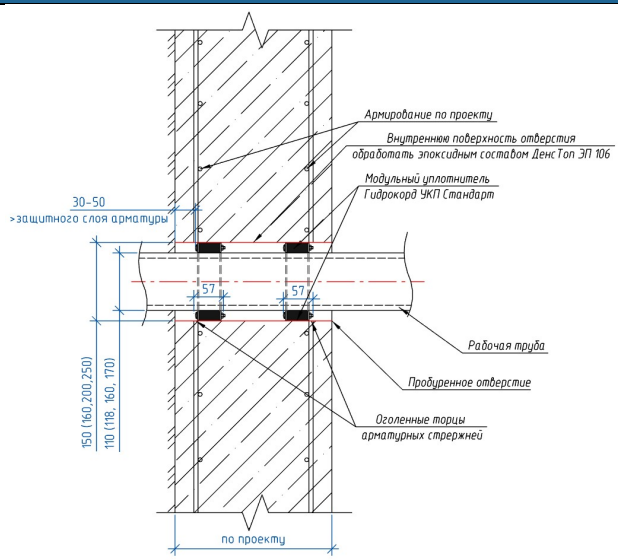
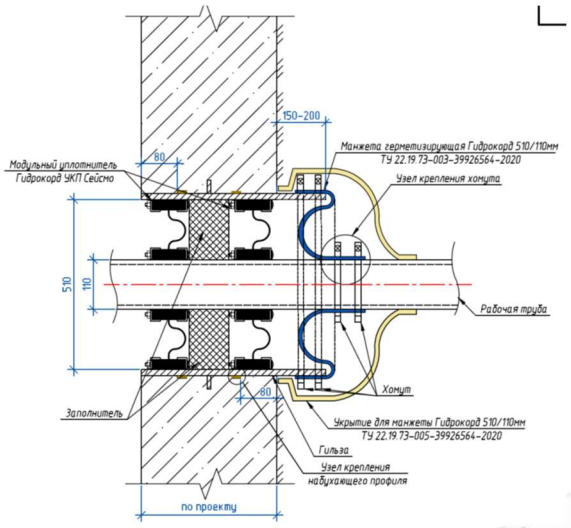
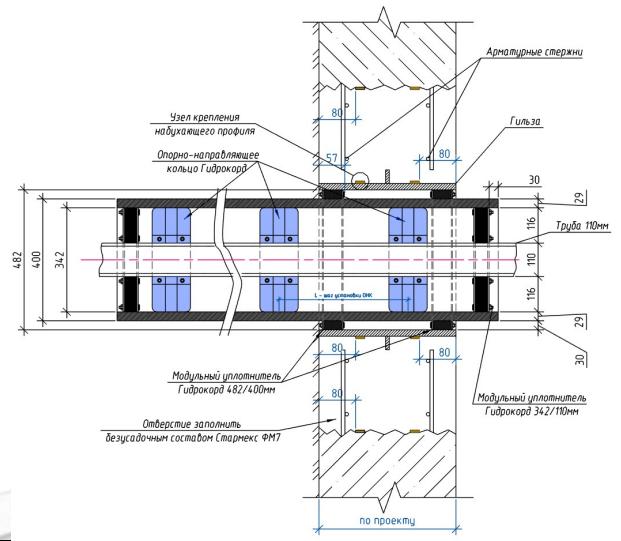
Phone: +7 (343) 222-73-22
Web: hydrocord.ru E-mail: ukp@gydromix.ru

Product info on the website

Options for technical solutions

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

Rectangular hole in the wall for one or more pipes (embedded sleeve)	A hole drilled with a diamond bit
	
Seismic conditions or subsidence soils:	**The space between the case and the working pipe**
	

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TD №1-7.06

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Product info on the website

Hydrocord® UKP PV seal

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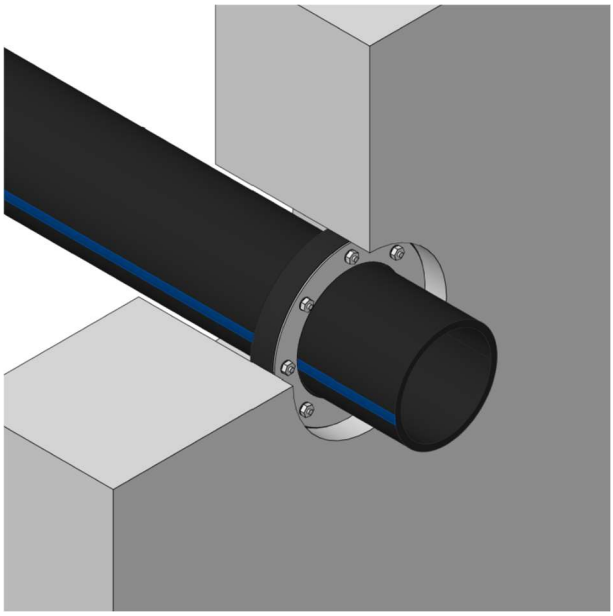

Product info

The annular space seal Hydrocord™ UKP PV is the optimal product, which is used for perfect sealing of penetrations for pipelines of various purposes (gas, water, sewage) and the cables from hydrostatic pressure, including for contact with drinking water and food products. Compression plates are made of stainless steel.

The annular space seal Hydrocord™ UKP PV 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.

For Hydrocord™ UKP PV products, food-grade rubber is used, which is suitable for contact with drinking water and food, and pressure plates are made of S304 stainless steel.

Application

Hydrocord™ UKP PV seal is used for sealing and waterproofing penetrations of sewerage, water supply, heat supply and other networks through the enclosing structures of buildings (usually through monolithic or prefabricated reinforced concrete walls and ceilings), as well as to seal pipe penetrations for drinking water tanks.

Suitable for:

- Dairy, meat and fish products;
- for fats, vegetable oils;
- fruits, vegetables;
- juices, beer, mineral water, kvass, sugar syrups and other soft drinks;
- May be used in contact with wine, vodka, cognac and other alcoholic beverages.

The principle of seal operation is the expansion of the sealing element (rubber core), under 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;
- Quick installation;
- Durability;
- Can be customized to any size and modifications;

TD №1-8.01

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- Modification for contact with oils and oil products (made of oil and petrol resistant rubber) is possible;
- Application in contact with drinking water is allowed (modification with food rubber);
- Modification with an extended operating temperature range (from -60°C to + 200°C) made of silicone rubber 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

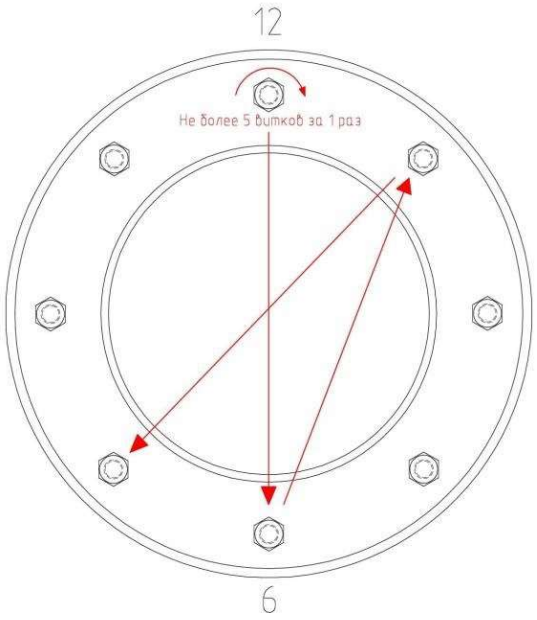
Annular space seal Hydrocord™ UKP can be made of the following materials:

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

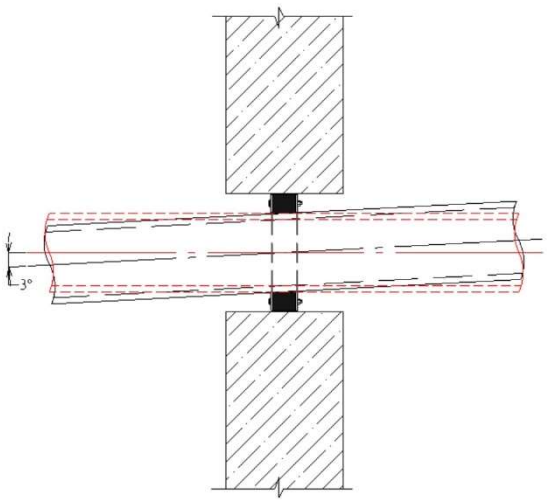
Installation

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. Tighten the tie bolts in a star pattern using a torque wrench (as it is shown below). The tightening torque must be in accordance with the table below. Each bolt must be tightened in several steps until the required torque is reached, several steps 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‰).

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



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 customized version of UKP)	15 Nm (For customized version of UKP)
M10	30 Nm	22 Nm
M12	36 Nm	26 Nm



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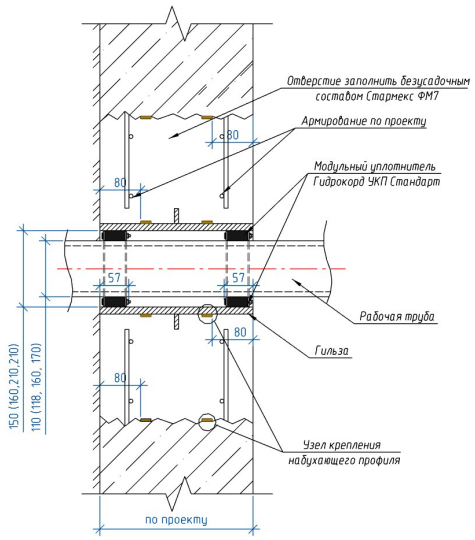
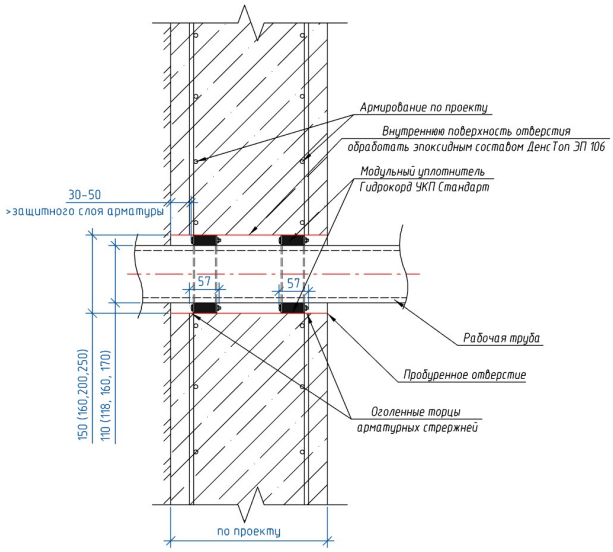
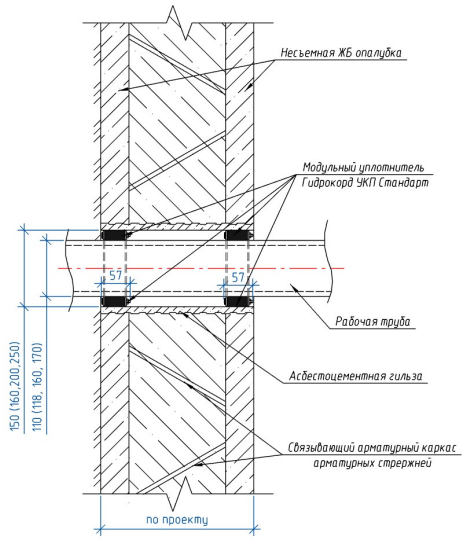
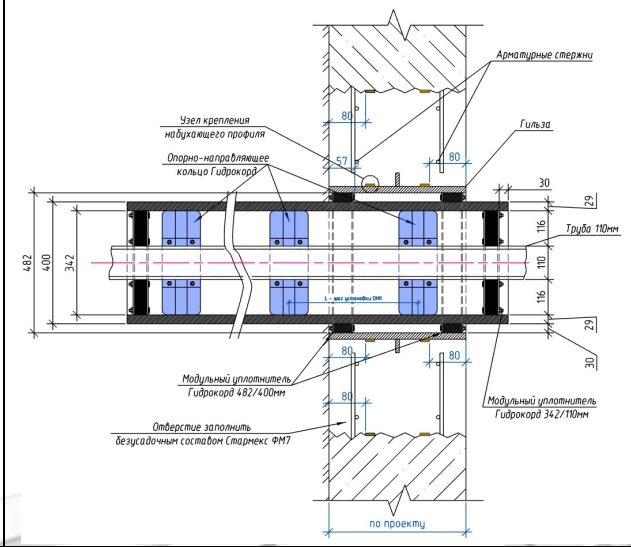
	
Embedded asbestos-cement sleeve in a monolithic or cast-inplace reinforced concrete	**The space between the case and the working pipe**
	

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Specifications of seal types *

Specification	Hydrokord™ UKP Standart	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 rubber	Hydrocord™ UKP from MBS rubber
UV resistance	Good	Good	Good	Weak
Shore hardness, A	45 ±5	55 ±5	45 ±5	50 ±5
Operating temperature	-50°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.

Revision №2025.01

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Technical solution selection for seal design

Seal type	Centered single penetrations	Non-centered penetrations	Multi-core penetrations	Holes without pipes	Seismic conditions	The attaching with external waterproofing is
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 rubber, 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 ^{0}C	Low operating temperature down to – 60^{0}C
EPDM rubber	•	•				
MBS rubber	•		•			
Food grade rubber	•			•		
Silicone rubber	•				•	•

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For notes

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Yekaterinburg 2025