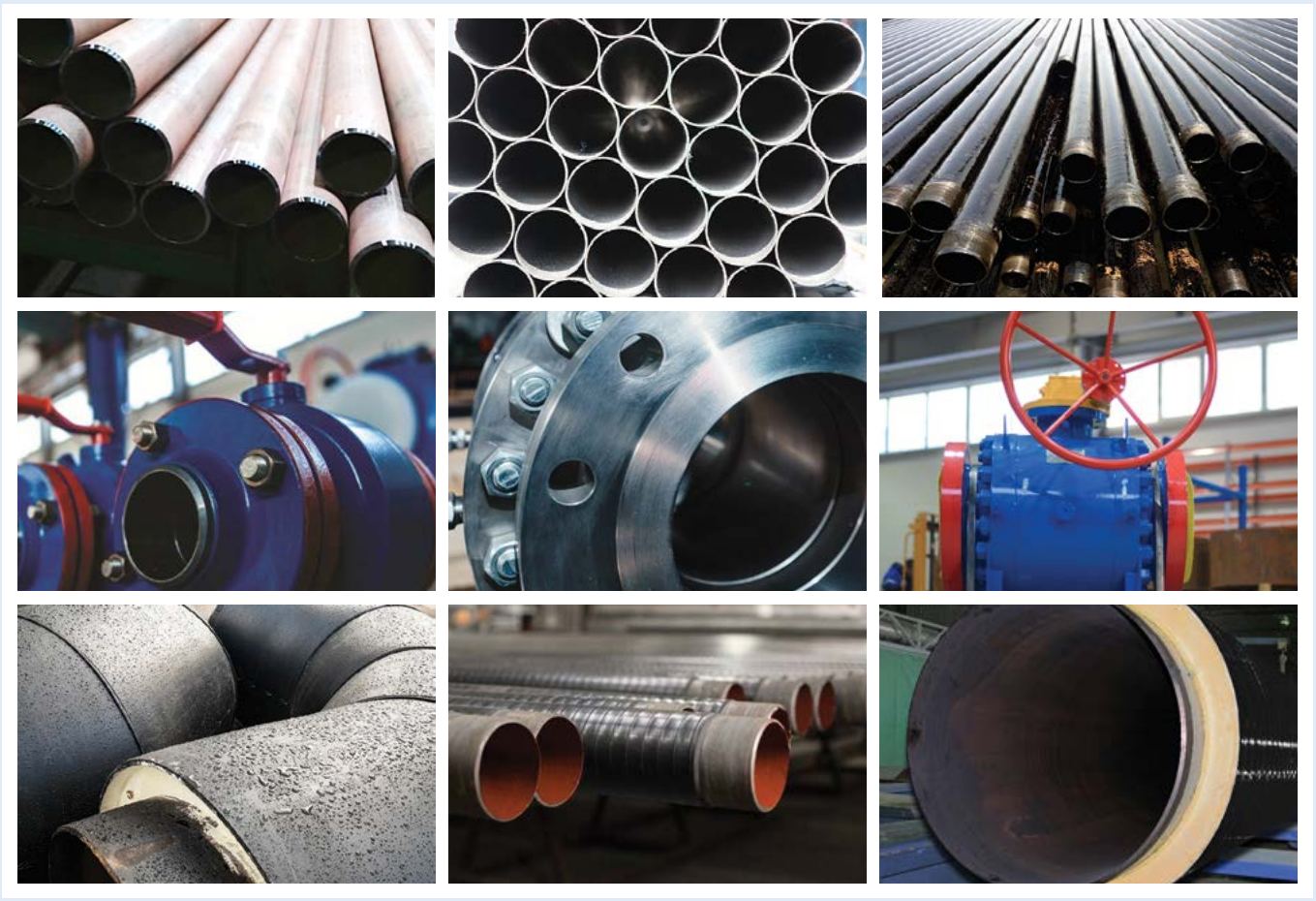
СПГ | Siberian Industrial Group



ИТПЗ СПХ ТВЭЛ Завод ПромИнТех ИЗИ ТДСПГ

CATALOG
PRODUCT

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ABOUT COMPANY

Siberian Industrial Group (Joint-Stock Company) is an industrial holding of the metallurgical and machine building complex of Russia, which dynamically develops an approach to provide the most convenient service and improve the quality of services provided to companies of the fuel and energy complex (FEC). The company is focused on providing the whole range of services - from joint participation in design to operation and after-sales service (warranty service).

Siberian Industrial Group includes the following enterprises:

The Trading house Siberian Industrial Holding (Limited liability Company) is authorized and exclusive agent that carries out the whole range of sales operations in Russia and abroad.

The Trading House Siberian Industrial Group (Limited liability Company) is an exclusive agent for sales operations of shut-off and control valves with unique technical characteristics.

TVEL-Tobolsk (Joint-Stock Company) is one of the oldest, largest, and most advanced manufacturers of insulated pipes and pipeline fittings in Russia.

Izhevsk Isolation Plant (Limited liability Company) is the leading manufacturer of pipes with internal and external corrosion-resistant coating for the oil and gas industry.

ProEnTech Plant (Limited liability Company) is a machine-building enterprise that is a part of Siberian Industrial Group, manufacturing shut-off and control valves intended for operation at low temperatures, in environments with a high content of hydrogen sulfide and with other features.

Izhora Pipe Rolling Plant (Limited liability Company) – manufacturer of wide range assortment of seamless pipes, including casing and pumping and compression pipes.

ProEnTech Plant is the main machine-building enterprise being a part of the holding company of Siberian Industrial Group, which produces shut-off and control valves with unique specifications.

The products of the ProEnTech Plant approved for usage at the following facilities: PAO Gazprom, PAO Gazprom Neft, PAO Novatek, AO ACHIMGAZ, PAO NK Rosneft and other enterprises of the oil and gas complex.
The plant's products comply with GOST 21345-2005, STO GAZPROM 2-4.1-212-2008, ST CKBA 052 2008, API 6D and other Russian and international standards.

The advantages of Zavod ProEnTech:

• The plant offers a comprehensive solution for the design, production, technical service and supply of ball valves Dn 50 - 1000 (NPS 2"- 40") Pn 1.6 - 25.0 MPa (Class 150-1500).

• The plant has its own engineering center.

• The plant is equipped with the latest modern equipment, CNC machines, painting corrosion-resistant coating camera.

• It has its own laboratory of non-destructive testing: visual measuring control, ultrasonic control, capillary control, measurement of metal hardness and others materials, monitoring the integrity and thickness of the paintwork.

The plant is equipped with:

• Modern high-technology test workbenches that allows:

- to test the ball valves according to the GOST R 9544-2015 and API 6D standards;

- create maximum generated pressure up to 420 bar, test environment: water, air;

- measure the torque on the valve spindle during testing, with the possibility of printing the obtained results;

• Computers with special software allowing to register all test results in real time;

• Modern automated welding units with ball valves DN50 - 300 and DN300 - 700 sizes that allow both gas-shielded welding and submerged-arc welding;

• Highly qualified engineering department.

Advantages of ball valves of ProEnTech Plant:

• Different types of PEEK ball/saddle seals, including metal on metal;

• Stem is sealed by three independent rings; protection against ejection;

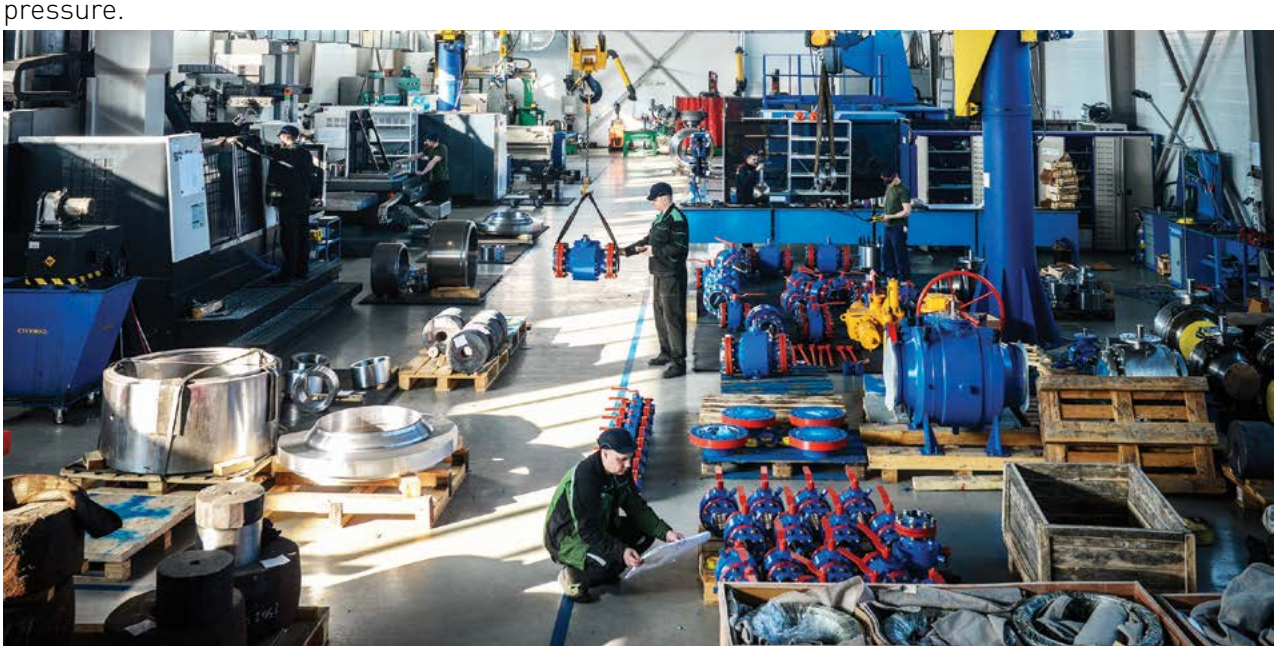
• Equipped with spring-loaded seats that are isolated from the outer environment even when pressure is low;

• Operation at high pressure up to 25 MPa;

• Operation at low temperatures down to -196 °C and high temperatures up to + 625 °C;

• Environments with a high content of hydrogen sulfide up to 27%, methanol and high carbon dioxide content;

• Maintainability in route conditions, while the spindle seals can be changed even with full pipeline pressure.



CERTIFICATES AND DOCUMENTATION
PROENTECH PLANT

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ
ДЕКЛАРАЦИЯ О СООТВЕТСТВИИ

Заявитель, Общество с ограниченной ответственностью «Завод «ПромИнТех»

Место нахождения: 117638, Россия, город Москва, улица Одесская, дом 2, этаж 12. Адрес места осуществления деятельности: 142103, Россия, Московская область, город Подольск, улица Северная, дом 13, строение 4. Основной государственный регистрационный номер: 1157746247999, телефон: +74992723320, адрес электронной почты: info@proentech.ru

в лице Генерального директора управляющей организации Видинова Александра Наумовича

заявляет, что Арматура промышленная трубопроводная: краны шаровые DN 50 – 1000 PN 1,6 – 25,0 МПа марки ПИТ, краны шаровые DN 10 – 1000 PN 1,6 – 32,0 МПа марки КШ

изготовитель Общество с ограниченной ответственностью «Завод «ПромИнТех»

Место нахождения: 117638, Россия, город Москва, улица Одесская, дом 2, этаж 12. Адрес места осуществления деятельности по изготовлению продукции: 142103, Россия, Московская область, город Подольск, улица Северная, дом 13, строение 4

Продукция изготовлена в соответствии с Техническими условиями ТУ 28.14.13-001-42815472-2017 «Краны шаровые DN 10 – 1000 PN 1,6 – 32,0 МПа», ТУ 3742-002-17871972-2014 «Шаровые краны DN 50 – 1000 (NPS 2"- 40") PN 1,6 - 25,0 МПа (Class 150 - 1500)»

Код ТН ВЭД ЕАЭС 8481 80 81

Серийный выпуск

соответствует требованиям

ТР ТС 010/2011 «О безопасности машин и оборудования»

Декларация о соответствии принята на основании

Протоколов испытаний № 1804/07 от 18.04.2017 года, № 1804/08 от 18.04.2017 года, № 1804/09 от 18.04.2017 года, выданных Испытательной лабораторией Общества с ограниченной ответственностью «МераТех», аттестат аккредитации № RA.RU.21AJ62 от 31.05.2016; Сертификатов на тип: № ЕАЭС RU CT-RU.AA73.00045 от 20.04.2017 года, № ЕАЭС RU CT-RU.AA73.00046 от 20.04.2017 года, № ЕАЭС RU CT-RU.AA73.00047 от 20.04.2017 года; Технических условий ТУ 28.14.13-001-42815472-2017, ТУ 3742-002-17871972-2014; Руководства по монтажу, наладке, эксплуатации и техническому обслуживанию РЭ_ШК-ПИТ; Паспорта ПИТ-РФ.ххххХ3-ПС, КШ80*100П1Ф-УХЛ3С-ПС; Обоснований безопасности 3742.001.17871972 ОБ, 3742.001. 42815472 ОБ

Схема декларирования 5д

Дополнительная информация

Перечень стандартов, в результате применения, которых на добровольной основе обеспечивается соблюдение требований ТР ТС 010/2011«О безопасности машин и оборудования»: ГОСТ Р 53672-2009 «Арматура трубопроводная. Общие требования безопасности».

Условия эксплуатации: У1, ХЛ1, УХЛ1 по ГОСТ 15150. Условия хранения: 6(ОЖ2) по ГОСТ 15150. Срок хранения без переконсервации 3 года. Назначенный срок службы – 30 лет.

Декларация о соответствии действительна с даты регистрации по 07.02.2023 включительно

Видинов Александр Наумович
(Ф.И.О. заявителя)

М.П.

Регистрационный номер декларации о соответствии: ЕАЭС N RU Д-RU.ПБ98.В.00489

Дата регистрации декларации о соответствии: 08.02.2018

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ
ДЕКЛАРАЦИЯ О СООТВЕТСТВИИ

Заявитель, Общество с ограниченной ответственностью «Завод «ПромИнТех»

Место нахождения: 117638, Россия, город Москва, улица Одесская, дом 2, этаж 12.Адрес места осуществления деятельности: 142103, Россия, Московская область, город Подольск, улица Северная, дом 13, строение 4. Основной государственный регистрационный номер: 1157746247999, телефон: +74992723320, адрес электронной почты: info@proentech.ru

в лице Генерального директора управляющей организации Видинова Александра Наумовича

заявляет, что Арматура промышленная трубопроводная, 1 и 2 категории, работающая под избыточным давлением: краны шаровые, согласно приложению № 1 на 1 листе.

Изготовитель Общество с ограниченной ответственностью «Завод «ПромИнТех»

Местонахождение: 117638, Россия, город Москва, улица Одесская, дом 2, этаж 12

Адрес места осуществления деятельности по изготовлению продукции: 142103, Россия, Московская область, город Подольск, улица Северная, дом 13, строение 4

Продукция изготовлена в соответствии с Техническими условиями ТУ 28.14.13-001-42815472-2017 «Краны шаровые DN 10 – 1000 PN 1,6 –32,0МПа», ТУ 3742-002-17871972-2014 «Шаровые краны DN 50 – 1000 (NPS 2"-40") PN 1,6-25,0 МПа (Class 150-1500)»

Код ТН ВЭД ЕАЭС 8481 80 81

Серийный выпуск

соответствует требованиям

ТР ТС 032/2013 «О безопасности оборудования, работающего под избыточным давлением»

Декларация о соответствии принята на основании

Протоколов испытаний №1804/07 от 18.04.2017 г., №1804/08 от 18.04.2017 г., №1804/09 от 18.04.2017, выданных Испытательной лабораторией Общества с ограниченной ответственностью «МераТех», аттестат аккредитации RA.RU.21AJ862 от 31.05.2016; Документов, представленных заявителем в качестве доказательства соответствия продукции требованиям Технического регламента Таможенного союза 032/2013 "О безопасности оборудования, работающего под избыточным давлением" согласно приложению № 2 на 1 листе

Схема декларирования 3д

Дополнительная информация

Перечень стандартов, в результате применения, которых на добровольной основе обеспечивается соблюдение требований ТР ТС 032/2013 «О безопасности оборудования, работающего под избыточным давлением»: Раздел 7 ГОСТ Р 53672-2009 «Арматура трубопроводная. Общие требования безопасности».

Условия хранения 6(ОЖ2) по ГОСТ 15150-69. Срок службы – 30 лет. Срок хранения без переконсервации 36 месяцев.

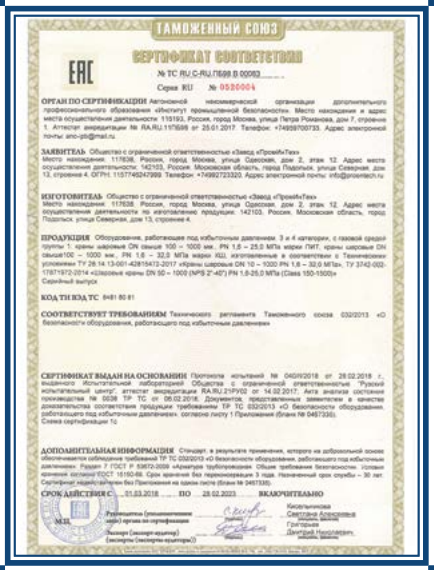
Декларация о соответствии действительна с даты регистрации по 08.02.2023 включительно

Видинов Александр Наумович
(Ф.И.О. заявителя)

М.П.

Регистрационный номер декларации о соответствии: ЕАЭС N RU Д-RU.ПБ98.В.00491

Дата регистрации декларации о соответствии: 09.02.2018



ТАМОЖЕННЫЙ СОЮЗ
СЕРТИФИКАТ СООТВЕТСТВИЯ
№ ТС RU C-RU.ПБ98.В.00083
Серия RU № 0520004

ОРГАН ПО СЕРТИФИКАЦИИ Автономной некоммерческой организации дополнительного профессионального образования «Институт промышленной безопасности». Место нахождения и адрес места осуществления деятельности: 115193, Россия, город Москва, улица Петра Романова, дом 7, строение 1. Аттестат аккредитации № RA.RU.11ПБ98 от 25.01.2017. Телефон: +74959700733. Адрес электронной почты: ano-ipb@mail.ru

ЗАЯВИТЕЛЬ Общество с ограниченной ответственностью «Завод «ПромИнТех»
Место нахождения: 117638, Россия, город Москва, улица Одесская, дом 2, этаж 12. Адрес места осуществления деятельности: 142103, Россия, Московская область, город Подольск, улица Северная, дом 13, строение 4. ОГРН: 1157746247999. Телефон: +74992723320. Адрес электронной почты: info@proentech.ru

ИЗГОТОВИТЕЛЬ Общество с ограниченной ответственностью «Завод «ПромИнТех»
Место нахождения: 117638, Россия, город Москва, улица Одесская, дом 2, этаж 12. Адрес места осуществления деятельности по изготовлению продукции: 142103, Россия, Московская область, город Подольск, улица Северная, дом 13, строение 4.

ПРОДУКЦИЯ Оборудование, работающее под избыточным давлением 3 и 4 категории, с газовой средой группы 1: краны шаровые DN свыше 100 – 1000 мм , PN 1,6 – 25,0 МПа марки ПИТ, краны шаровые DN свыше100 – 1000 мм, PN 1,6 – 32,0 МПа марки КШ, изготовленные в соответствии с Техническими условиями ТУ 28.14.13-001-42815472-2017 «Краны шаровые DN 10 – 1000 PN 1,6 – 32,0 МПа», ТУ 3742-002-17871972-2014 «Шаровые краны DN 50 – 1000 (NPS 2"-40") PN 1,6-25,0 МПа (Class 150-1500)»
Серийный выпуск

КОД ТН ВЭД ТС 8481 80 81

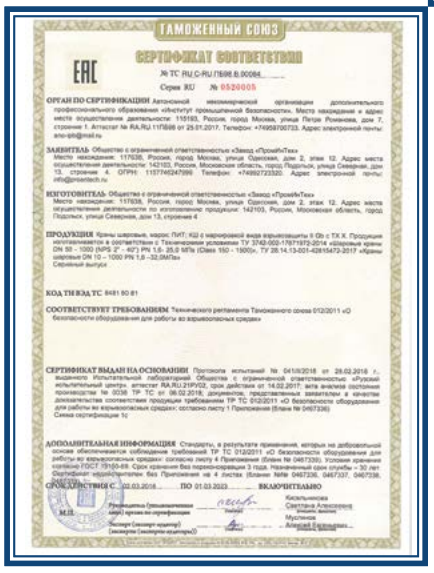
СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ Технического регламента Таможенного союза 032/2013 «О безопасности оборудования, работающего под избыточным давлением»

СЕРТИФИКАТ ВЫДАН НА ОСНОВАНИИ Протокола испытаний № 040/9/2018 от 28.02.2018 г., выданного Испытательной лабораторией Общества с ограниченной ответственностью "Русский испытательный центр", аттестат аккредитации RA.RU.21PY02 от 14.02.2017; Акта анализа состояния производства № 0038 ТР ТС от 09.02.2018; Документов, представленных заявителем в качестве доказательства соответствия продукции требованиям ТР ТС 032/2013 «О безопасности оборудования, работающего под избыточным давлением», согласно листу 1 Приложения (бланк № 0467336).
Схема сертификации 1с

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Стандарт, в результате применения, которого на добровольной основе обеспечивается соблюдение требований ТР ТС 032/2013 «О безопасности оборудования, работающего под избыточным давлением»: Раздел 7 ГОСТ Р 53672-2009 «Арматура трубопроводная. Общие требования безопасности». Условия хранения согласно ГОСТ 15150-69. Срок хранения без переконсервации 3 года. Назначенный срок службы – 30 лет. Сертификат недействителен без Приложения на одном листе (бланк № 0467336).

СРОК ДЕЙСТВИЯ С 01.03.2018 **ПО** 28.02.2023 **ВКЛЮЧИТЕЛЬНО**

М.П. Руководитель (уполномоченное лицо) органа по сертификации — Кисельникова Светлана Александровна
Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы)) — Григорьев Дмитрий Николаевич



ТАМОЖЕННЫЙ СОЮЗ
СЕРТИФИКАТ СООТВЕТСТВИЯ
№ ТС RU C-RU.ПБ98.В.00084
Серия RU № 0520005

ОРГАН ПО СЕРТИФИКАЦИИ Автономной некоммерческой организации дополнительного профессионального образования «Институт промышленной безопасности». Место нахождения и адрес места осуществления деятельности: 115193, Россия, город Москва, улица Петра Романова, дом 7, строение 1. Аттестат № RA.RU.11ПБ98 от 25.01.2017. Телефон: +74959700733. Адрес электронной почты: ano-ipb@mail.ru

ЗАЯВИТЕЛЬ Общество с ограниченной ответственностью «Завод «ПромИнТех»
Место нахождения: 117638, Россия, город Москва, улица Одесская, дом 2, этаж 12. Адрес места осуществления деятельности: 142103, Россия, Московская область, город Подольск, улица Северная, дом 13, строение 4. ОГРН: 1157746247999 Телефон: +74992723320. Адрес электронной почты: info@proentech.ru

ИЗГОТОВИТЕЛЬ Общество с ограниченной ответственностью «Завод «ПромИнТех»
Место нахождения: 117638, Россия, город Москва, улица Одесская, дом 2, этаж 12. Адрес места осуществления деятельности по изготовлению продукции: 142103, Россия, Московская область, город Подольск, улица Северная, дом 13, строение 4

ПРОДУКЦИЯ Краны шаровые, марок: ПИТ; КШ с маркировкой вида взрывозащиты II Gb с ТХ К. Продукция изготавливается в соответствии с Техническими условиями ТУ 3742-002-17871972-2014 «Шаровые краны DN 50 – 1000 (NPS 2" - 40") PN 1,6- 25,0 МПа (Class 150 - 1500)», ТУ 28.14.13-001-42815472-2017 «Краны шаровые DN 10 – 1000 PN 1,6 –32,0МПа»
Серийный выпуск

КОД ТН ВЭД ТС 8481 80 81

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ Технического регламента Таможенного союза 012/2011 «О безопасности оборудования для работы во взрывоопасных средах»

СЕРТИФИКАТ ВЫДАН НА ОСНОВАНИИ Протокола испытаний № 041/9/2018 от 28.02.2018 г., выданного Испытательной лабораторией Общества с ограниченной ответственностью "Русский испытательный центр", аттестат аккредитации RA.RU.21PY02, срок действия от 14.02.2017; акта анализа состояния производства № 0038 ТР ТС от 09.02.2018; документов, представленных заявителем в качестве доказательства соответствия продукции требованиям ТР ТС 012/2011 «О безопасности оборудования для работы во взрывоопасных средах»; согласно листу 1 Приложения (бланк № 0467336)
Схема сертификации 1с

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Стандарты, в результате применения, которых на добровольной основе обеспечивается соблюдение требований ТР ТС 012/2011 «О безопасности оборудования для работы во взрывоопасных средах»: согласно листу 4 Приложения (бланк № 0467336). Условия хранения согласно ГОСТ 15150-69. Срок хранения без переконсервации 3 года. Назначенный срок службы – 30 лет. Сертификат недействителен без Приложения на 4 листах (бланки № 0467336, 0467337, 0467338).

СРОК ДЕЙСТВИЯ С 02.03.2018 **ПО** 01.03.2023 **ВКЛЮЧИТЕЛЬНО**

М.П. Руководитель (уполномоченное лицо) органа по сертификации — Кисельникова Светлана Александровна
Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы)) — Мустяков Алексей Евгеньевич

Система Сертификации
Продукции, Работ и Услуг, Систем Менеджмента

ЕвроСтандартРегистр

ОРГАН ПО СЕРТИФИКАЦИИ
ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ
«ИСО КОНСАЛТИНГ»

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС RU.С.04ЖЖ.СК.0726

Выдан: Обществу с ограниченной ответственностью
«Завод «ПромИнТех»
(ООО «Завод «ПромИнТех»)

НАСТОЯЩИЙ СЕРТИФИКАТ УДОСТОВЕРЯЕТ:

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ
ГОСТ Р ИСО 9001-2015 (ISO 9001:2015)

Т.В. ГРИГАЛАВА — С.Т. БУТКИНА

№ 0029111

CERTIFICATES AND DOCUMENTATION
PROENTECH PLANT

TSU

CERTIFICATE

FULL QUALITY ASSURANCE

Module: H

No. 191290219

CE 1299

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р

ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ 0221051

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р

ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ 0162082

СИСТЕМА ДОБРОВОЛЬНОЙ СЕРТИФИКАЦИИ

ИНТЕГРАЗЕРТ

СЕРТИФИКАТ СООТВЕТСТВИЯ

Certification System

Goods Works and Services Management Systems

EuroStandardRegister

CERTIFICATE OF CONFORMITY

№ РОСС RU.С.04ЖЖ.СЭМ.0090

Is given to: "ProEnTech" Factory" Limited Liability Company ("ProEnTech" Factory" LLC)

THIS CERTIFICATE CERTIFIES THAT

COMPLIES WITH THE REQUIREMENTS OF ISO 14001:2015

BALL VALVES
MANUFACTURED BY PROENTECH PLANT

Our ball valves are manufactured in accordance with the technical specifications «TU 3742-002-17871972-2014 BALL VALVES DN 50 - 1000 (NPS 2" - 40") PN 1.6 - 25.0 MPa (Class 150 - 1500)»; «STO GAZPROM 2-4.1-212-2008 General technical requirements for pipeline valves supplied to the facilities of PAO GAZPROM»; «ST CKBA 052-2008 Pipeline fittings. Requirements for materials of fittings used for hydrogen sulfide environments.»; «TU 28.14.13-001-42815472-2017 BALL VALVES DN 10 - 1000 PN 1.6 - 32.0 MPa» according to the methodological guidelines of the company PAO NK Rosneft: «Common technical requirements. Ball valves» No. P1-01.05 M-0114; «API 6D Oil and Gas Industry. Fittings»; «GOST 21345-2005 ball valves, conical and cylindrical for nominal pressure not more than PN 250» and other Russian and international standards.

SPECIFICATIONS:

Size ranges&pressure ratings

	1.6 MPa	5.0 MPa	10.0 MPa	16.0 MPa	25.0 MPa
PIT R	50-1000 mm	50-1000 mm	50-1000 mm	50-1000 mm	50-900 mm
PIT T	50-1000 mm	50-1000 mm	50-1000 mm	50-1000 mm	50-900 mm
PIT C	50-1000 mm	50-1000 mm	50-1000 mm	50-1000 mm	50-900 mm

* PIT R — side-entry ball valve

* PIT T — top-entry ball valve

* PIT C — fully-welded ball valve

OUR PRODUCT

PIT R PIT T PIT C

BALL VALVES MANUFACTURED BY PROENTECH PLANT

BALL VALVES
MANUFACTURED BY PROENTECH PLANT

Temperature range:

- Low temperature down to - 196 °C;
- High temperature up to + 625 °C;

Aggressive environments:

- Environments with methanol content (up to 100%);
- Environments with a high content of mechanical impurities (from 1mm);
- Environments with hydrogen sulphide content (up to 27% H2S);

Pressure from 1.6 MPa to 25 MPa.

Operation:

Control lever, gearbox, drive (electric, pneumatic, hydraulic, pneumatic-hydraulic actuator, electric hydraulic actuator).

The connecting dimensions for the actuator comply with international standards, which allows equipping this valve with any actuators of domestic and foreign manufacturers.

MATERIAL CONSTRUCTION OF BALL VALVES

Material selection:

BODY FRAME	PLUG / SADDLE	SPINDLE	SADDLE	SEALS	BOLTING
CARBON STEEL ST20 09G2S LCC LF2 LF3 F60 / F65 A105 WCB **STAINLESS STEEL** 12x18H10T 321 347 13Cr 13Cr4Ni 17-4PH 6Mo 316 **DUPLEX STEEL** **SUPER DUPLEX SS** **NICKEL ALLOYS** Inconel Monel **Titanium**	**CARBON STEEL** ST20 09G2S LF2 F60 / F65 A105 LF3 **STAINLESS STEEL** 10X17H13M3T 321 347 13Cr 13Cr4Ni 17-4PH 6Mo 316 **DUPLEX STEEL** **SUPER DUPLEX SS** **NICKEL ALLOYS** Inconel Incoloy Monel Stellite **Titanium**	**CARBON STEEL** 09G2S LF3 F60 / F65 4140 **STAINLESS STEEL** 12X18H10T 13Cr 13Cr4Ni 17-4PH 6Mo 316 **DUPLEX STEEL** **SUPER DUPLEX SS** **NICKEL ALLOYS** Inconel Incoloy Monel Stellite **Titanium**	**SOFT SADDLE** reinforced Polytetrafluoro-ethylene RPTFE, polyamide NYLON, Polyether ether ketone PEEK, Polychlorotri-fluoroethylene PCTFE ECOPUR-T **METAL SADDLE** Wolfram carbide TCC, nickel ENP, Chrome carbide CCC, Silicone carbide Ni-SiC	Reinforced Polytetrafluoroethylene RPTFE, Fluoroelastomer FKM, Hydrogenated acrylonitrile-butadiene rubber HNBR, Perfluoroelastomer FFKM, graphite	**CARBON STEEL** 20XH3A L7/7 B7M / 2HM L7M / 7M L43 / 7 B7/2H **STAINLESS STEEL** B8/8 B8M/8M 660 **SUPER DUPLEX SS** **NICKEL ALLOYS** Inconel **Titanium**

PIT-R side-entry ball valve

• The body is made of two or three forged parts, and the ball is supported by a trunnion or support plates fixed in the covers of the body. In this way, linear pressure loads are transmitted to the body of the ball valve, ensuring smooth rotation of the ball with low torque values.

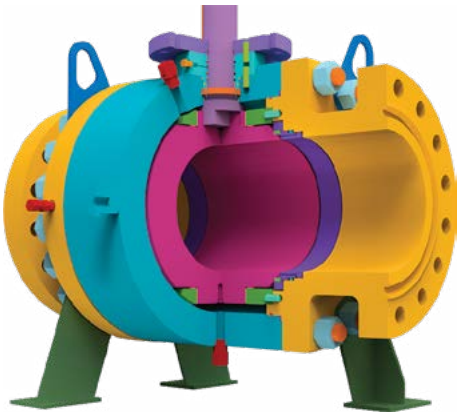
• One of the most common and trusted designs used in the Oil & Gas industry.

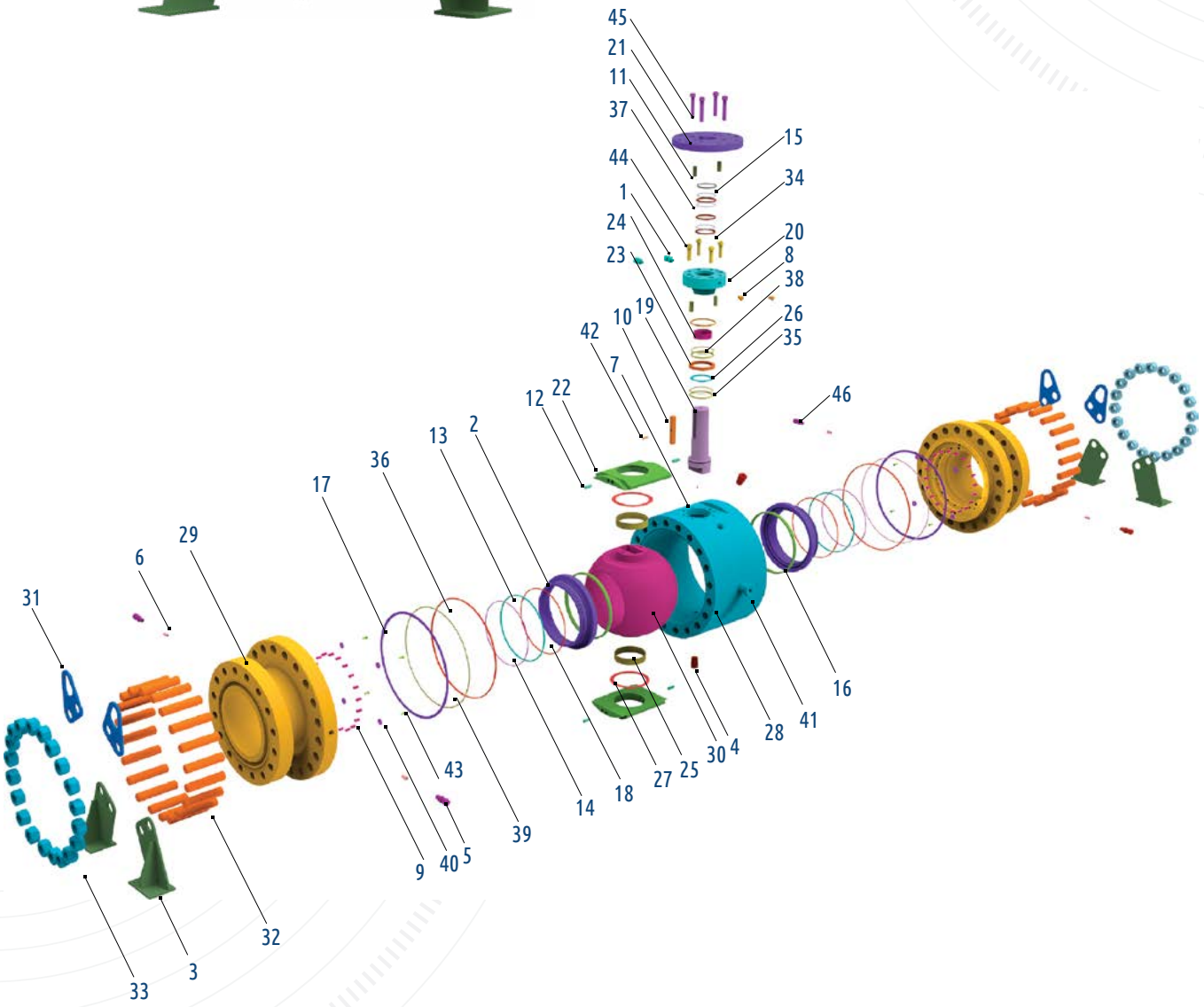
• The bolted body construction grants high field maintainability (easy removal of the valve body from the pipeline for inspection and one-site maintenance) and allows usage of forged components in various grades of CS, SS and exotic materials (suitable to severe service conditions).

• Competitiveness in terms of costs and delivery.

• Manual or actuated configuration.

1	SPINDLE LUBRICATION VALVE	24	FRICTION BEARING
2	SADDLE	25	FRICTION BEARING
3	SUPPORT	26	THRUST BEARING
4	SAFETY DRAIN VALVE	27	THRUST BEARING
5	VALVE LUBRICATION SEAT	28	BODY
6	SHUT-OFF VALVE	29	COVER
7	SPRING ANTISTATIC	30	BALL PLUG
8	CAP	31	SLEEVE PIECE
9	SPRING	32	STUD
10	STEM KEY	33	NUT
11	DOWEL PIN	34	SEAT RING
12	DOWEL PIN	35	SEAT RING
13	SEAT RING	36	SEAT RING
14	SEAT RING	37	SUPPORTING RING
15	FIRE RETARDANT RING	38	SUPPORTING RING
16	SEAL SADDLE	39	SUPPORTING RING
17	FIRE RETARDANT RING	40	FIXING SLEEVE
18	FIRE RETARDANT RING	41	CARGO LUG
19	SPINDLE	42	SCREW
20	FLANGE	43	SCREW
21	DRIVE FLANGE	44	SCREW
22	SLAB	45	SCREW
23	SHOCK ABSORBING RING	46	AIR VALVE





BALL VALVES MANUFACTURED BY PROENTECH PLANT

PIT-T top-entry ball valve

• This configuration featuring a cast or forged body closed by a bolted bonnet allows minimizing the number of potential leak paths.

• Full in-line service and maintenance. Without dismantling the valve from the pipeline, the removal of the bonnet allows free access to the body cavity, where ball and seats can be also dislodged, serviced and re-assembled with a set of maintenance tools.

• Upon completion of in-line maintenance, the integrity of the seat seals can be easily checked by pressurizing the body cavity.

• The body is sized to grant maximum rigidity against pipeline forces even when the trim is removed for service.

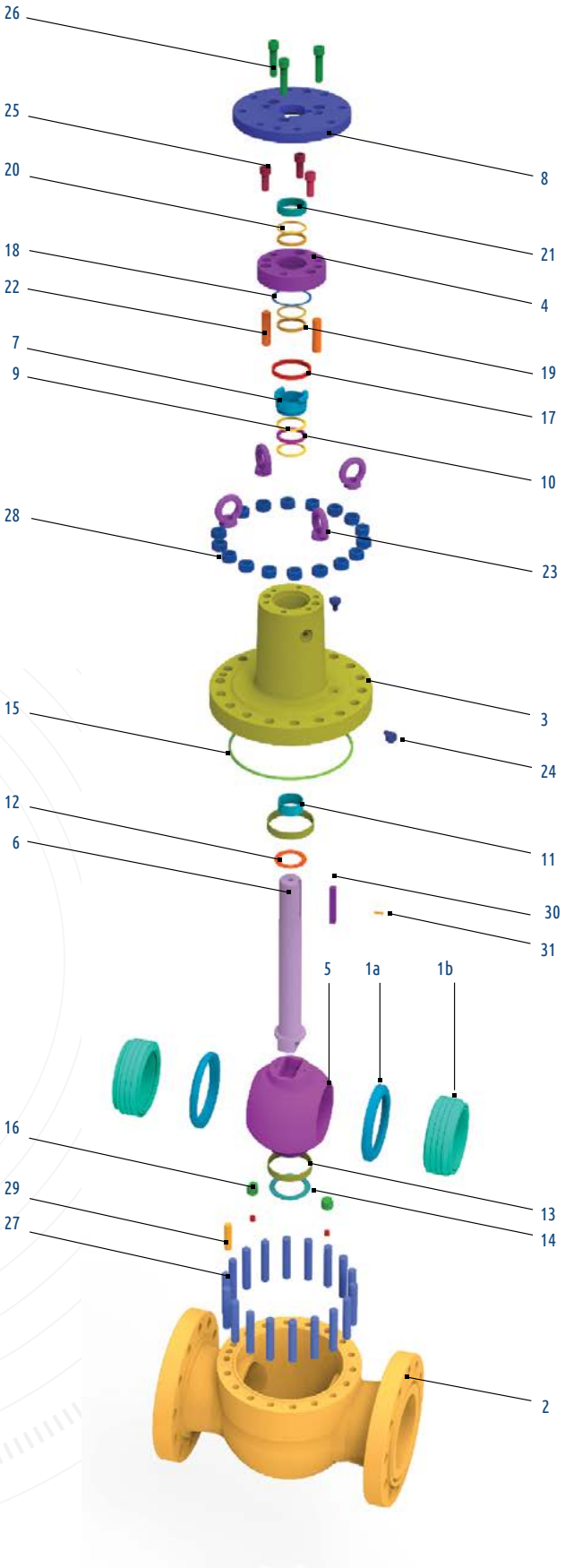
• The valve can be welded directly to the pipeline assembly.

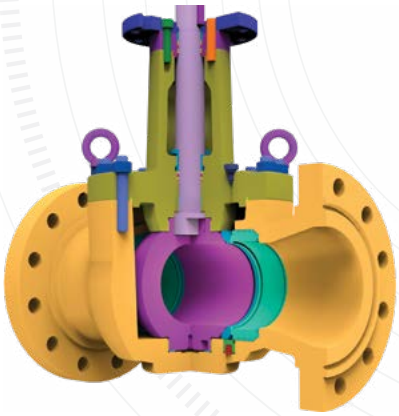
• Suitable for critical service conditions where on-site field reparability and quick turnaround are needed or in areas where space is limited, such as platform decks.

• A design for installation on vertical pipes with horizontal stem (e.g. platforms risers) is available.

• Manual or actuated configuration.

1a	SEAT RING
1b	SEAL SADDLE
2	BODY
3	YOKE COVER
4	YOKE COVER FLANGE
5	PLUG
6	SPINDLE
7	YOKE SLEEVE
8	DRIVE FLANGE
9	SNAP RING
10	SEAT RING
11	FRICTION BEARING
12	THRUST BEARING
13	FRICTION BEARING
14	THRUST BEARING
15	SEAT RING
16	LATCH
17	SLEEVE
18	SEAT RING
19	SEAT RING
20	SUPPORTING RING
21	SLEEVE
22	DOWEL PIN
23	EYE BOLT
24	VALVE
25	SCREW
26	SCREW
27	STUD
28	NUT
29	DOWEL PIN
30	STEM KEY
31	SCREW





BALL VALVES MANUFACTURED BY PROENTECH PLANT

PIT-C fully welded ball valve

• 3-piece design with no bolted bonnet or body joints, which reduces the quantity of potential leak paths.

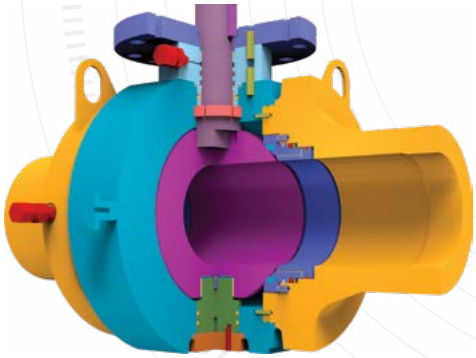
• Typically used for applications where maintenance is not required, like gas transmission pipelines, underground/remote installations, subsea lines.

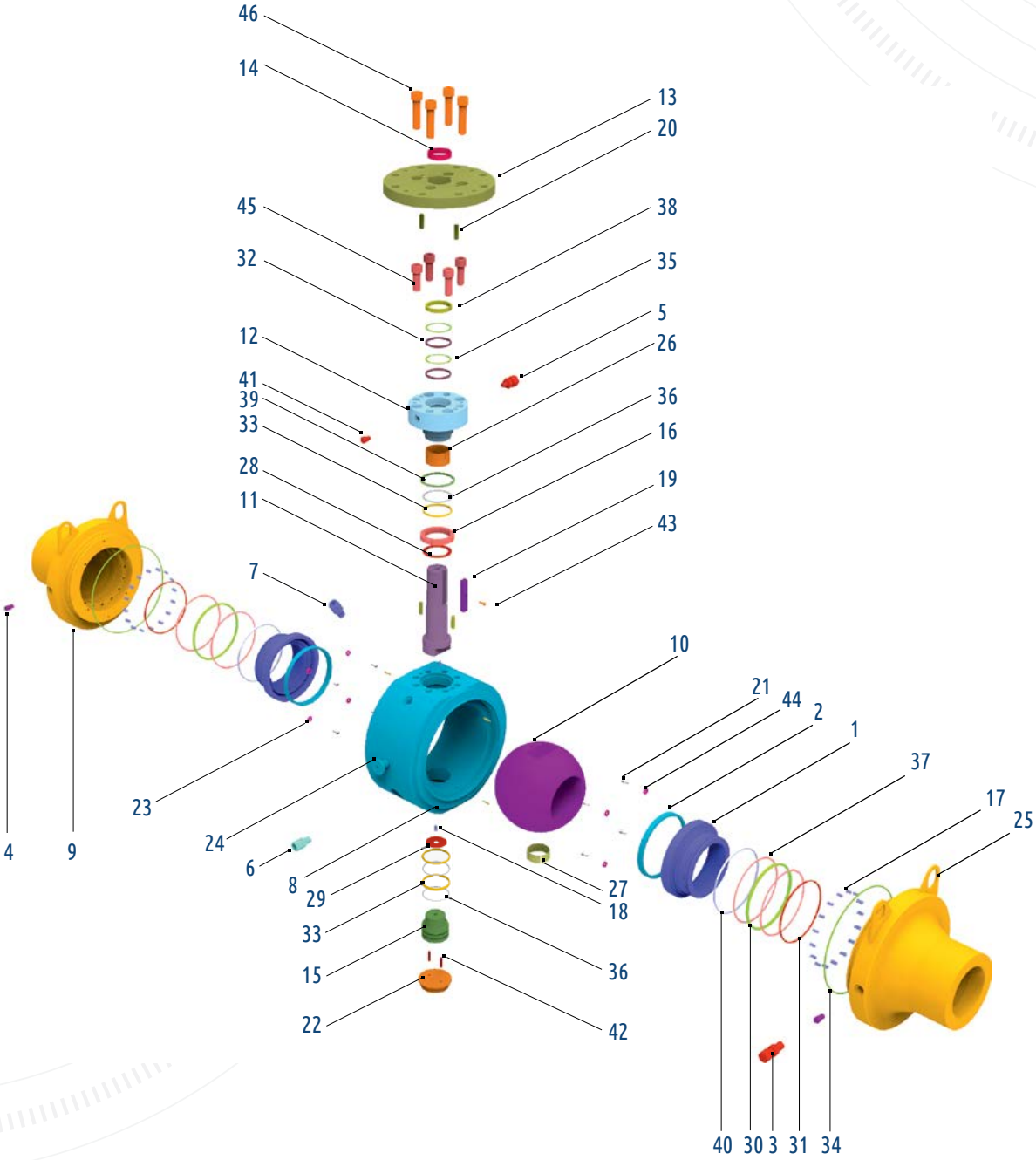
• The split body design arrangement allows for the use of forged materials in various grades (CS, SS, exotic materials) complying with the most severe service condition.

• The forged design is typically used for high-pressure valves and critical applications where the integrity of the pressure envelope is of paramount importance. It allows saving valve weight in applications where the weight of the equipment significantly affect the installation.

• Manual or actuated configuration.

1	SEAT RING
2	SEAL SADDLE
3	SEAT LUBRICATION VALVE
4	STOPPER VALVE
5	SPINDLE LUBRICATION VALVE
6	SAFETY DRAIN VALVE
7	SAFETY VALVE FOR AIR
8	BODY
9	COVER
10	BALL PLUG
11	SPINDLE
12	FLANGE
13	DRIVE FLANGE
14	FRICTION BEARING
15	TRUNNION
16	ANTI-KNOCKOUT RING
17	SPRING
18	ANTISTATIC SPRING
19	STEM KEY
20	DOWEL PIN
21	DOWEL PIN
22	TRUNNION COVER
23	TECHNOLOGICAL SLEEVE
24	CARGO LUG
25	SLEEVE PIECE
26	FRICTION BEARING
27	FRICTION BEARING
28	THRUST BEARING
29	THRUST BEARING
30	SEAT RING
31	SEAT RING
32	SEAT RING
33	SEAT RING
34	SEAT RING
35	SUPPORTING RING
36	SUPPORTING RING
37	SUPPORTING RING
38	FIRE RETARDANT RING
39	FIRE RETARDANT RING
40	FIRE RETARDANT RING
41	CAP
42	DOWEL PIN
43	SCREW
44	SCREW
45	SCREW
46	SCREW





BALL VALVES MANUFACTURED BY PROENTECH PLANT

Special applications

HIGH TEMPERATURE FROM +220 °C TO +625 °C

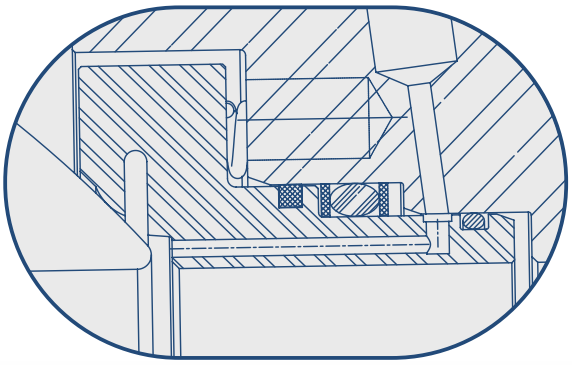
- Side-entry and top-entry configurations
- Cast or forged construction
- Extended bonnet for insulation allowance
- Metal and graphite seals
- Built-in fire safe design
- Adjustable stem packing with live load which guarantees performance also under thermal cycles
- Anti-friction coating on seating surfaces for torque requirements
- Materials compliant with stricter requirements
- Selection of hard facing technologies (ENP, CCC, NiSic) suitable for any service

LOW TEMPERATURE DOWN TO -196 °C

- Side-entry and top-entry configurations
- Cast or forged construction
- Extended bonnet with vapor space to maintain the stem packing within the suitable temperaturet range
- Enhanced seat and seal design to guarantee leak tightness
- Anti-friction coating on seating surfaces for torque requirements
- Materials compliant with stricter requirements
- Additional inspection and testing

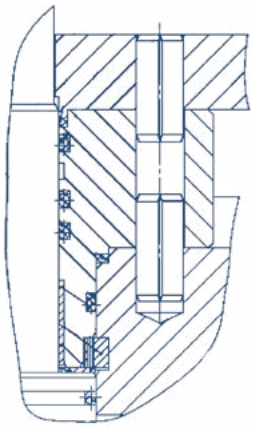
HABITAT WITH A HIGH CONTENT OF HYDROGEN SULPHIDE

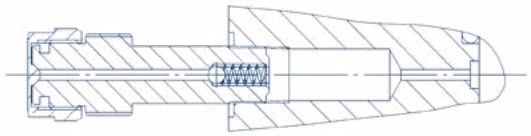
- Side-entry configurations
- Forged construction
- Body closure with overlaying in the contact areas of seals
- Metal and graphite seals
- Built-in fire safe design
- Anti-friction coating on seating surfaces for torque requirements
- Materials compatible with the requirements of CKBA 052-2008; NACE MR0175; ISO 15156
- Selection of hard facing technologies (ENP, CCC, NiSic) suitable for any service



«METAL-ON-METAL» SEAL

Sputtering a metal-ceramic alloy (chromium carbide or tungsten carbide) and rubbing with the ball ensures the suitability of these saddles for high temperatures and for working environments with a high content of dirt and abrasive particles. This type of saddle can also be used for short throttling.



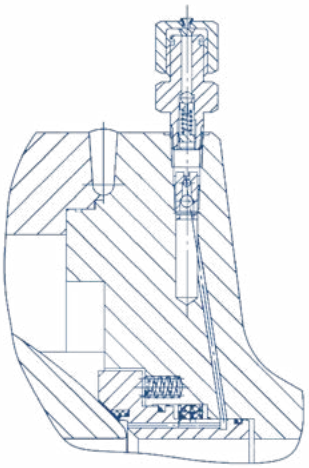


- The valve stem seal has at least two sealing elements and a system for inserting sealing grease between them.

- The design of the spindle assembly is anti-outgoing and ensures the possibility of the safe replacement of seals and the presence of pressure in the existing pipeline

The design of the crane provides for the possibility of forced supply of sealing grease in the sealing zone of the seat and spindle in case of loss of tightness.

The lubricant is supplied through safety fittings for connecting the packing device.



The number of points (fittings) for supplying lubricant in the valve seat

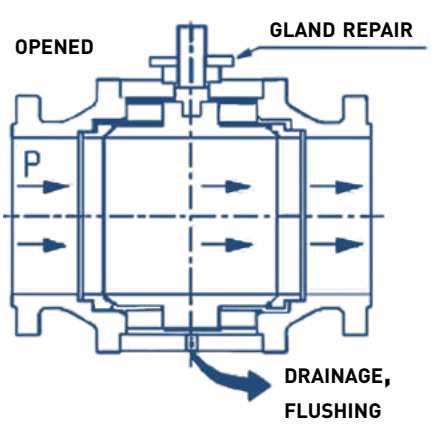
DN Ball Valves	Number of lubrication points in one seat	The number of fittings for the introduction of lubrication in one seat (for underground valves)
100-250	1	1
300-500	2	1
700-1000	4	2

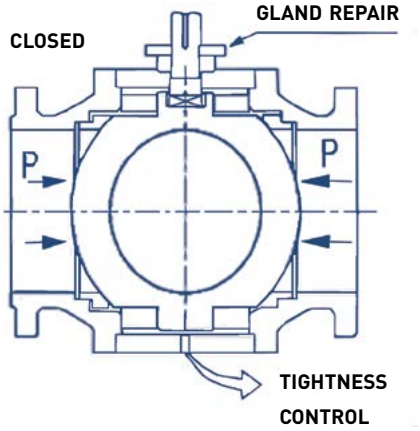
DPE (double piston effect) - double seal.

In the performance of the DPE shutter, the tightness of the shutter provides a saddle located both on the inlet side, which is pressed against the plug due to spring force and medium pressure P at the inlet, and a saddle positioned on the output side, which is pressed against the plug due to spring force and medium pressure P in the case. Thus, the tightness of the shutter is guaranteed even if one of the saddles fails.

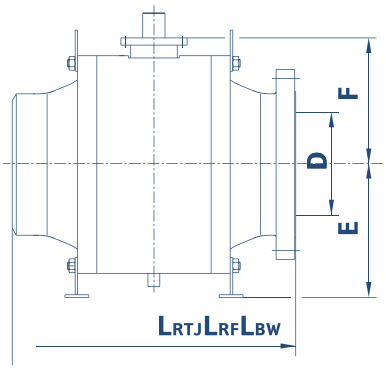
The DPE version does not have the ability to automatically relieve excess pressure from the dead zone (middle cavity) of the valve body.

Execution of DPE is a necessary requirement of the «STO GAZPROM 2-4.1-212 2008».





BALL VALVES MANUFACTURED BY PROENTECH PLANT
MAIN DIMENSIONS



L-RF - construction length with flanges according to GOST 544322-2011 B / ASME B16.5 RF

L-RTJ - construction length with flanges according to GOST 544322-2011 J / ASME B16.5 RTJ

L-BW - construction length with weld ends

MAIN DIMENSIONS AND MASSES. PN 16 - CLASS 150

NPS	DN	D	LBW	LRF	LRTJ	E	F	Weight (kg)	
		mm						BW	RF, RTJ
2"	50	49	216	178	191	93	118	21	27
3"	80	74	283	203	216	108	133	40	45
4"	100	100	305	229	241	128	210	58	69
6"	150	152	457/403	394	406	231	245	145	170
8"	200	203	521/502	457	470	277	288	245	270
10"	250	254	559/568	533	546	310	331	320	354
12"	300	305	635/648	610	622	344	368	560	610
14"	350	337	762	686	699	370	393	860	925
16"	400	387	838	762	775	415	437	1036	1206
20"	500	489	991	914	927	491	515	1758	1832
28"	700	686	1346/1650	1245	-	675	683	4250	4533
32"	800	779	1524	1372	-	760	803	6287	7020
40"	1000	978	1780/2250	1850	-	928	943	10260	10872

MAIN DIMENSIONS AND MASSES. PN 40 (50) - CLASS 300

NPS	DN	D	LBW	LRF	LRTJ	E	F	Weight (kg)	
		mm						BW	RF, RTJ
2"	50	49	216	216	232	93	118	21	28
3"	80	74	283	283	298	108	133	41	55
4"	100	100	305	305	321	128	210	78	59
6"	150	152	457/419	403	419	231	245	145	178
8"	200	203	521/502	502	518	277	288	245	293
10"	250	254	559/568	568	584	310	331	320	392
12"	300	305	635/648	648	664	344	368	560	660
14"	350	337	762	762	788	370	393	860	990
16"	400	387	838	838	854	415	437	1036	1286
20"	500	489	991	991	1010	491	515	1758	1928
28"	700	686	1346/1650	1346	1372	675	683	4250	4533
32"	800	779	1524	1524	1553	848	815	7050	8120
40"	1000	978	1780/2250	1850	-	928	943	10260	10872

BALL VALVES MANUFACTURED BY PROENTECH PLANT
MAIN DIMENSIONS

MAIN DIMENSIONS AND MASSES. PN 63 - CLASS 400 / PN 100 - CLASS 600

NPS	DN	D	LBW	LRF	LRTJ	E	F	Weight (kg)	
		mm						BW	RF, RTJ
2"	50	49	292	292	295	93	125	25	31
3"	80	74	356	356	359	113	148	53	78
4"	100	100	432	432	439	130	200	71	100
6"	150	152	559	559	562	237	249	152	208
8"	200	203	660	660	664	277	297	295	378
10"	250	254	787	787	791	314	337	420	560
12"	300	305	838	838	841	355	378	663	824
14"	350	337	889	889	892	381	400	923	1080
16"	400	387	991	991	994	427	448	1175	1410
20"	500	489	1194	1194	1200	500	538	2250	2664
28"	700	686	1549	1549	1562	675	690	5420	5800
32"	800	779	1778	1778	1794	800	850	8500	9800
40"	1000	978	1900	2000	-	943	955	13210	14355

MAIN DIMENSIONS AND MASSES. PN 125 / PN 160 - CLASS 900

NPS	DN	D	LBW	LRF	LRTJ	E	F	Weight (kg)	
		mm						BW	RF, RTJ
2"	50	49	368/350	368	371	102	135	40	63
3"	80	74	381/450	381	384	113	148	69	83
4"	100	100	457/520	457	460	130	225	140	157
6"	150	152	610/700	610	613	288	255	230	286
8"	200	203	737/800	737	740	333	295	345	440
10"	250	254	838/900	838	841	376	357	560	720
12"	300	305	965/1050	965	968	419	386	770	990
14"	350	337	1029	1029	1038	453	420	950	1220
16"	400	387	1130	1130	1140	487	471	1870	2215
20"	500	489	1321	1321	1334	565	547	2860	3480
28"	700	686	1600	1600	1682	746	757	6030	7370
32"	800	779	2159	2159	2188	850	890	9000	11350
40"	1000	978	2100	2180	-	1013	1007	15240	18580

MAIN DIMENSIONS AND MASSES. PN 250 - CLASS 1500

NPS	DN	D	LBW	LRF	LRTJ	E	F	Weight (kg)	
		mm						BW	RF, RTJ
2"	50	49	368	368	371	102	135	52	99
3"	80	74	470	470	473	125	158	88	115
4"	100	100	546	546	549	152	203	160	180
6"	150	146	705	705	711	333	300	330	400
8"	200	194	832	832	841	388	350	615	735
10"	250	241	991	991	1000	446	427	925	1120
12"	300	289	1130	1130	1146	503	470	1300	1550
14"	350	318	1257	1257	1276	569	522	1600	1915
16"	400	362	1384	1384	1407	629	298	1950	2350
20"	500	454	1664	1664	1686	725	692	3715	4455
28"	700	635	2198	2198	2251	973	969	8020	9650

BALL VALVES MANUFACTURED BY PROENTECH PLANT
QUALITY CONTROL AND TESTING

The plant has a multistage quality control system, beginning with individual operations, component parts, and assemblies and finishing with the product. Quality control is carried out by the Quality Control Department accordance with the requirements of design, regulatory and technical documentation.

We strive to meet the most stringent customer requirements in verifying our products in accordance with technical specifications due to comprehensive tests on such parameters as fire resistance, operation at extremely low temperatures down to -196 °C, uncontrolled atmospheric emissions, durability, high gas pressure and many others. We carry out inspection of 100% of the components and materials supplied to our plant.

PRODUCT STANDARDS AND CUSTOMER SPECIFIC TESTS

Standard	Optional
• Stem leakage test	• Torque Test
• Hydrostatic Body Test	• Endurance Test (cycling)
• Hydrostatic Seat Test	• High Pressure Air Test
• Low Pressure Air Test	• Drive Gear Strength Test
• Pressure Relief from the Cavity Test	• Fugitive Emission Test
• Functional Test	• Low Temperature/Cryogenic Test
• Anti-static Test	• High Temperature Test
	• Firesafe Test
	• Hyperbaric Test
	• Others

BALL VALVES MANUFACTURED BY PROENTECH PLANT
TYPES OF REPAIRS

Specialists of the ProEnTech Plant carry out regular service and post-warranty maintenance of manufactured ball valves.

Also on the basis of the ProEnTech Plant any manufacturer's ball valves for oil and gas industry pipeline systems are repaired using components manufactured by both Russian and foreign companies.

Our factory produces following types of repair works:

- Dismantling/Cutting
- Replacement of Seals
- Repair Of Inside Surfaces
- Repair of The Ball
- Assembling
- Welding
- Non-Destructive Testing
- Acceptance Test
- Painting and coating

Izhora Pipe Rolling Plant – leading Pipeline Division Production Company of Siberian Industrial Group, one of the oldest enterprises of Russia, founded by decree Peter the Great at the beginning of the XVII century, with the deepest history production of seamless pipes.

The plant, throughout its history, carry upgrading equipment while maintaining production traditions and the development of the product range. Following the results of a large-scale reconstruction of the plant in 2010, pipe product range have been expanded.

Currently, the plant produces seamless pipes, including casing and pumping and compression pipes, diameter of which varies from 57 mm to 168 mm.

Performance

The plant capacity is over 180,000 tons of seamless pipes per year.

Advantages

- The largest producer of seamless pipes in western Russia;
- Sesquicentennial experience in the production of seamless pipes;
- Developed transport infrastructure: has access to railways and ports of The Baltic Sea;
- Quality control system at all stages of production (input-output control);
- Production of the plant complies with domestic and international quality standards;
- Time efficient delivery of products;

- Complex deliveries of pipe and related products on favorable terms;
- Targeted work with customers, individual approach.

Advantages of seamless steel pipes

- High and low temperature resistant
- Suitable for use in high-pressure conditions.
- Long service life
- High product strength
- Resistance to mechanical stress
- Corrosion Resistance

Factory Products

- Seamless hot-deformed steel pipes (GOST 8731- 74, GOST 8732- 78);
- Seamless hot-deformed steel pipes (GOST 32528-2013);
- Cold-resistant seamless steel pipes for gas pipelines of gas-lift oil production systems and arrangement of gas fields (TU 14-3R-1128-2007);
- Seamless steel pipes for boiler plants and pipelines (TU 14-3-190-2004);
- Casing pipes and couplings for them (GOST 632-80);
- Pumping and compression pipes and couplings for them (GOST 633-80);
- Steel pipes used as casing or pumping and compression pipes for wells in the oil and gas industry (GOST 31446-2017);
- Seamless steel hot deformed pumping and compression pipes and couplings for them, pipe billet for the manufacture of pumping and compression pipes and couplings (TU 14-3R-81-2005).

CERTIFICATES AND DOCUMENTATION
IZHORA PIPE ROLLING PLANT


СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ
СЕРТИФИКАТ СООТВЕТСТВИЯ
№ 0216114


СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ
СЕРТИФИКАТ СООТВЕТСТВИЯ
№ 0142468


IQNet
THE INTERNATIONAL CERTIFICATION NETWORK
CERTIFICATE
IQNet and
Certification Association "Russian Register"
hereby certify that the organization
Limited liability company "IZHORA PIPE PLANT"
(LLC "ICPS")
Legal address: 271, Obukhovskoy oborony avenue, liter A, office 229, 192012, Saint-Petersburg, Russia
Actual address: 1, Lenina avenue, 196651, Kolpino, Saint-Petersburg, Russia
for the following field of activities
production of seamless steel pipes produced in accordance with the requirements of TU 14-3R-55-2001, TU 14-3R-81-2005, TU 14-3R-190-2004, TU 14-3R-1128-2007, TU 14-3R-1430-2007, GOST 532-80; GOST 633-80, GOST 8731-74, GOST 8732-78, GOST 32528-2013, GOST R 53383-2009
has implemented and maintains a
Management System
which fulfils the requirements of the following standard
ISO 9001:2015
Issued on : 29th June, 2017
Validity date : 7th November, 2019
Registration Number : RU-16.1780.026
Michael Drechsel
President of IQNet
Arkadi Vladimirtsev
Director General of
Russian Register


СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ
СЕРТИФИКАТ СООТВЕТСТВИЯ
№ 0141743


СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ
СЕРТИФИКАТ СООТВЕТСТВИЯ
№ 0185291

CERTIFICATES AND DOCUMENTATION
IZHORA PIPE ROLLING PLANT

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ 0164485

ОРГАН ПО СЕРТИФИКАЦИИ

ПРОДУКЦИЯ

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ

ИЗГОТОВИТЕЛЬ

СЕРТИФИКАТ ВЫДАН

НА ОСНОВАНИИ

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

Руководитель органа

Эксперт

Сертификат не применяется при обязательной сертификации

СИСТЕМА ДОБРОВОЛЬНОЙ СЕРТИФИКАЦИИ
ПО ТРЕБОВАНИЯМ ПРОМЫШЛЕННОЙ БЕЗОПАСНОСТИ «ТехСертПБ»
Регистрационный номер № РОСС RU.31114.04ЖК90

СЕРТИФИКАТ СООТВЕТСТВИЯ
требованиям промышленной безопасности № СДС.ТСПБ.ПРП.00158

Выдан органом по сертификации продукции:

ПОДТВЕРЖДАЕТ, ЧТО

Код ОКПД2 (ТН ВЭД): 24.20.32.000

Изготовитель (заявитель):

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ:

Основание выдачи сертификата:

Дополнительная информация: Схема сертификации 1.

Условия применения на опасных производственных объектах:

Срок действия сертификата:

Руководитель органа по сертификации / Ю. В. Демидов /

Эксперт / А. В. Арсентьева /

СИСТЕМА СЕРТИФИКАЦИИ РУССКОГО РЕГИСТРА
RUSSIAN REGISTER CERTIFICATION SYSTEM

CERTIFICATE

This is to certify that the Quality Management System of

Limited liability company "IZHORA PIPE PLANT"
(LLC "ICPS")
Legal address: 271, Obukhovskoy oborony avenue, liter A, office 229,
192012, Saint-Petersburg, Russia
Actual address: 1, Lenina avenue, 196653, Kolpino, Saint-Petersburg, Russia

has been assessed and found to be in accordance
with the requirements of

ISO 9001:2015

in respect of production of seamless steel pipes produced in accordance with the requirements of TU 14-3R-55-2001, TU 14-3R-81-2005, TU 14-3R-190-2004, TU 14-3R-1128-2007, TU 14-3R-1430-2007, GOST 632-80; GOST 633-80, GOST 8731-74, GOST 8732-78, GOST 32528-2013, GOST R 53365-2009

No: 16.1780.026
of 29th June, 2017

Management system certified since 2013

This certificate is valid until 7th November, 2019

СИСТЕМА ДОБРОВОЛЬНОЙ СЕРТИФИКАЦИИ
ПО ТРЕБОВАНИЯМ ПРОМЫШЛЕННОЙ БЕЗОПАСНОСТИ «ТехСертПБ»
Регистрационный номер № РОСС RU.31114.04ЖК90

СЕРТИФИКАТ СООТВЕТСТВИЯ
требованиям промышленной безопасности № СДС.ТСПБ.ПРП.00171

Выдан органом по сертификации продукции:

ПОДТВЕРЖДАЕТ, ЧТО

Код ОКПД2 (ТН ВЭД): 24.20.32.000

Изготовитель (заявитель):

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ:

Основание выдачи сертификата:

Дополнительная информация: Схема сертификации 1.

Условия применения на опасных производственных объектах:

Срок действия сертификата:

Руководитель органа по сертификации / Ю. В. Демидов /

Эксперт / А. В. Арсентьева /

АССОЦИАЦИЯ ПО СЕРТИФИКАЦИИ "РУССКИЙ РЕГИСТР"
АТТЕСТАТ АККРЕДИТАЦИИ ФЕДЕРАЛЬНОЙ СЛУЖБЫ
ПО АККРЕДИТАЦИИ № РОСС RU.0001.21ГА45

СЕРТИФИКАТ

Настоящим удостоверяется, что система менеджмента качества

Общества с ограниченной ответственностью
"ИЖОРСКИЙ ТРУБОПРОКАТНЫЙ ЗАВОД"
(ООО "ИТПЗ")

Юридический адрес: проспект Обуховской обороны, 271, литер А, офис 229,
Санкт-Петербург, 192012, Россия
Фактический адрес: пр. Ленина, 1, Колпино, Санкт-Петербург, 196653, Россия

была проверена и признана соответствующей требованиям стандарта

ГОСТ Р ИСО 9001-2015

в отношении производства стальных бесшовных труб,
выпускаемых в соответствии с требованиями ТУ 14-3Р-55-2001,
ТУ 14-3Р-81-2005, ТУ 14-3Р-190-2004, ТУ 14-3Р-1128-2007,
ТУ 14-3Р-1430-2007, ГОСТ 632-80, ГОСТ 633-80, ГОСТ 8731-74,
ГОСТ 8732-78, ГОСТ 32528-2013, ГОСТ Р 53366-2009

№: 16.1781.026
от 29 июня 2017 г.

Система менеджмента сертифицирована с 2013 года

Сертификат действителен до 7 ноября 2019 г.

RUSSIAN REGISTER · РУССКИЙ РЕГИСТР

SEAMLESS PIPES IPRP PRODUCTION
SPECIFICATIONS

GENERAL INFORMATION

Pipes are made by hot method rolling on the pipe-rolling unit 140.

Pipes are made of steel grades 10; 20; 35; 45; St3sp; 09G2S; 10G2 (by agreement of the parties pipes can be made from other steel grades).

Outside diameter (mm)	Wall thickness (mm)	Average length of off-gage pipes (mm)	Single-length pipe length (mm)	Length pipe running meter weight (kg)
57	4	10 500	10 000	5,23
	4,5	10 500	10 000	5,83
	5	10 500	10 000	6,41
	5,5	10 500	10 000	6,99
	6	10 500	10 000	7,55
	6,5	10 500	10 000	8,10
	7	10 500	10 000	8,63
	7,5	10 500	10 000	9,16
	8	10 500	10 000	9,67
	8,5	10 500	10 000	10,17
	9	10 500	10 000	10,65
	9,5	10 500	10 000	11,13
	10	10 500	10 000	11,59
	11	9 700	9 200	12,48
	12	9 100	8 600	13,32
	13	8 500	8 000	14,11
60	4	10 400	9 900	5,52
	4,5	10 500	10 000	6,16
	5	10 500	10 000	6,78
	5,5	10 500	10 000	7,39
	6	10 500	10 000	7,99
	6,5	10 500	10 000	8,58
	7	10 500	10 000	9,15
	7,5	10 500	10 000	9,71
	8	10 500	10 000	10,26
	8,5	10 500	10 000	10,80
	9	10 500	10 000	11,32

SEAMLESS PIPES IPRP PRODUCTION
SPECIFICATIONS

Outside diameter (mm)	Wall thickness (mm)	Average length of off-gage pipes (mm)	Single-length pipe length (mm)	Length pipe running meter weight (kg)
60	9,5	10 300	9 800	11,83
	10	9 900	9 400	12,33
	11	9 100	8 600	13,29
	12	8 400	7 900	14,21
	13	7 900	7 400	15,07
	14	7 400	6 900	15,88
60,3	4	10 500	10 000	5,55
	4,5	10 500	10 000	6,19
	5	10 400	9 900	6,82
	5,5	10 400	9 900	7,43
	6	10 500	10 000	8,03
	6,5	10 500	10 000	8,62
	7	10 500	10 000	9,20
	7,5	10 500	10 000	9,76
	8	10 500	10 000	10,32
	8,5	10 500	10 000	10,86
	9	10 500	10 000	11,38
	9,5	10 300	9 800	11,90
	10	9 800	9 300	12,40
	11	9 000	8 500	13,37
	12	8 400	7 900	14,29
	13	7 800	7 300	15,16
	14	7 400	6 900	15,98
63,5	4	10 400	9 900	5,87
	4,5	10 500	10 000	6,55
	5	10 500	10 000	7,21
	5,5	10 400	9 900	7,87
	6	10 500	10 000	8,51
	6,5	10 500	10 000	9,14
	7	10 500	10 000	9,75
	7,5	10 500	10 000	10,36
	8	10 500	10 000	10,95

SEAMLESS PIPES IPRP PRODUCTION
SPECIFICATIONS

Outside diameter (mm)	Wall thickness (mm)	Average length of off-gage pipes (mm)	Single-length pipe length (mm)	Length pipe running meter weight (kg)
63,5	8,5	10 500	10 000	11,53
	9	10 100	9 600	12,10
	9,5	9 600	9 100	12,65
	10	9 200	8 700	13,19
	11	8 400	7 900	14,24
	12	7 800	7 300	15,24
	13	7 300	6 800	16,19
	14	6 800	6 300	17,09
68	4	10 400	9 900	6,31
	4,5	10 500	10 000	7,05
	5	10 500	10 000	7,77
	5,5	10 400	9 900	8,48
	6	10 400	9 900	9,17
	6,5	10 500	10 000	9,86
	7	10 500	10 000	10,53
	7,5	10 500	10 000	11,19
	8	10 300	9 800	11,84
	8,5	9 700	9 200	12,47
	9	9 200	8 700	13,10
	9,5	8 800	8 300	13,71
	10	8 400	7 900	14,30
	11	7 700	7 200	15,46
	12	7 100	6 600	16,57
	13	6 600	6 100	17,63
	14	6 200	5 700	18,64
	15	5 800	5 300	19,61
	16	5 500	5 000	20,52
70	4	10 500	10 000	6,51
	4,5	10 500	10 000	7,27
	5	10 500	10 000	8,02
	5,5	10 500	10 000	8,75
	6	10 500	10 000	9,47

SEAMLESS PIPES IPRP PRODUCTION
SPECIFICATIONS

Outside diameter (mm)	Wall thickness (mm)	Average length of off-gage pipes (mm)	Single-length pipe length (mm)	Length pipe running meter weight (kg)
70	6,5	10 500	10 000	10,18
	7	10 500	10 000	10,88
	7,5	10 500	10 000	11,56
	8	10 500	10 000	12,23
	8,5	10 500	10 000	12,89
	9	10 500	10 000	13,54
	9,5	10 500	10 000	14,17
	10	10 500	10 000	14,80
	11	10 400	9 900	16,01
	12	9 700	9 200	17,16
	13	9 000	8 500	18,27
	14	8 500	8 000	19,33
	15	8 000	7 500	20,35
	16	7 600	7 100	21,31
73	4	10 450	9 950	6,81
	4,5	10 300	9 800	7,6
	5	10 300	9 800	8,39
	5,5	10 500	10 000	9,16
	6	10 300	9 800	9,91
	6,5	10 300	9 800	10,66
	7	10 200	9 700	11,39
	7,5	10 100	9 600	12,12
	8	9 900	9 400	12,82
	8,5	9 500	9 000	13,52
	9	9 100	8 600	14,21
	9,5	8 700	8 200	14,88
	10	8 400	7 900	15,54
	11	7 900	7 400	16,82
	12	7 600	7 100	18,05
76	4	10 300	9 800	7,1
	4,5	10 300	9 800	7,94
	5	10 400	9 900	8,76

SEAMLESS PIPES IPRP PRODUCTION
SPECIFICATIONS

Outside diameter (mm)	Wall thickness (mm)	Average length of off-gage pipes (mm)	Single-length pipe length (mm)	Length pipe running meter weight (kg)
76	5,5	10 400	9 900	9,56
	6	10 300	9 800	10,36
	6,5	10 400	9 900	11,14
	7	10 400	9 900	11,91
	7,5	10 400	9 900	12,67
	8	10 300	9 800	13,42
	8,5	9 900	9 400	14,15
	9	9 500	9 000	14,87
	9,5	9 300	8 800	15,58
	10	8 950	8 450	16,28
	11	8 400	7 900	17,63
	12	8000	7 500	18,94
83	4	10 500	10 000	7,79
	4,5	10 500	10 000	8,71
	5	10 500	10 000	9,62
	5,5	10 500	10 000	10,51
	6	10 500	10 000	11,39
	6,5	10 500	10 000	12,26
	7	10 500	10 000	13,12
	7,5	10 500	10 000	13,96
	8	10 500	10 000	14,8
	8,5	10 500	10 000	15,62
	9	10 500	10 000	16,43
	9,5	10 500	10 000	17,22
	10	10 500	10 000	18
	11	10 500	10 000	19,53
	12	10 500	10 000	21,01
	13	9 900	9 400	22,44
	14	9 200	8 700	23,82
	15	8 700	8 200	25,16
	16	8 200	7 700	26,44

Outside diameter (mm)	Wall thickness (mm)	Average length of off-gage pipes (mm)	Single-length pipe length (mm)	Length pipe running meter weight (kg)
89	4	10 400	9 900	8,39
	4,5	10 500	10 000	9,38
	5	10 600	10 100	10,36
	5,5	10 600	10 100	11,33
	6	10 600	10 100	12,28
	6,5	10 600	10 100	13,23
	7	10 600	10 100	14,16
	7,5	10 600	10 100	15,07
	8	10 600	10 100	15,98
	8,5	10 600	10 100	16,88
	9	10 800	10 300	17,76
	9,5	10 500	10 000	18,63
	10	10 500	10 000	19,48
	11	10 200	9 700	21,16
	12	9 700	9 200	22,7
	13	9 000	8 500	24,37
	14	8 400	7 900	25,9
	15	7 900	7 400	27,37
	16	7 500	7 000	28,81
95	4	10 500	10 000	8,98
	4,5	10 500	10 000	10,04
	5	10 500	10 000	11,1
	5,5	10 500	10 000	12,14
	6	10 500	10 000	13,17
	6,5	10 500	10 000	14,19
	7	10 500	10 000	15,19
	7,5	10 500	10 000	16,18
	8	10 500	10 000	17,16
	8,5	10 500	10 000	18,13
	9	10 500	10 000	19,09
	9,5	10 500	10 000	20,03
	10	10 500	10 000	20,96

SEAMLESS PIPES IPRP PRODUCTION
SPECIFICATIONS

Outside diameter (mm)	Wall thickness (mm)	Average length of off-gage pipes (mm)	Single-length pipe length (mm)	Length pipe running meter weight (kg)
95	11	9 700	9 200	22,79
	12	8 900	8 400	24,56
	13	8 300	7 800	26,29
	14	7 700	7 200	27,97
	15	7 200	6 700	29,59
	16	6 800	6 300	31,17
102	4	9 900	9 400	9,67
	4,5	10 100	9 600	10,82
	5	9 950	9 450	11,96
	5,5	9 900	9 400	13,09
	6	9 900	9 400	14,21
	6,5	10 000	9 500	15,31
	7	10 000	9 500	16,4
	7,5	10 000	9 500	17,48
	8	10 000	9 500	18,55
	8,5	10 000	9 500	19,6
	9	10 000	9 500	20,64
	9,5	10 000	9 500	21,67
	10	9 750	9 250	22,69
	11	8 900	8 400	24,69
	12	8 200	7 700	26,63
	13	7 550	7 050	28,53
	14	7 000	6 500	30,38
	15	6 600	6 100	32,18
	16	6 200	5 700	33,93
104	4	10 500	10 000	9,86
	4,5	10 500	10 000	11,04
	5	10 500	10 000	12,21
	5,5	10 500	10 000	13,36
	6	10 500	10 000	14,5
	6,5	10 500	10 000	15,63
	7	10 500	10 000	16,74

SEAMLESS PIPES IPRP PRODUCTION
SPECIFICATIONS

Outside diameter (mm)	Wall thickness (mm)	Average length of off-gage pipes (mm)	Single-length pipe length (mm)	Length pipe running meter weight (kg)
104	7,5	10 500	10 000	17,85
	8	10 500	10 000	18,94
	8,5	10 500	10 000	20,02
	9	10 500	10 000	21,09
	9,5	10 000	9 500	22,14
	10	9 500	9 000	23,18
	11	8 700	8 200	25,23
	12	8 000	7 500	27,23
	13	7 400	6 900	29,17
	14	6 900	6 400	31,07
	15	6 400	5 900	32,92
	16	6 000	5 500	34,72
108	4	10 400	9 900	10,26
	4,5	10 400	9 900	11,49
	5	10 800	10 300	12,7
	5,5	10 600	10 100	13,9
	6	10 600	10 100	15,09
	6,5	10 400	9 900	16,27
	7	10 200	9 700	17,44
	7,5	10 500	10 000	18,59
	8	10 500	10 000	19,73
	8,5	10 200	9 700	20,86
	9	9 900	9 400	21,97
	9,5	9 900	9 400	23,08
	10	9 100	8 600	24,17
	11	8 300	7 800	26,31
	12	7 600	7 100	28,41
	13	7 000	6 500	30,46
	14	6 500	6 000	32,46
	15	6 100	5 600	34,4
	16	5 700	5 200	36,3

SEAMLESS PIPES IPRP PRODUCTION
SPECIFICATIONS

Outside diameter (mm)	Wall thickness (mm)	Average length of off-gage pipes (mm)	Single-length pipe length (mm)	Length pipe running meter weight (kg)
114	4	10 200	9 700	10,85
	4,5	10 200	9 700	12,15
	5	10 200	9 700	13,44
	5,5	10 300	9 800	14,72
	6	10 300	9 800	15,98
	6,5	10 300	9 800	17,23
	7	10 400	9 900	18,47
	7,5	10 300	9 800	19,7
	8	10 300	9 800	20,91
	8,5	9 900	9 400	22,12
	9	9 500	9 000	23,31
	9,5	9 000	8 500	24,48
	10	8 500	8 000	25,65
	11	7 700	7 200	27,94
	12	7 100	6 600	30,19
	13	6 500	6 000	32,38
	14	6 100	5 600	34,53
	15	5 700	5 200	36,62
	16	5 300	4 800	38,67
121	4	10 500	10 000	11,54
	4,5	10 500	10 000	12,93
	5	10 500	10 000	14,3
	5,5	10 500	10 000	15,67
	6	10 500	10 000	17,02
	6,5	10 500	10 000	18,35
	7	10 500	10 000	19,68
	7,5	10 500	10 000	20,99
	8	9 900	9 400	22,29
	8,5	9 300	8 800	23,58
	9	8 800	8 300	24,86
	9,5	8 300	7 800	26,12
	10	7 900	7 400	27,37

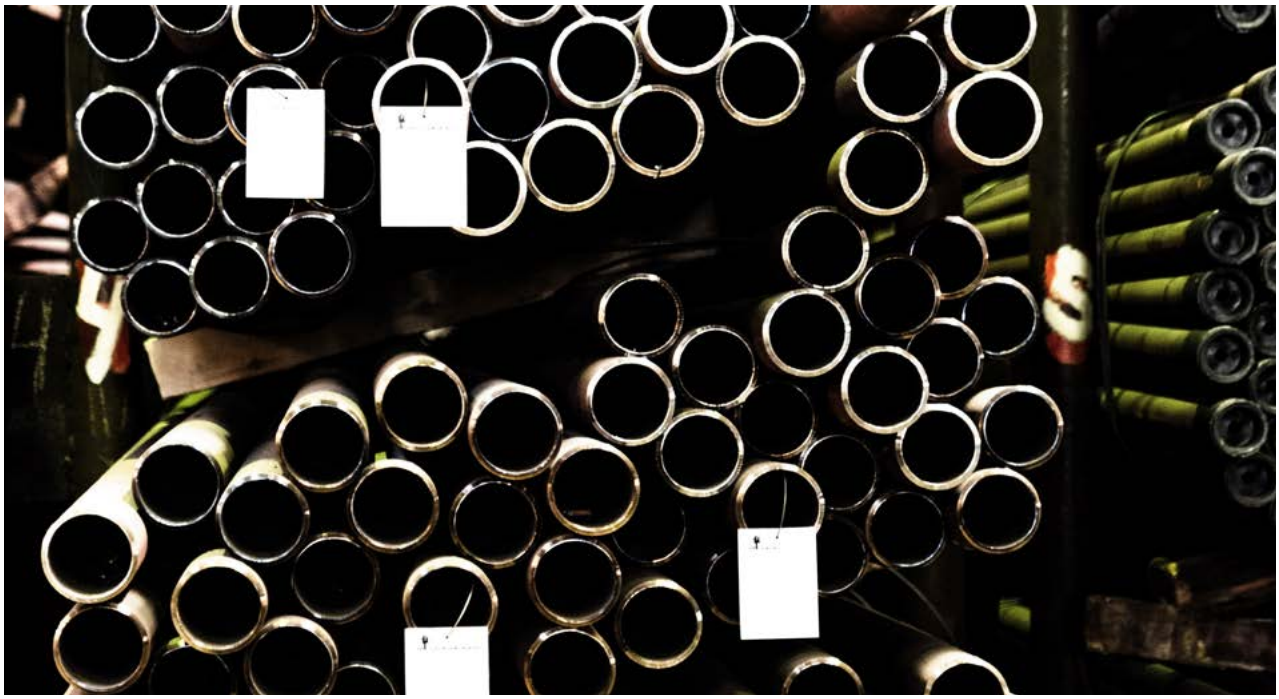
Outside diameter (mm)	Wall thickness (mm)	Average length of off-gage pipes (mm)	Single-length pipe length (mm)	Length pipe running meter weight (kg)
121	11	7 200	6 700	29,84
	12	6 600	6 100	32,26
	13	6 000	5 500	34,62
	14	5 600	5 100	36,94
	15	5 200	4 700	39,21
	16	4 900	4 400	41,63
127	4	9 700	9 200	12,13
	4,5	9 700	9 200	13,6
	5	9 700	9 200	15,04
	5,5	9 700	9 200	16,48
	6	9 700	9 200	17,9
	6,5	9 700	9 200	19,32
	7	9 700	9 200	20,72
	7,5	9 500	9 000	22,1
	8	9 400	8 900	23,48
	8,5	8 800	8 300	24,84
	9	8 300	7 800	26,19
	9,5	7 900	7 400	27,53
	10	7 500	7 000	28,85
	11	6 800	6 300	31,47
	12	6 200	5 700	34,03
	13	5 700	5 200	36,55
	14	5 300	4 800	39,01
	15	4 900	4 400	41,43
	16	4 800	4 400	43,8
133	4	9 700	9 200	12,73
	4,5	9 700	9 200	14,26
	5	9 400	8 900	15,78
	5,5	9 700	9 200	17,29
	6	9 900	9 400	18,79
	6,5	9 800	9 300	20,28
	7	9 700	9 200	21,75

SEAMLESS PIPES IPRP PRODUCTION
SPECIFICATIONS

Outside diameter (mm)	Wall thickness (mm)	Average length of off-gage pipes (mm)	Single-length pipe length (mm)	Length pipe running meter weight (kg)
133	7,5	9 200	8 700	23,21
	8	8 900	8 400	24,66
	8,5	8 300	7 800	26,11
	9	7 900	7 400	27,52
	9,5	7 400	6 900	28,93
	10	7 000	6 500	30,33
	11	6 400	5 900	33,1
	12	5 800	5 300	35,81
	13	5 300	4 800	38,47
	14	4 900	4 400	41,09
	15	4 600	4 300	43,65
	16	4 500	4 100	46,17
159	5	9 950	9 450	18,99
	5,5	9 600	9 100	20,82
	6	9 600	9 100	22,64
	6,5	9 900	9 400	24,45
	7	9 900	9 400	26,24
	7,5	9 700	9 200	28,02
	8	9 500	9 000	29,79
	8,5	9 000	8 500	31,55
	9	8 600	8 100	33,29
	9,5	8 400	7 900	35,03
	10	8 000	7 500	36,75
	11	7 200	6 700	40,15
	12	6 600	6 100	43,5
	13	6 000	5 500	46,81
	14	5 600	5 100	50,06
	15	5 200	4 700	53,27
	16	4 850	4 350	56,43

SEAMLESS PIPES IPRP PRODUCTION
SPECIFICATIONS

Outside diameter (mm)	Wall thickness (mm)	Average length of off-gage pipes (mm)	Single-length pipe length (mm)	Length pipe running meter weight (kg)
168	5	10 300	9 900	20,10
	5,5	10 300	9 900	22,04
	6	10 300	9 900	23,97
	6,5	10 300	9 900	25,89
	7	10 300	9 900	27,79
	7,5	10 400	10 000	29,68
	8	10 400	10 100	31,56
	8,5	10 100	9 800	33,43
	9	9 900	9 600	35,29
	9,5	9 700	9 400	37,13
	10	9 700	9 400	38,96
	11	9 400	9 200	42,59
	12	9 200	9 000	46,16
	13	9 100	8 900	49,69
	14	8 900	8 700	53,17
	15	8 300	8 100	56,59
	16	7 800	7 600	59,97



Hot-deformed conventional pipes

PIPES OBJECTIVE

Pipes are used in the construction, engineering, petrochemical industries, as well as in the construction of pipelines.

GOST 8731-74, GOST 8732-78, GOST 32528-2013
Seamless hot-deformed steel pipes

Outside diameter (mm)	Wall thickness (mm)	Steel Grade
From 57 to 168	From 4 to 16	10, 20, 35, 45, St3sp, 092G2C, 10G2

TU 14-3P-1128-2007
Cold-resistant seamless steel pipes for gas pipelines gas-lift systems for oil production and gas fields.

Outside diameter (mm)	Wall thickness (mm)	Steel Grade
From 57 to 168	From 4 to 16	10, 20, 092G2C, 10G2

Thermal power sector pipes (Boiler tubes)

PIPES OBJECTIVE

Boiler tubes are designed for steam boilers and pipelines.

TU 14-3-190-2004
Seamless steel pipes for boiler installations and pipelines.

Outside diameter (mm)	Wall thickness (mm)	Steel Grade
From 57 to 168	From 4 to 16	10, 20

Casing pipes and couplings for them

PIPES OBJECTIVE

Casing pipes are designed for operation in oil and gas fields. Pipes are used to strengthen the walls of well columns against collapse.

GOST 632-80
Casing pipes and couplings for them

Outside diameter (mm)	Wall thickness (mm)	Internal diameter (mm)	Weight (1 m/kg)	Steel Grade	Type of threaded connection
114,3	5,2	103,9	14,0	D,K	Triangular, OTTM,OTTG
	5,7	102,9	15,2		
	6,4	101,5	16,9		
	7,4	99,5	19,4		
	8,6	97,1	22,3		
	10,2	93,9	26,7		
127,0	5,6	115,8	16,7	D,K	Triangular, OTTM,OTTG
	6,4	114,2	19,1		
	7,5	112,0	22,1		
	9,2	108,6	26,7		
	10,7	105,6	30,7		
146	6,5	133,1	22,3	D,K	Triangular, OTTM,OTTG
	7,0	132,1	24,0		
	7,7	130,7	26,2		
	8,5	129,1	28,8		
	9,5	127,1	32,0		
	10,7	124,7	35,7		

PIPE OBJECTIVE

Pipes are designed for operation in oil and gas fields, are used to extract oil, gas and gas condensate from wells, water injection, compressed air (gas), to maintain reservoir pressure and to perform various types of work on the current and major repair of wells.

GOST 633-80
Pumping and compression pipes and couplings for them.

Outside diameter (mm)	Wall thickness (mm)	Pipe execution	Steel Grade	Type of heading
73,02	5,5	A and B	D,K	NKT, NKV
88,9	6,5	A and B	D,K	NKT, NKV

GOST 31446-2017
Steel pipes used as casing or pumping and compression pipes for wells in the oil and gas industry.

Outside diameter (mm)	Wall thickness (mm)	Pipe execution	Steel Grade
73,02	5,51	A and B	K55, K72, PSL-1
88,9	6,45	A and B	K55, K72, PSL-1

TU 14-3P-81-2005
Seamless steel pumping and compression hot-deformed pipes and couplings for them.

Outside diameter (mm)	Wall thickness (mm)	Pipe execution	Type of heading
73	5,5	D,K	NKT,NKV
89	6,5	D,K	NKT,NKV

- Delivery of pipes of other sizes and length of pipes is allowed upon agreement with the customer.

Pipe blanks for the manufacture of pumping and compression pipes and couplings

Outside diameter (mm)	Wall thickness (mm)	Pipe execution
73	11	D,K
89	13	D,K

Pipes are supplied with additional requirements:

- Measured length;
- Multiple length;
- Restriction of length (not shorter than 9 meters);
- Increased accuracy in diameter or wall thickness;
- 100% ultrasound control;
- Normalization of impact toughness at t -40 °C;
- Normalization of impact toughness at t -60 °C;
- Chamfer;
- Heat treatment: normalization
  quenching + tempering;
- Select by chemical composition;
- Increase (decrease) of the temporary resistance limit, the yield strength for each 1 kgs/mm. sq. and norms of plasticity (relative elongation, contraction) for each absolute percent.

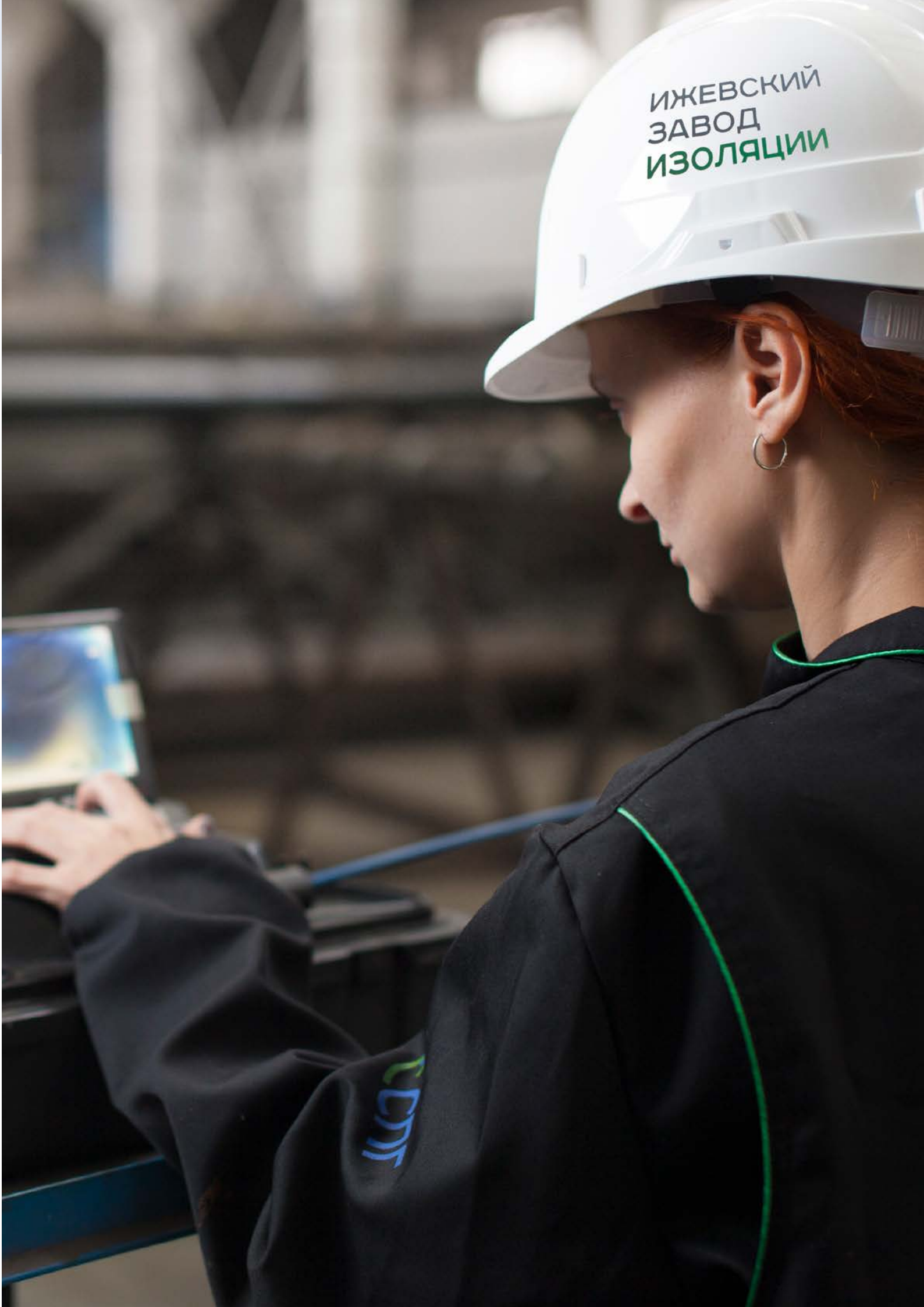
ИЖЕВСКИЙ ЗАВОД ИЗОЛЯЦИИ

Izhevsk Isolation Plant is an enterprise specializing in the production of pipes with a corrosion-resistant coating for the oil and gas industry. The plant's capacities allow coatings to be applied on the plant's production line in compliance with the high quality of the work.

The technological equipment of the plant includes high-tech modern equipment from the world's leading manufacturers.

Advantages of the plant

- the most convenient transport logistics;
- technological equipment includes installations of a pressure type
- and installations for fraction recovery created by leading foreign and domestic manufacturers;
- the newest painting equipment of foreign manufacture;
- the plant is certified according to GOST ISO 9001-2011;
- The production line is unique and was developed by specialists of the Izhevsk Insulation Plant. Its design capacity is not less than 25 000 rm of finished products per month, with the possibility of a two-threefold increase in capacity.


ИЖЕВСКИЙ
ЗАВОД
ИЗОЛЯЦИИ

CERTIFICATES AND DOCUMENTATION
IZHEVSK ISOLATION PLANT

ООО «Научно-производственный центр «Самара»
Юридический адрес: Россия, 443001, г. Самара, ул. Ульяновская/Ярмарочная, д. 50/55
Фактический/почтовый адрес: Россия, 443022, г. Самара, Гаражный проезд 3, лит. Е
Тел.: +7 (846) 932-03-23 E-mail: office@nkcsamara.ru

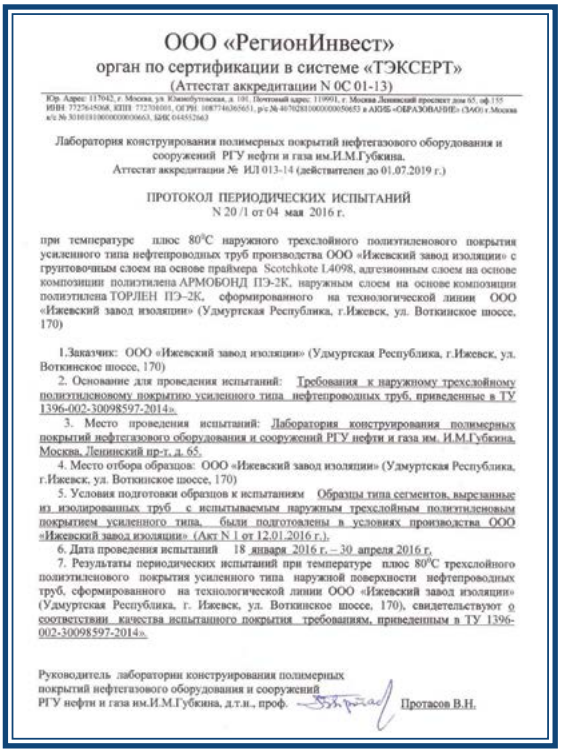
Утверждаю
Управляющий
ООО «НПЦ «Самара»
_____ А.В. Максимук
«27» июня 2018 г.

ЗАКЛЮЧЕНИЕ ПО РЕЗУЛЬТАТАМ ПЕРИОДИЧЕСКИХ ИСПЫТАНИЙ
№67/18 от 27.06.2018 г.

На основании результатов периодических испытаний внутреннего антикоррозионного покрытия Mascotank 11, сформированного в условиях технологической линии ООО «Ижевский завод изоляции» (протокол испытаний № 120-06/18 от «27» июня 2018 г.) можно сделать следующие выводы:

Исследованные образцы покрытия соответствуют требованиям к внутренним антикоррозионным покрытиям, изложенным в ТУ 1390-005-30098567-2017 «Стальные трубы с внутренним антикоррозионным покрытием».

Начальник испытательной лаборатории
ООО «НПЦ «Самара» _____ А.В. Бузинова



ООО «РегионИнвест»
орган по сертификации в системе «ТЭКСЕРТ»
(Аттестат аккредитации N 0С 01-13)

Юр. Адрес: 117042, г. Москва, ул. Южнобутовская, д. 105, Почтовый адрес: 119991, г. Москва Ленинский проспект дом 65, оф.135
ИНН 7725645068, КПП 772501001, ОГРН 1087746365651, р/с № 40702810000000050653 в АОЗБ «ОБРАЗОВАНИЕ» (ЗАО) г.Москва
к/с № 30101810000000000653, БИК 044552063

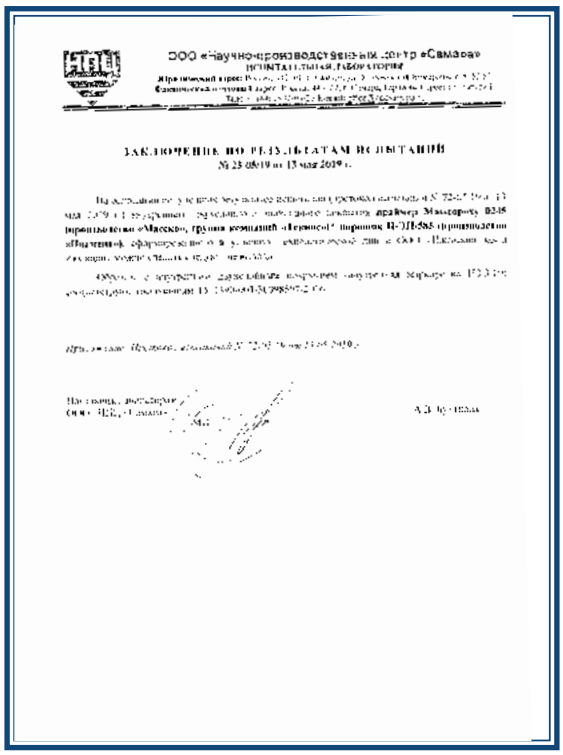
Лаборатория конструирования полимерных покрытий нефтегазового оборудования и сооружений РГУ нефти и газа им.И.М.Губкина.
Аттестат аккредитации № ИЛ 013-14 (действителен до 01.07.2019 г.)

ПРОТОКОЛ ПЕРИОДИЧЕСКИХ ИСПЫТАНИЙ
N 20 /1 от 04 мая 2016 г.

при температуре плюс 80°С наружного трехслойного полиэтиленового покрытия усиленного типа нефтепроводных труб производства ООО «Ижевский завод изоляции» с грунтовочным слоем на основе праймера Scotchkote L4098, адгезионным слоем на основе композиции полиэтилена АРМОБОНД ПЭ-2К, наружным слоем на основе композиции полиэтилена ТОРЛЕН ПЭ–2К, сформированного на технологической линии ООО «Ижевский завод изоляции» (Удмуртская Республика, г.Ижевск, ул. Воткинское шоссе, 170)

1.Заказчик: ООО «Ижевский завод изоляции» (Удмуртская Республика, г.Ижевск, ул. Воткинское шоссе, 170)
2. Основание для проведения испытаний: Требования к наружному трехслойному полиэтиленовому покрытию усиленного типа нефтепроводных труб, приведенные в ТУ 1396-002-30098597-2014».
3. Место проведения испытаний: Лаборатория конструирования полимерных покрытий нефтегазового оборудования и сооружений РГУ нефти и газа им. И.М.Губкина, Москва, Ленинский пр-т, д. 65.
4. Место отбора образцов: ООО «Ижевский завод изоляции» (Удмуртская Республика, г.Ижевск, ул. Воткинское шоссе, 170)
5. Условия подготовки образцов к испытаниям Образцы типа сегментов, вырезанные из изолированных труб с испытываемым наружным трехслойным полиэтиленовым покрытием усиленного типа, были подготовлены в условиях производства ООО «Ижевский завод изоляции» (Акт N 1 от 12.01.2016 г.).
6. Дата проведения испытаний 18 января 2016 г. – 30 апреля 2016 г.
7. Результаты периодических испытаний при температуре плюс 80°С трехслойного полиэтиленового покрытия усиленного типа наружной поверхности нефтепроводных труб, сформированного на технологической линии ООО «Ижевский завод изоляции» (Удмуртская Республика, г. Ижевск, ул. Воткинское шоссе, 170), свидетельствуют о соответствии качества испытанного покрытия требованиям, приведенным в ТУ 1396-002-30098597-2014».

Руководитель лаборатории конструирования полимерных покрытий нефтегазового оборудования и сооружений РГУ нефти и газа им.И.М.Губкина, д.т.н., проф. _____ Протасов В.Н.



ООО «Научно-производственный центр «Самара»

ЗАКЛЮЧЕНИЕ ПО РЕЗУЛЬТАТАМ ИСПЫТАНИЙ
№ 23-06/19 от 13 мая 2019 г.

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС RU.АД77.Н01948
Срок действия с 22.05.2018 по 21.05.2021
№ 0286591

ОРГАН ПО СЕРТИФИКАЦИИ Общество с ограниченной ответственностью "Мегалит 23"
Место нахождения: 191123, Россия, город Санкт-Петербург, улица Радищева, дом 44, литер А, помещение 8-Н
Фактический адрес: 127474, Россия, город Москва, шоссе Дмитровское, дом 60
Регистрационный номер аттестата аккредитации № RA.RU.10АД77, дата регистрации 08.08.2017 года.
Телефон: +79152309143 Адрес электронной почты: 23megalit@gmail.com

ПРОДУКЦИЯ Трубы стальные с наружным двухслойным и трехслойным полиэтиленовым покрытием, марка "ИЗИ".
Серийный выпуск
код ОК
Код ОК 034-2014 (КПЕС 2008) 24.20.13.190

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ
ТУ 1390-004-30098597-2016 "Трубы стальные с наружным двухслойным и трехслойным полиэтиленовым покрытием. Технические условия"
код ТН ВЭД
7304

ИЗГОТОВИТЕЛЬ Общество с ограниченной ответственностью "Ижевский завод изоляции", 426028, Россия, Республика Удмуртская, город Ижевск, улица Пойма, дом 93, литер Г, ИНН 1840007050

СЕРТИФИКАТ ВЫДАН Общество с ограниченной ответственностью "Ижевский завод изоляции", 426028, Россия, Республика Удмуртская, город Ижевск, улица Пойма, дом 93, литер Г, Телефон: +73412655-815 E-mail: zavod.izi@mail.ru

НА ОСНОВАНИИ протокола испытаний № 764-05/18-05-ИМ от 21.05.2018 года Испытательной лаборатории Общества с ограниченной ответственностью «Центр испытаний и метрологии», аттестат аккредитации РОСС RU.31403.04ИВВ0.002, срок действия с 22.12.2016 по 21.12.2019.

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Место нанесения знака соответствия: на изделии, в упаковке и технической документации. Схема сертификации 3с.

Руководитель органа Р.М. Туманишвили
Эксперт А.М. Локтионов

Сертификат не применяется при обязательной сертификации

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС RU.АД77.Н01577
Срок действия с 25.04.2018 по 24.04.2021
№ 0287106

ОРГАН ПО СЕРТИФИКАЦИИ Общество с ограниченной ответственностью "Мегалит 23"
Место нахождения: 191123, Россия, город Санкт-Петербург, улица Радищева, дом 44, литер А, помещение 8-Н
Фактический адрес: 127474, Россия, город Москва, шоссе Дмитровское, дом 60
Регистрационный номер аттестата аккредитации № RA.RU.10АД77, дата регистрации 08.08.2017 года.
Телефон: +79152309143 Адрес электронной почты: 23megalit@gmail.com

ПРОДУКЦИЯ Стальные трубы с внутренним антикоррозионным покрытием "maxicotank 11", марка "ИЗИ".
Серийный выпуск
код ОК
Код ОК 034-2014 (КПЕС 2008) 24.20.13.190

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ
ТУ 1390-005-30098597-2017 "Стальные трубы с внутренним антикоррозионным покрытием. Технические условия"
код ТН ВЭД
7304

ИЗГОТОВИТЕЛЬ Общество с ограниченной ответственностью "Ижевский завод изоляции", 426028, Россия, Республика Удмуртская, Ижевск, улица Пойма, 93, литер Г, ИНН 1840007050

СЕРТИФИКАТ ВЫДАН Общество с ограниченной ответственностью "Ижевский завод изоляции", 426028, Россия, Республика Удмуртская, Ижевск, улица Пойма, 93, литер Г, Телефон: +73412655815 E-mail: zavod.izi@mail.ru

НА ОСНОВАНИИ протокола испытаний № 936-04/18-05-ИМ от 24.04.2018 года Испытательной лаборатории Общества с ограниченной ответственностью «Центр испытаний и метрологии», аттестат аккредитации РОСС RU.31403.04ИВВ0.002, срок действия с 22.12.2016 по 21.12.2019.

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Место нанесения знака соответствия: на изделии, в упаковке и технической документации. Схема сертификации 3с.

Руководитель органа Р.М. Туманишвили
Эксперт А.М. Локтионов

Сертификат не применяется при обязательной сертификации

ИСМ
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ
Система добровольной сертификации систем менеджмента
«Регистр систем менеджмента»

ОРГАН ПО СЕРТИФИКАЦИИ ИНТЕГРИРОВАННЫХ СИСТЕМ МЕНЕДЖМЕНТА
ООО «Региональный центр сертификации и мониторинга «РЕГИОН-СТАНДАРТ»
Россия, 426057, Ижевск, ул. Свободы, 173
№ RA.RU.13ФК42

№ 10371

СЕРТИФИКАТ СООТВЕТСТВИЯ

Выпуск 2. СМК сертифицирована с октября 2013

Выдан Обществу с ограниченной ответственностью
«Ижевский завод изоляции»
426028, Удмуртская республика, г. Ижевск, ул. Пойма, 93, литер Г
НАСТОЯЩИЙ СЕРТИФИКАТ УДОСТОВЕРЯЕТ:
система менеджмента качества применительно к нанесению покрытий на внутреннюю и наружную поверхность труб диаметром от 57 до 426 мм

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ
ГОСТ Р ИСО 9001-2015 (ISO 9001:2015)
Разъяснения, касающиеся области сертификации СМК, могут быть получены путем консультаций с ООО «Ижевский завод изоляции»

Регистрационный номер РОСС RU.ФК42.К00114

Дата регистрации 17.09. 2018 **Срок действия до 17.09. 2021**

Руководитель органа по сертификации интегрированных систем менеджмента **В.Н. Антонова**

Председатель комиссии **Г.Н. Дурнева**

Steel pipes with an external extruded two-layer and three-layer polyethylene corrosion-resistant coating

APPLICATION AREA

The following technical documentation applies to steel pipes with a diameter of 57 mm - 530 mm with an corrosive-resisting coating of two-layer and three-layer extruded polyethylene coating for the construction of main oil and gas pipelines, gas condensate pipelines and process pipelines with a temperature of the transported product up to + 80 °C.

DIAMETER OF PRODUCTS
from 57 to 530 mm

SPECIFICATIONS

Depending on the construction of coatings, purpose, diameter of pipelines, permissible temperature conditions of construction and operation, the external polyethylene coating of pipes can be made according to one of the types according to the tables.

OPERATING CONDITIONS

Two-layer polyethylene coating can only be used as a protective coating for pipes with the diameter up to 1220 mm. External three-layer or two-layer polyethylene coatings are applied to the pipes in the factory environment during the process of equipment of the mechanized flow lines in accordance with the process instruction agreed in the established procedure.

The coating should withstand the environmental exposure without discontinuity, peeling and cracking:

• During storage of isolated pipes - in the temperature range from -50 °C to +60 °C (from -60 °C to +60 °C for the conditions of the Far North and Eastern Siberia);

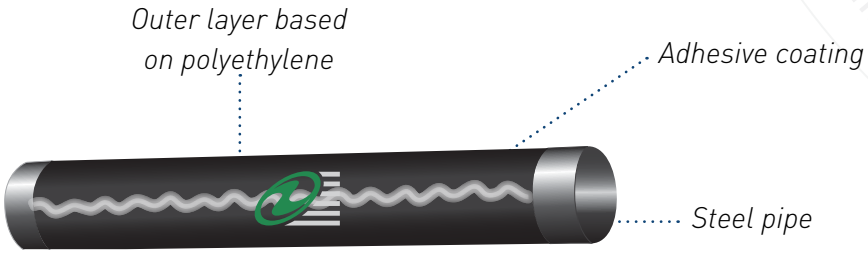
• During transportation of insulated pipes - in the temperature range from -45 °C to +50 °C (from -50 °C to +50 °C for the conditions of the Far North and Eastern Siberia);

• During construction and installation works, as well as placement operations - in the temperature range from -40 °C. to +50 °C. (from -45 °C to +50 °C for the conditions of the Far North and Eastern Siberia);

• During the operation of pipelines - from -50 °C to +60 °C (from -50 °C. to +80 °C with the use of heat-resistant coating (H-2)).

STEEL PIPES WITH EXTERNAL DOUBLE-LAYER AND THREE-LAYERED POLYETHYLENE COATING (TU 1390-004-30098597-2016)

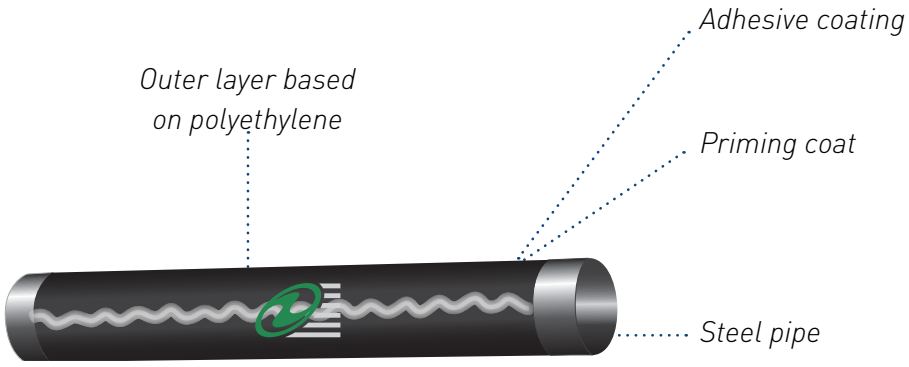
Pipe with two-layer external insulation (TU 1390-004-30098597-2016)



SPECIFICATIONS

Pipe diameter (mm)	Coating type	Coating thickness (mm)	Operating temperature (°C)
57	Standart design (H1) up to +50 °C Standart design (H2) p to +60 °C	2	from -20 °C to +60 °C
76		2	
89		2	
108		2	
114		2	
133		2	
159		2	
219		2	
273		2	
325		2,2	
426		2,2	

Pipe with a three-layer external insulation (TU 1390-004-30098597-2016)



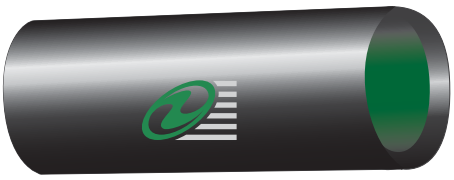
SPECIFICATIONS

Pipe diameter (mm)	Coating type	Coating thickness (mm)		Operating temperature (°C)
		Standart design	Special design	
57	Standart design (H) up to +60 °C Heat resistance design (T) up to +80 °C Special design (C) up to +60 °C	2	2,2	from -20 °C to +80 °C
76		2	2,2	
89		2	2,2	
108		2	2,2	
114		2	2,2	
133		2	2,2	
159		2	2,2	
219		2	2,2	
273		2	2,2	
325		2,2	2,5	
426		2,2	2,5	

Steel pipes with internal corrosion-resistant coating

SCOPE OF APPLICATION

The following technical documentation covers steel pipes with a diameter of 57-530 mm with an inner coating based on liquid epoxy phenolic material in accordance with the drawings intended for the construction of surface, elevated, underwater and underground pipelines for various purposes (oil-gathering lines, pressure oil pipelines, high and low pressure water pipelines, high and low pressure gas pipelines, condensate pipelines) operated at temperatures up to plus 80 °C. By meeting the requirements of this documentation, the user will be able to maintain the required quality of the coating during its usage for the intended purpose for a period of at least 10 years from the date of commissioning.



DIAMETER OF PRODUCTS
from 57 to 530 mm

SPECIFICATIONS

Pipe with an internal epoxy coating is connected by welding during the construction of the pipeline with insulation of the welded joint by protective drop ball sub or a binding band.

OPERATING CONDITIONS

Coatings should withstand the environmental exposure specified in the technical requirements without peeling and cracking in the temperature range:

- during construction-and-assembling, loading/unloading and transport operations - from -40 °C to +50 °C;
- heating of the external tube area to a temperature not higher than +120 °C (during welding) is allowed when applying external film insulation of pipes;
- during storage - from -60 °C to +60 °C;
- with a rapid change of temperature - from -40 °C to +80 °C (when filling the pipeline);
- with a pressure jump - from 0.0 MPa to 21.0 MPa and vice versa;
- during operation of the pipeline - from -60 °C to +80 °C.

Steel pipes with internal corrosion-resistant coating (TU 1390-003-30098597-2016)

Seamless and electrically welded longitudinal and spiral welded steel pipes for construction, reconstruction and repair of various pipelines destination, as well as other objects of the oil and gas industry.

The inner coating based on epoxy liquid and powder materials can be made in the following designs:

- Single layer based on epoxy liquid material;
- Two-layer with a primer layer of phenolic or epoxy-phenolic primer and a coating layer based on epoxy powder material.

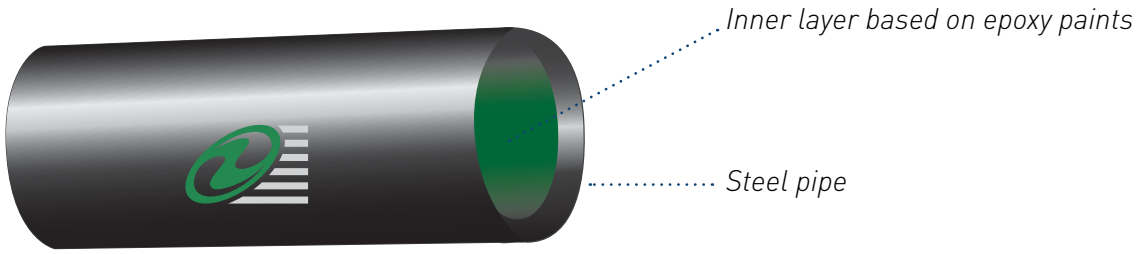
SPECIFICATIONS

Pipe diameter (mm)	Coating type	Coating thickness (mm)	Operating temperature (°C)
57	Standart design up to +80 °C Heat resistance design up to +120 °C	from 350 to 1000	from -40 °C to +120 °C
76			
89			
108			
114			
133			
159			
219			
273			
325			
426			

Steel pipes with internal corrosion-resistant coating (TU 1390-005-30098597-2017)

Seamless steel pipes and electric welded longitudinal pipes with internal coating intended for construction, reconstruction and repair of pipelines for various purposes, as well as other objects of the oil and gas industry.

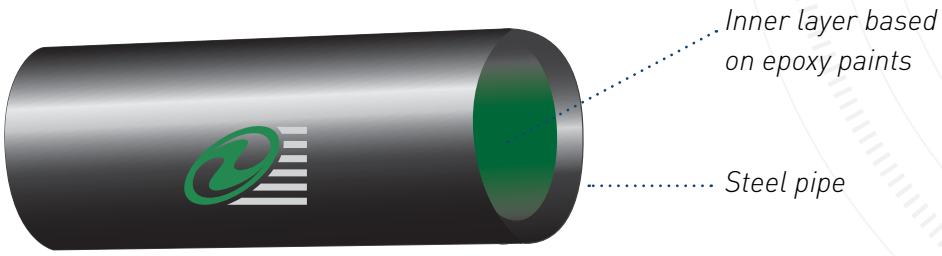
Single-layer inner coating based on epoxy, modified epoxy resins and other types of high-dry solvents.



SPECIFICATIONS

Pipe diameter (mm)	Coating type	Coating thickness (mm)	Operating temperature (°C)
57	Standart design up to +80 °C	from 350 to 1000	from -40 °C to +80 °C
76			
89			
108			
114			
133			
159			
219			
273			
325			
426			

Pipe with internal corrosion-resistant coating (TU 1396-001-30098597-2013)



SPECIFICATIONS

Pipe diameter (mm)	Coating thickness (mm)	Coating type	Operating temperature (°C)
57	Not less than 350	Epoxy coating	Up to +80 °C
76			
89			
108			
114			
133			
159			
219			
273			
325			
426			
530			

PIPE PRODUCTION DIVISION
TVEL-TOBOLSK PLANT

TVEL-Tobolsk is one of the oldest, largest, and most advanced manufacturers of insulated pipes in Russia, which specializes in application of various types of corrosion-resistant and heat insulating coatings on steel pipes and joint couplings of pipelines.

> Production facilities allow TVEL-Tobolsk to produce at least **2 million meters** of pipes with polyethylene coating and at least **1 million meters** of pipes with thermal insulation.

The plant carried out the following series of activities:

- the technical conditions of the enterprise were agreed and recommended for use in the construction and repair of the pipelines of PAO NK Rosneft;
- the technical conditions of the enterprise were agreed and recommended for use in the construction and repair of the pipelines of PAO Transneft;
- the company OOO Tobolsk-Neftekhim (part of PAO Sibur Holding) successfully audited the plant in order to assess the technical feasibility of manufacturing pipes in isolation;
- the technical conditions of the enterprise were agreed and recommended for use in the construction and repair of the pipelines of PAO Gazprom.

Technological lines for pipe insulation include lines for:

- pouring of polyurethane insulation layer;
- application of a two-layer and three-layer polyethylene coating;
- manufacture of metal-polymer hydro insulation, line for painting of pipes, etc.

CERTIFICATES AND DOCUMENTATION
OF TVEL-TOBOLSK


Система добровольной сертификации
«Единый Стандарт»

№ РОСС RU.3609.04ЧЖ00 / ЕС.С.О.02.01.002049-18

СЕРТИФИКАТ СООТВЕТСТВИЯ

Выпуск 2. СМК сертифицирована с января 2014 г.
выдан Акционерному обществу
"ТВЭЛ-Тобольск"
626158, Россия, Тюменская область, г. Тобольск, 9-й микрорайон, д. 28а, офис 30
ИНН 7206029214

Настоящий Сертификат удостоверяет

Система менеджмента качества применительно к проектированию, разработке, производству и поставке стальных труб и фасонных изделий с антикоррозионным покрытием теплогидроизолированных пенополиуретаном в гидрозащитной оболочке

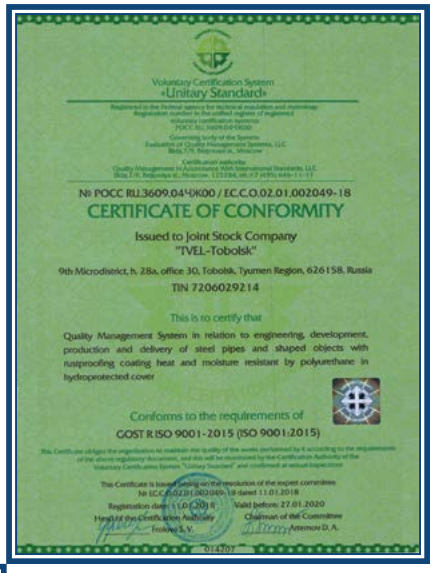
Соответствует требованиям

ГОСТ Р ИСО 9001-2015 (ISO 9001:2015)

Сертификат выдан на основании решения экспертной комиссии
№ ЕС.С.О.02.01.002049-18 от 11.01.2018

Дата регистрации 11.01.2018 Срок действия до 27.01.2020

Руководитель органа Фролова С. В. Председатель комиссии Артемов Д. А.


Voluntary Certification System
«Unitary Standard»

№ РОСС RU.3609.04ЧЖ00 / ЕС.С.О.02.01.002049-18

CERTIFICATE OF CONFORMITY

Issued to Joint Stock Company
"TVEL-Tobolsk"
9th Microdistrict, h. 28a, office 30, Tobolsk, Tyumen Region, 626158, Russia
TIN 7206029214

This is to certify that

Quality Management System in relation to engineering, development, production and delivery of steel pipes and shaped objects with rustproofing coating heat and moisture resistant by polyurethane in hydroprotected cover

Conforms to the requirements of

GOST R ISO 9001-2015 (ISO 9001:2015)

This Certificate is issued pursuing on the resolution of the expert committee
№ ЕС.С.О.02.01.002049-18 dated 11.01.2018
Registration date 11.01.2018 Valid before 27.01.2020
Head of the Certification Authority Chairman of the Committee
Frolova S.V. Artemov D.A.


СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС RU.АГ99.Н10892

Срок действия с 24.11.2016 по 23.11.2019

№ 2175034

ОРГАН ПО СЕРТИФИКАЦИИ

ПРОДУКЦИЯ

57 6800

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ

ИЗГОТОВИТЕЛЬ

СЕРТИФИКАТ ВЫДАН

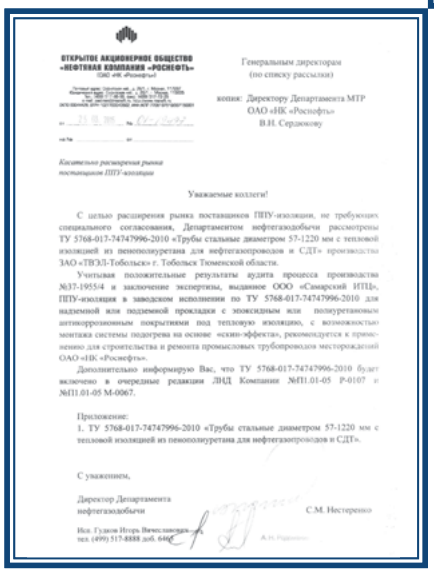
НА ОСНОВАНИИ

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

Руководитель органа Р.В. Гребенко

Эксперт С.А. Булгуев

Сертификат не применяется при обязательной сертификации


ОТКРЫТОЕ АКЦИОНЕРНОЕ ОБЩЕСТВО
«НЕФТЯНАЯ КОМПАНИЯ «РОСНЕФТЬ»

Генеральным директорам
(по списку рассылки)

копия: Директору Департамента МТР
ОАО «НК «Роснефть»
В.Н. Сердюкову

Касательно расширения рынка поставщиков ППУ-изоляции

Уважаемые коллеги!

С целью расширения рынка поставщиков ППУ-изоляции, не требующих специального согласования, Департаментом нефтегазодобычи рассмотрены ТУ 5768-017-74747996-2010 «Трубы стальные диаметром 57-1220 мм с тепловой изоляцией из пенополиуретана для нефтегазопроводов и СДТ» производства ЗАО «ТВЭЛ-Тобольск» г. Тобольск Тюменской области.

Учитывая положительные результаты аудита процесса производства №37-1955/4 и заключение экспертизы, выданное ООО «Самарский ИТЦ», ППУ-изоляция в заводском исполнении по ТУ 5768-017-74747996-2010 для надземной или подземной прокладки с эпоксидным или полиуретановым антикоррозионным покрытиями под тепловую изоляцию, с возможностью монтажа системы подогрева на основе «скин-эффекта», рекомендуется к применению для строительства и ремонта промысловых трубопроводов месторождений ОАО «НК «Роснефть».

Дополнительно информирую Вас, что ТУ 5768-017-74747996-2010 будет включено в очередные редакции ЛНД Компании №П1.01-05 Р-0107 и №П1.01-05 М-0067.

Приложение:
1. ТУ 5768-017-74747996-2010 «Трубы стальные диаметром 57-1220 мм с тепловой изоляцией из пенополиуретана для нефтегазопроводов и СДТ».

С уважением,

Директор Департамента
нефтегазодобычи С.М. Нестеренко


Система добровольной сертификации
«Единый Стандарт»

Разрешение
На использование знака соответствия
Системы менеджмента качества

Орган по сертификации Общество с ограниченной ответственностью «Управление Качеством по Международным Стандартам» на основании решения о выдаче сертификата соответствия системы менеджмента качества АО "ТВЭЛ-Тобольск" (ИНН 7206029214), г. Тобольск, разрешает использовать знак соответствия системы менеджмента качества на период действия сертификата № РОСС RU.3609.04ЧЖ00 / ЕС.С.О.02.01.002049-18 от 11.01.2018 в любой форме, исключающей возможность толкования его как знака соответствия качества продукции.

Допускается использовать знак соответствия в рекламных буклетах, проспектах, брошюрах, плакатах, бланках организационно-распорядительной документации организации-держателя сертификата.

Организация-обладатель сертификата и знака соответствия не должна:
- наносить знак соответствия на продукцию, упаковку продукции, отчеты лабораторных исследований, протоколы или испытаний, или использовать его иным способом, который может быть использован как подтверждение соответствия качества продукции;
- распространять использование знака соответствия на деятельность, не охваченную областью сертификации;
- ссылаться на сертификат и использовать знак соответствия при приостановлении, отмене или окончании срока действия сертификата.

Руководитель органа по сертификации ООО "УКМ" Фролова С. В.

Дата 11.01.2018 г.

CERTIFICATES AND DOCUMENTATION
OF TVEL-TOBOLSK


СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ
СЕРТИФИКАТ СООТВЕТСТВИЯ
№ 2216096

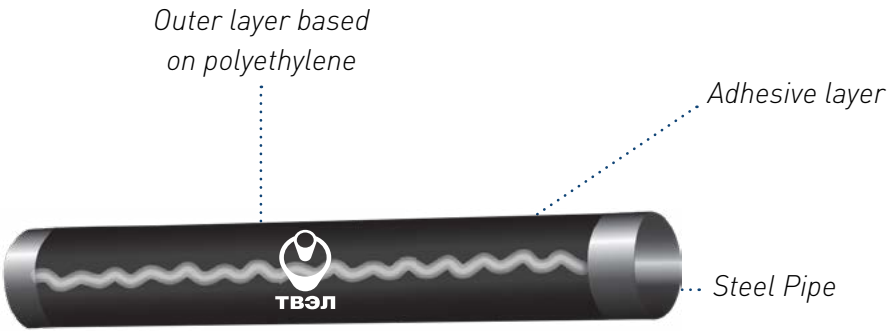

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ
СЕРТИФИКАТ СООТВЕТСТВИЯ
№ 0140796


СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ
СЕРТИФИКАТ СООТВЕТСТВИЯ
№ 0140797


СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ
СЕРТИФИКАТ СООТВЕТСТВИЯ
№ 2175026


СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ
СЕРТИФИКАТ СООТВЕТСТВИЯ
№ 2120781

Steel pipes with external corrosion-resistant coating (TU 1390-008-74747996-2012)

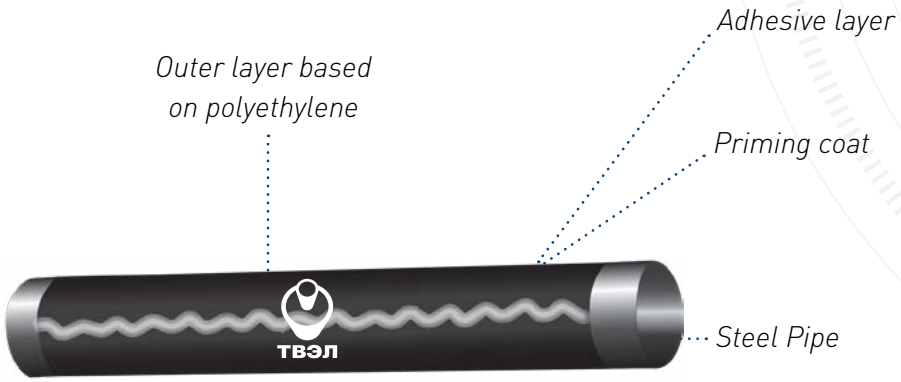


Pipes steel and fittings with a diameter of 108 mm - 1220 mm with an corrosion-resistant coating of two-layer and three-layer extruded polyethylene coating for the construction of main oil and gas pipelines, gas condensate pipelines and process pipelines with a temperature of the transported product up to +90 °C.

SPECIFICATIONS

Pipe diameter (mm)	Coating type	Coating thickness (mm)	Operating temperature (°C)
108	Standart design Type 1	2,2	from -50 °C to +80 °C
114		2,2	
159		2,2	
219		2,2	
325		2,2	
426		2,2	
530		2,5	
720		2,5	
820		2,5	
1020		3,0	
1220		3,0	

Pipe with three-layer external insulation (TU 1390-008-74747996-2012)



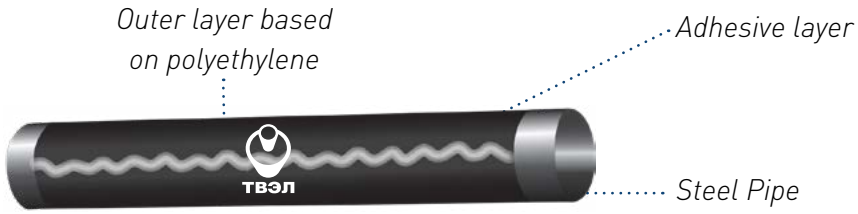
SPECIFICATIONS

Pipe diameter (mm)	Coating type	Coating thickness (mm)		Operating temperature (°C)	Operating temperature (°C)
		Standart design		Special design	
108	Standart design Type 1 Standart design Type 2 (heat-resistant) Standart design Type 3 (frost-resistant) Special design	2,2		2,5	Up to +60 °C (Heat-resistant design up to +80 °C)
114		2,2		2,5	
159		2,2		2,5	
219		2,2		2,5	
325		2,2		2,5	
426		2,2		2,5	
530		2,2		2,5	
720		2,5		3,0	
820		2,5		3,0	
1020		3,0		3,5	
1220		3,0		3,5	

Steel pipes with external corrosion-resistant coating (TU 1390-027-74747996-2016)

Steel pipes with external corrosion-resistant polyethylene coating are intended for construction, reconstruction and overhaul of underground and offshore (underwater) pipelines and outlets from them, sections of pipelines laid by the method of oblique drilling.

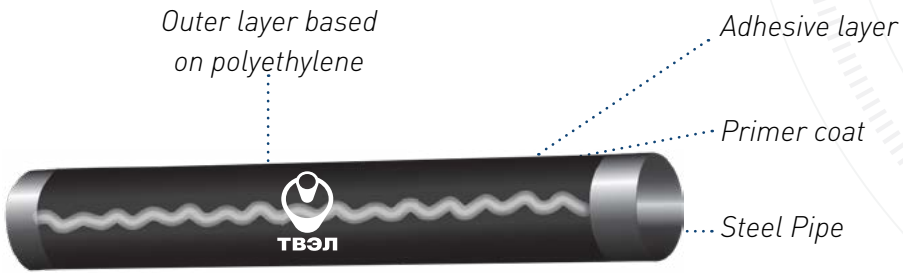
Pipes with a two-layer coating (TU 1390-027-74747996-2016)



SPECIFICATIONS

Pipe diameter (mm)	Coating type	Coating thickness (mm)	Operating temperature (°C)
57	Standart design (H) up to 60 °C	2	from -20 °C to +50 °C
76		2	
89		2	
108		2	
114		2	
133		2	
159		2	
219		2	
273		2	
325		2,2	
426		2,2	
530		2,2	
630		2,2	
720		2,2	
820		2,2	
1020		2,2	
1220		2,2	

Pipes with a three-layer coating (TU 1390-027-74747996-2016)



SPECIFICATIONS

Pipe diameter (mm)	Coating type	Coating thickness (mm)				Operating temperature (°C)
		S	SD	H	HR	
57	Standart design (S) up to 60 °C Special design (SD) up to 60 °C Heat resistant design (H) up to +80 °C Heat resistant design (HR) up to +80 °C	2	2,5	2	2,5	from -20 °C to +80 °C
76		2	2,5	2	2,5	
89		2	2,5	2	2,5	
108		2	2,5	2	2,5	
114		2	2,5	2	2,5	
133		2	2,5	2	2,5	
159		2	2,5	2	2,5	
219		2	2,5	2	2,5	
273		2	2,5	2	2,5	
325		2,2	2,7	2,2	2,7	
426		2,2	2,7	2,2	2,7	
530		2,2	2,7	2,2	2,7	
630		2,5	3,0	2,5	3,0	
720		2,5	3,0	2,5	3,0	
820		2,5	3,0	2,5	3,0	
1020		3,0	3,5	3,0	3,5	
1220		3,0	3,5	3,0	3,5	

Steel pipes with monolayer coating (TU 1390-027-74747996-2016)

SPECIFICATIONS

Pipe diameter (mm)	Coating type	Coating thickness (mm)	Operating temperature (°C)
57	Monolayer	2	from -40 °C to +80 °C
76		2	
89		2	
108		2	
114		2	
133		2	
159		2	
219		2	
273		2	
325		2,2	
426		2,2	
530		2,2	
630		2,5	
720		2,5	
820		2,5	
1020		3,0	
1220		3,0	

Steel pipes with external corrosion-resistant epoxy coating (TU 1390-028-74747996-2016)

Steel pipes with an external corrosion-resistant epoxy coating are intended for construction, reconstruction and repair of main pipelines, product pipelines, field and process pipelines, pump and compressor stations and other objects of the gas industry. Pipes with epoxy coating are designed for the subsequent application of thermal insulation on them.

SPECIFICATIONS

Pipe diameter (mm)	Coating type	Coating thickness (mm)	Operating temperature (°C)
108	Standart design	from 350 to 1000	from -40 °C to +50 °C
114			
133			
159			
219			
273			
325			
426			
530			
630			
720			
820			
1020			
1220			

Steel pipes with thermal insulation of polyurethane foam for aboveground and underground (channel and channelless) gaskets

APPLICATION AREA

The following technical documentation applies to steel pipes with thermal insulation of polyurethane foam in a polyethylene sheath or steel sheeting, intended for underground laying of heat networks (in a polyethylene sheath by channel-free way, with a steel sheath in through channels and tunnels) and above-ground laying of heat networks (for pipes with a steel sheeting) with the following design parameters of the coolant: a working pressure of not more than 1.6 MPa and a temperature of no more than 140 °C (an increase in temperature of no more than 150 °C is allowed within the schedule of quality regulation of heat supply 150-70 °C).

In agreement with the project organization, it is allowed to use insulated pipes in a polyethylene sheath in non-passage channels. The use of insulated pipes for pipelines transporting other substances (oil, gas, etc.) is also allowed.

DIAMETER OF PRODUCTS
from 57 to 1220 mm

SPECIFICATIONS

Pipes in a polyethylene sheath can be of two types: type 1 - standard, type 2 - reinforced. As a protective shell of pipe insulation, polyethylene pipes-shells and sheaths of thin-sheet galvanized steel with seamed sealed seam (outer and inner) are used. To increase the durability of the galvanized steel sheath, it is allowed to apply an additional coating (paintwork, polymer, etc.) on its outer surface, which can be periodically renewed during operation.

In accordance with the requirements of GOST 30732-2006, thermally insulated pipes must be manufactured with indicator conductors of the operational remote control system (RCS), however, it is possible to perform them without them if design justifications are available or at the request of the Customer.

The RCS system is designed to monitor the state of the insulating layer of polyurethane foam (PUF) of pre-insulated pipelines and the detection of areas with high insulation moisture.

The thickness of the heat-insulating layer, the diameter and thickness of the shell shown in the tables are for reference only and can be adjusted by calculation depending on the specific design conditions and feasibility study.

OPERATING CONDITIONS

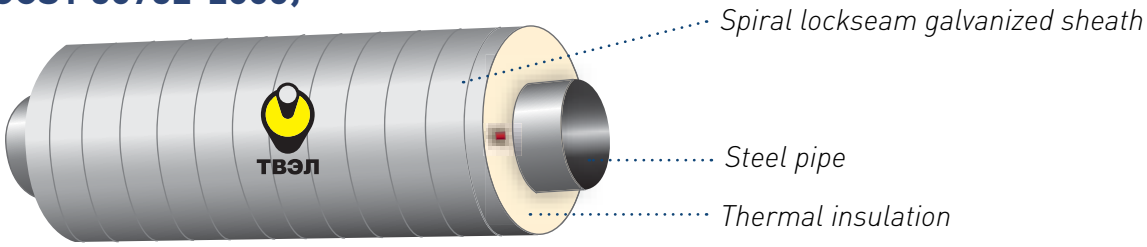
The permissible operating temperature of the thermal insulation coating is determined by the brand of polyurethane foam used and may be in the range of 80-130 °C.

Loading and unloading work is carried out in the temperature range specified for construction and installation works, but not below:

- minus 18 °C - for pipes with a polyethylene sheath;
- minus 50 °C - for pipes with a steel sheath.

In coordination with the customer, when using special grades of polyethylene shells and while ensuring the safety of insulated pipes, it is allowed to work at lower temperatures.

Steel pipe with polyurethane thermal insulation with a protective hydro insulation coating in the form of spiral lockseam galvanized sheath for above-ground laying (GOST 30732-2006)

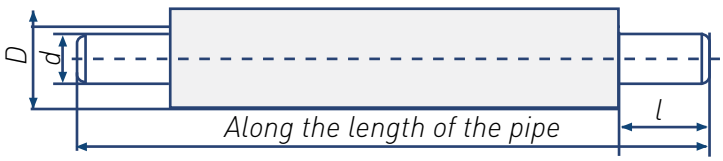


SPECIFICATIONS

d – outer diameter of the steel pipe;
D – outer diameter of the sheath;
m – indicated on the basis of 1 rm of insulation, where the length of the element is not determined;
l – length of uninsulated section, l = 150-20 mm for steel pipes with outer sheath ø 125-355 mm; l = 210-20 mm for steel pipes with outer sheath ø 400 mm;

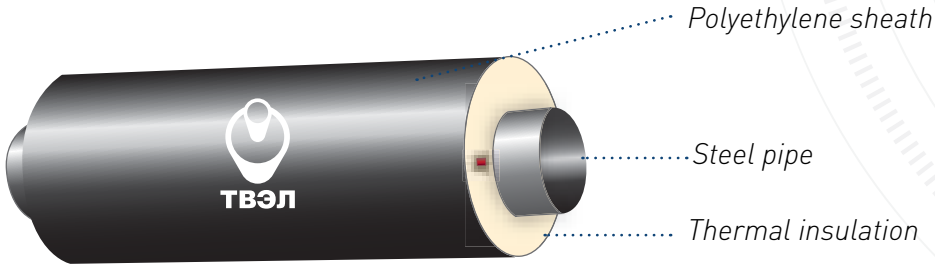
It is possible to produce parts with any thickness of PU foam insulation. In this case, the outer diameter of the sheath is indicated at the end of the designation instead of the type of insulation;

The calculated mass is theoretical and may differ from the actual mass.



d (mm)	GLV
	D (mm)
57	140
76	160
89	180
108	200
114	200
133	225
159	250
219	315
273	400
325	450
426	560
530	675 (710)
630	775 (800)
720	875 (900)
820	975 (1000)
920	1075 (1100)
1020	1175 (1200)
1220	1375 (1400)

Steel pipe whith polyurethane thermal insulation in polyethylene sheath (GOST 30732-2006)

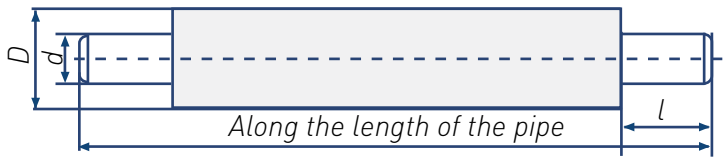


SPECIFICATIONS

d – outer diameter of the steel pipe;
D – outer diameter of the sheath;
m – indicated on the basis of 1 rm of insulation, where the length of the element is not determined;
l – length of uninsulated section, l = 150-20 mm for steel pipes with outer sheath ø 125-355 mm; l = 210-20 mm for steel pipes with outer sheath ø 400 mm;

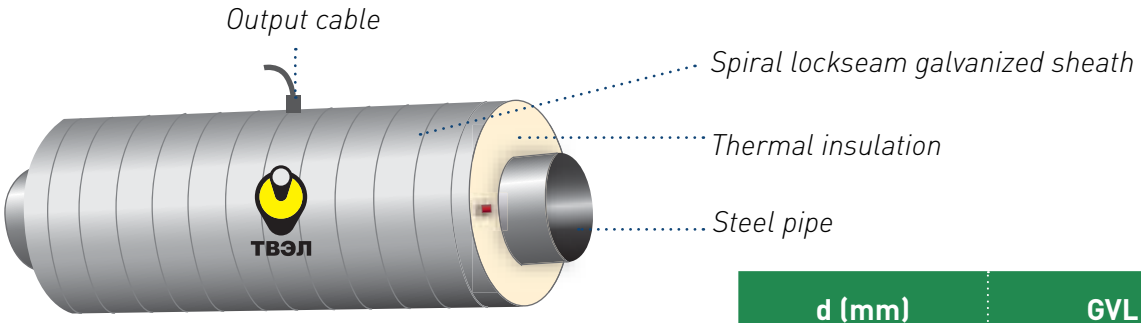
It is possible to produce parts with any thickness of PU foam insulation. In this case, the outer diameter of the sheath is indicated at the end of the designation instead of the type of insulation;

The calculated mass is theoretical and may differ from the actual mass.



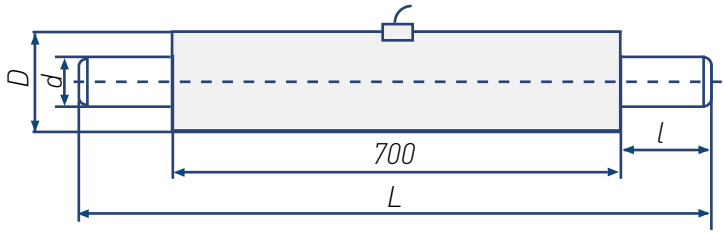
d (mm)	PE	
	Type 1	Type 2
	D (mm)	D (mm)
57	125	140
76	140	160
89	160	180
108	180	200
114	180	200
133	-	250
159	250	280
219	315	355
273	400	450
325	450	500
426	560	630
530	710	-
630	800	-
720	900	-
820	1000	-
920	-	1200
1020	1200	-
1220	1425	-

Steel pipe whith polyurethane thermal insulation whith a protective hydro insulation coating in the form of spiral lockseam galvanized sheath whith output cable for above-ground laying (gost 30732-2006)



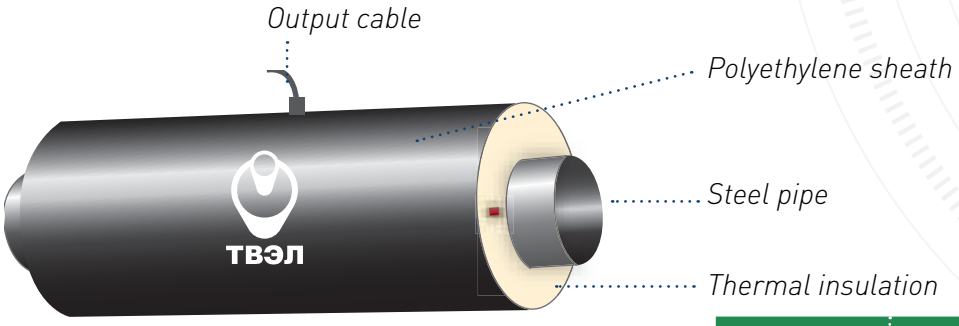
SPECIFICATIONS

Five core cable 5x1.5 (length of 5 m);
m of insulation - indicated for 1 pc at a set value of L.



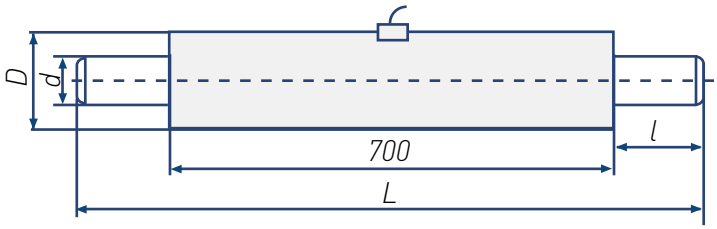
d (mm)	GVL
	D (mm)
57	140
76	160
89	180
108	200
114	200
133	225
159	250
219	315
273	400
325	450
426	560
530	675 (710)
630	775 (800)
720	875 (900)
820	975 (1000)
920	1075 (1100)
1020	1175 (1200)
1220	1375 (1400)

Steel pipes ith polyurethane thermal insulation in polyethylene sheath with output cable (GOST 30732-2006)



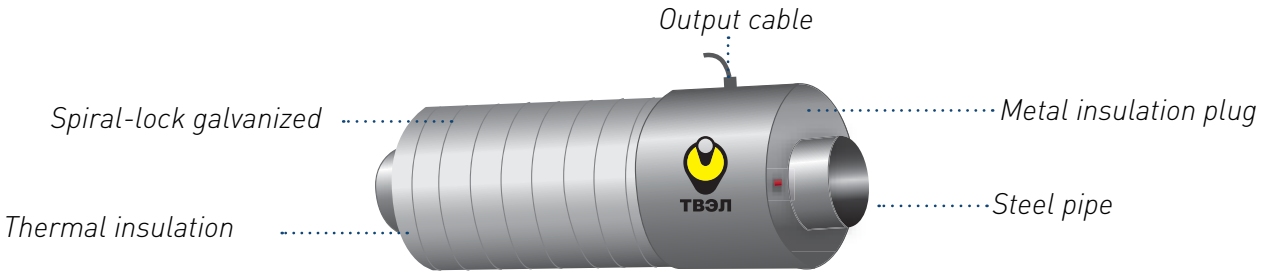
SPECIFICATIONS

Five core cable 5x1.5 (length of 5 m);
m of insulation - indicated for 1 pc at a set value of L.



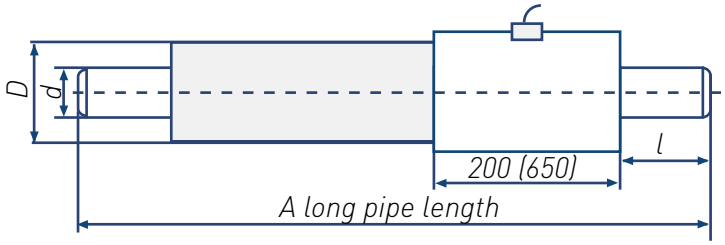
d (mm)	PE	
	Type 1	Type 2
	D (mm)	D (mm)
57	125	140
76	140	160
89	160	180
108	180	200
114	180	200
133	-	250
159	250	280
219	315	355
273	400	450
325	450	500
426	560	630
530	710	-
630	800	-
720	900	-
820	1000	-
920	-	1200
1020	1200	-
1220	1425	-

Steel pipe with polyurethane thermal insulation with protective waterproof coating in the form of spiral-lock galvanized sheath with metal insulation plug and cable outlet for above-ground layingl (GOST 30732-2006)



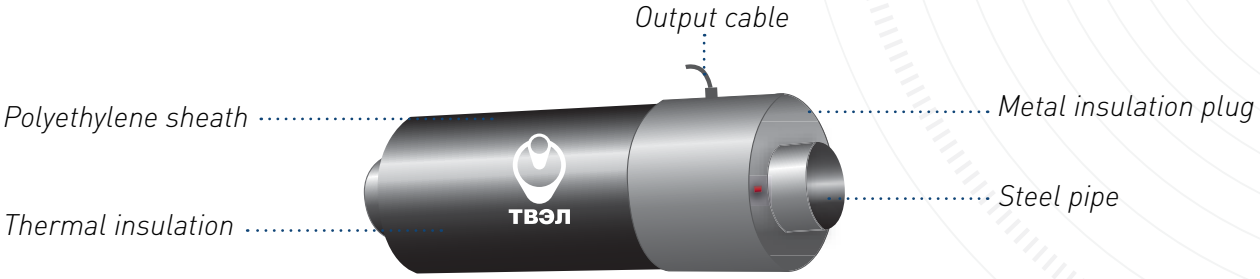
SPECIFICATIONS

*Three-core cable WG-3*1.5, with a length of 5 meters;*
Plug length - L=200 mm, L=650 mm;
Cable outlet can be located both on the plug side and end;
It is possible to manufacture a pipe design whithout output cable;
m - is indicated based on 1 running meter, where the element length is not defined.



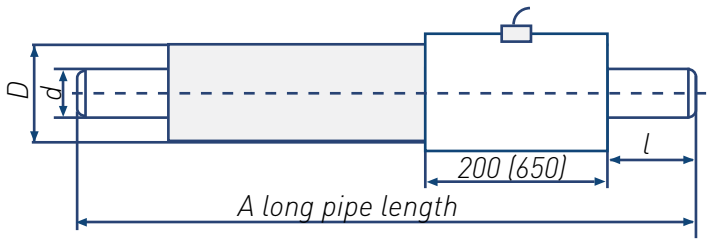
d (mm)	GVL
	D (mm)
57	140
76	160
89	180
108	200
114	200
133	225
159	250
219	315
273	400
325	450
426	560
530	675 (710)
630	775 (800)
720	875 (900)
820	975 (1000)
920	1075 (1100)
1020	1175 (1200)
1220	1375 (1400)

Steel polyurethane thermal waterproofed pipe in polyethylene sheath with metal insulation plug and cable output (GOST 30732-2006)



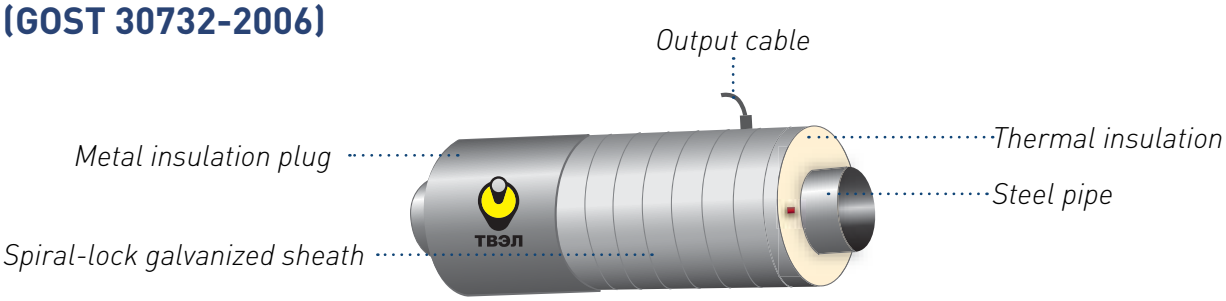
SPECIFICATIONS

*Three-core cable VVG-3*1.5, with a length of 5 meters;*
Plug length - L = 200 mm, L = 650 mm;
Cable outlet can be located both on the plug side and end;
It is possible to manufacture a pipe design without output cable;
m – is indicated based on 1 running meter, where the element length is not defined



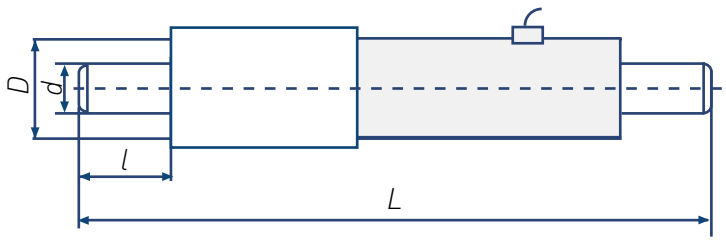
d (mm)	PE	
	Type 1	Type 2
	D (mm)	D (mm)
57	125	140
76	140	160
89	160	180
108	180	200
114	180	200
133	-	250
159	250	280
219	315	355
273	400	450
325	450	500
426	560	630
530	710	-
630	800	-
720	900	-
820	1000	-
920	-	1200
1020	1200	-
1220	1425	-

Pipeline end element with polyurethane thermal insulation with protective hydro insulation coating in the form of spiral-lock galvanized sheath with metal insulation plug with an output cable for above-ground laying (GOST 30732-2006)



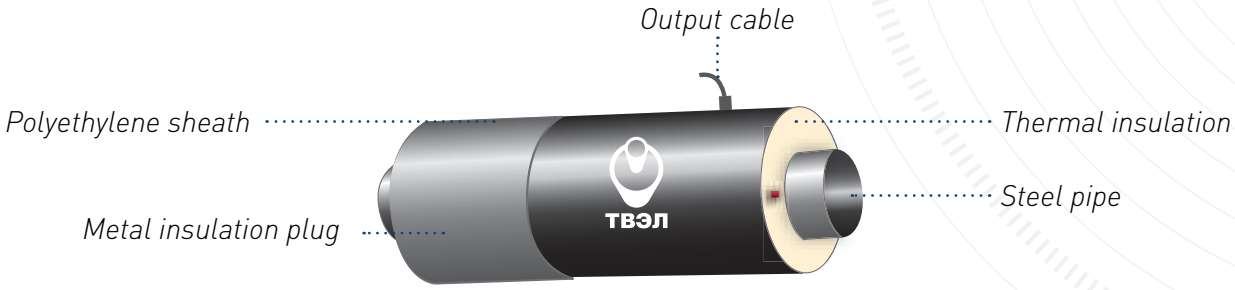
SPECIFICATIONS

*Three-core cable VVG-3*1.5, with a length of 5 meters;*
End element length is 2200 mm for steel pipes with an outer sheath of ø 125-355 mm;
m insulation - is indicated for 1 pcs. at a given L value.



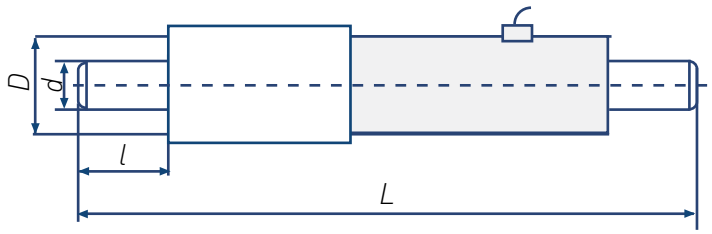
d (mm)	GVL
	D (mm)
57	140
76	160
89	180
108	200
114	200
133	225
159	250
219	315
273	400
325	450
426	560
530	675 (710)
630	775 (800)
720	875 (900)
820	975 (1000)
920	1075 (1100)
1020	1175 (1200)
1220	1375 (1400)

Polyurethane thermal-insulated pipeline end element with polyethylene sheath and with metal insulation plug with an output cable (GOST 30732-2006)



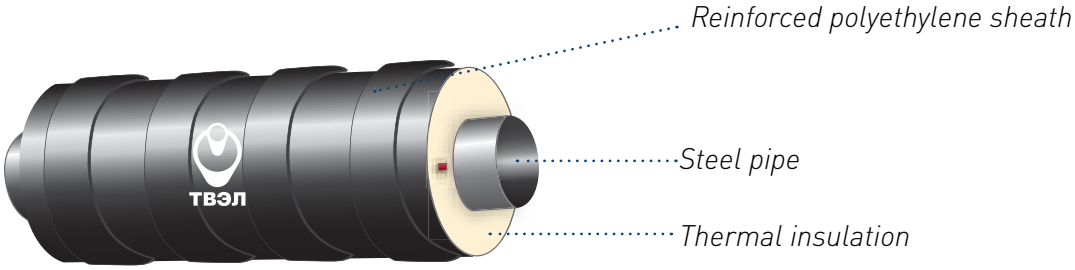
SPECIFICATIONS

*Three-core cable VVG-3*1.5, with a length of 5 meters;*
End element length is 2200 mm for steel pipes with an outer sheath of ø 125-355 mm;
m insulation - is indicated for 1 pcs. at a given L value.



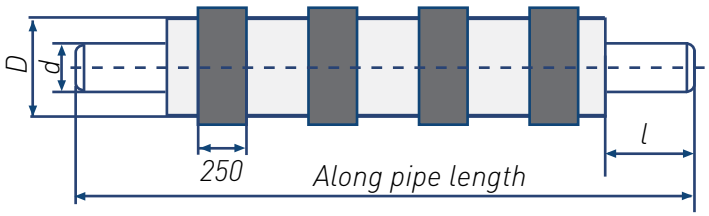
d (mm)	PE	
	Type 1	Type 2
	D (mm)	D (mm)
57	125	140
76	140	160
89	160	180
108	180	200
114	180	200
133	-	250
159	250	280
219	315	355
273	400	450
325	450	500
426	560	630
530	710	-
630	800	-
720	900	-
820	1000	-
920	-	1200
1020	1200	-
1220	1425	-

Polyurethane thermal waterproofed steel pipe with reinforced polyethylene sheath (GOST 30732-2006)



SPECIFICATIONS

Table shows the mass of one running meter of insulation.



d (mm)	PE	
	Type 1	Type 2
	D (mm)	D (mm)
57	125	140
76	140	160
89	160	180
108	180	200
114	180	200
133	-	250
159	250	280
219	315	355
273	400	450
325	450	500
426	560	630
530	710	-
630	800	-
720	900	-
820	1000	-
920	-	1200
1020	1200	-
1220	1425	-

Steel pipes with external corrosion-resistant coating and polyurethane thermal hydro insulation for oil and gas pipelines

SCOPE OF APPLICATION

The following technical documents apply to steel pipes and fittings with a diameter of 57 - 1220 mm with corrosion-resistant coating, polyurethane thermal insulation and protective hydro insulation coating in the form of polyethylene mantle pipe or spiral-lock steel sheath with protective polyethylene coating (for sub-surface laying), and mantle pipes made of galvanized steel in the form of spiral-lock pipe (for above-ground laying).

Heat-insulated pipes are designed for oil pipelines, gas pipelines, oil product pipelines and process pipelines construction with the temperature of product transported up to +90 °C. Thermal insulation thickness is calculated considering pipeline operating temperature.

DIAMETER OF PRODUCTS
from 57 to 1220 mm

SPECIFICATIONS

Thermal insulating layer in protective coating is applied on products with a diameter of 57 to 1220 mm with corrosion-resistant coating. In order to prevent temperature reduction of medium transported through the pipeline below permissible level, when stopping pipeline operation, a heat tracing is used in the form of pipelines-heat tracing circuits or heating cable devices which are mounted on metal pipe surface prior to thermal insulation extrusion. Line heaters' type and characteristics should be defined when pipelines designing.

OPERATING CONDITIONS

Pipes with a coating should withstand the impact of environment without hydro insulation discontinuity, peeling and cracking:

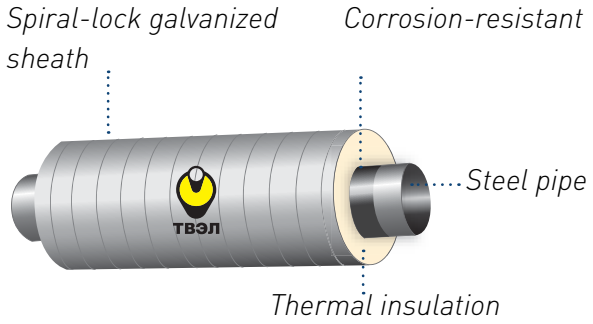
• during insulated pipes storage - within the temperature range from minus 50 °C to plus 60 °C (from minus 60 °C to plus 60 °C - for Extreme North and Eastern Siberia conditions);

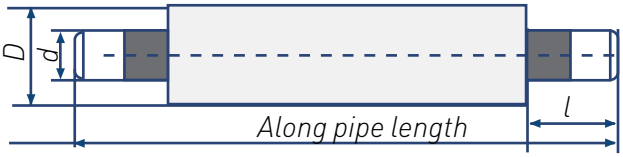
• during insulated pipes transportation - within the temperature range from minus 45 °C to plus 50 °C (from minus 50 °C to plus 50 °C - for Extreme North and Eastern Siberia conditions);

• during construction and installation and laying works - within the temperature range from minus 40 °C to plus 50 °C (from minus 50 °C to plus 50 °C - for Extreme North and Eastern Siberia conditions);

• During pipelines operation - from minus 50 °C to plus 60 °C (from minus 60 °C to plus 60 °C -for Extreme North and Eastern Siberia conditions). From minus 50 °C to plus 80 °C - when using H-2 heat-resistant coating.

Pipe with external corrosion-resistant coating and polyurethane thermal insulation with protective hydro insulation coating in the form of spiral-lock galvanized sheath for above-ground laying (TU 5768-017-74747996-2010)





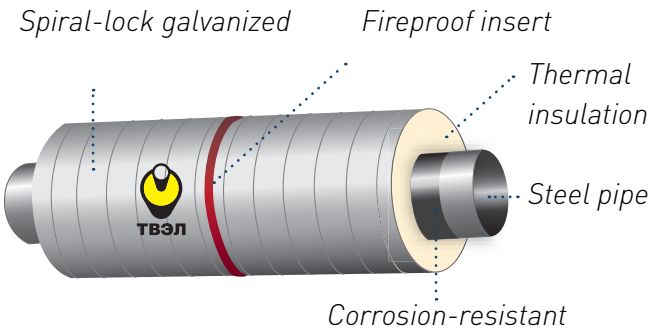
SPECIFICATIONS

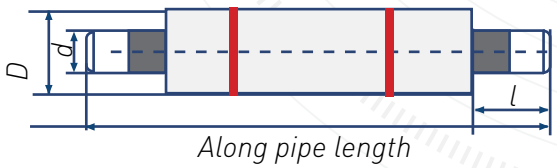
Thermal insulation thickness is calculated in accordance with regulations of SNIP 41-03-2003 «Thermal insulation of equipment and pipelines» and SP 41-103-2000 «Designing of thermal insulation of equipment and pipelines» for specific conditions of pipeline construction, operation and operating tem-perature.

Diameter of mantle pipes made of galvanized steel is determined after calculating the thermal insulation thickness.

Outside diameter of steel pipe (mm)	Dimensions of sheath made of thin-sheet galvanized steel		Calculated thickness of polyurethane layer (mm)
	Nominal diameter (mm)	Minimum thickness (mm)	
57	140	0,55	40,9
76	160	0,55	41,4
89	180	0,6	44,9
108	200	0,6	45,4
133	225	0,6	45,4
159	250	0,7	44,8
219	315	0,7	47,3
273	400	0,8	62,7
325	450	0,8	61,7
426	560	1,0	66,2
530	675; 710	1,0	71,5; 89,0
630	775; 800	1,0	71,5; 84,0
720	875; 900	1,0	76,5; 89,0
820	975; 1000	1,0	76,5; 89,0
920	1075;1100	1,0	76,5; 89,0
1020	1175;1200	1,0	76,7; 89,2
1220	1375; 1400	1,0	79,0; 91,5

Pipe with external corrosion-resistant coating and polyurethane thermal insulation with protective hydro insulation coating in the form of spiral-lock galvanized sheath for above-ground laying with fireproof insert (TU 5768-017-74747996-2010)





SPECIFICATIONS

Outside diameter of steel pipe (mm)	Dimensions of sheath made of thin-sheet galvanized steel		Calculated thickness of polyurethane layer (mm)
	Nominal diameter (mm)	Minimum thickness (mm)	
57	140	0,55	40,9
76	160	0,55	41,4
89	180	0,6	44,9
108	200	0,6	45,4
133	225	0,6	45,4
159	250	0,7	44,8
219	315	0,7	47,3
273	400	0,8	62,7
325	450	0,8	61,7
426	560	1,0	66,2
530	675; 710	1,0	71,5; 89,0
630	775; 800	1,0	71,5; 84,0
720	875; 900	1,0	76,5; 89,0
820	975; 1000	1,0	76,5; 89,0
920	1075;1100	1,0	76,5; 89,0
1020	1175;1200	1,0	76,7; 89,2
1220	1375; 1400	1,0	79,0; 91,5

Embedded parts for heating cables design is supplied by the customer or by organization authorized by him and is mounted according to drawings agreed with this organization. IVR installation compliance with the drawings of specialized organization is verified according to method agreed with it.

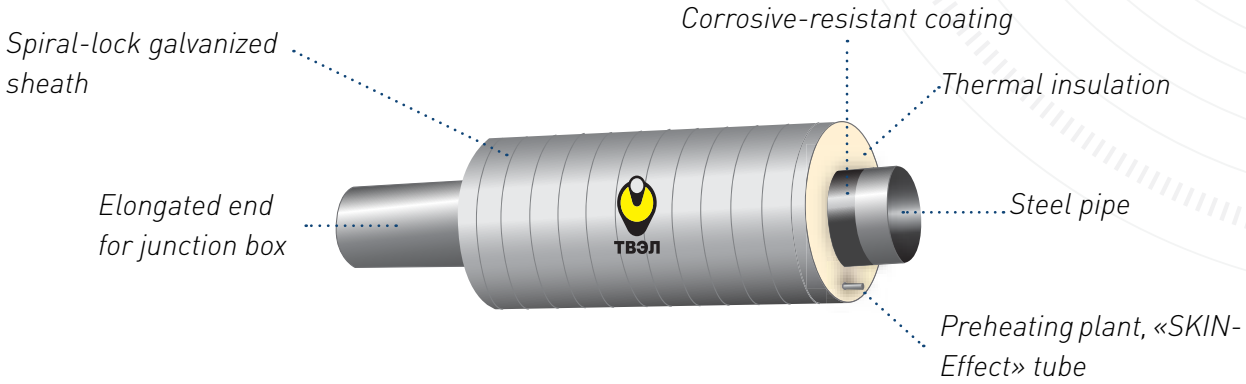
Pipe with external corrosion-resistant coating and polyurethane thermal insulation with protective hydro insulation coating in the form of spiral-lock galvanized sheath for above-ground laying with installed preheating plant based on «SKIN-Effect» (TU 5768-017-74747996-2010)

SPECIFICATIONS

Outside diameter of steel pipe (mm)	Dimensions of sheath made of thin-sheet galvanized steel		Calculated thickness of polyurethane layer (mm)
	Nominal diameter (mm)	Minimum thickness (mm)	
57	140	0,55	40,9
76	160	0,55	41,4
89	180	0,6	44,9
108	200	0,6	45,4
133	225	0,6	45,4
159	250	0,7	44,8
219	315	0,7	47,3
273	400	0,8	62,7
325	450	0,8	61,7
426	560	1,0	66,2
530	675; 710	1,0	71,5; 89,0
630	775; 800	1,0	71,5; 84,0
720	875; 900	1,0	76,5; 89,0
820	975; 1000	1,0	76,5; 89,0
920	1075;1100	1,0	76,5; 89,0
1020	1175;1200	1,0	76,7; 89,2
1220	1375; 1400	1,0	79,0; 91,5

Preheating plant components installation based on «SKIN effect» is carried out according to preheating plant customer or manufacturer's TD (installation company).

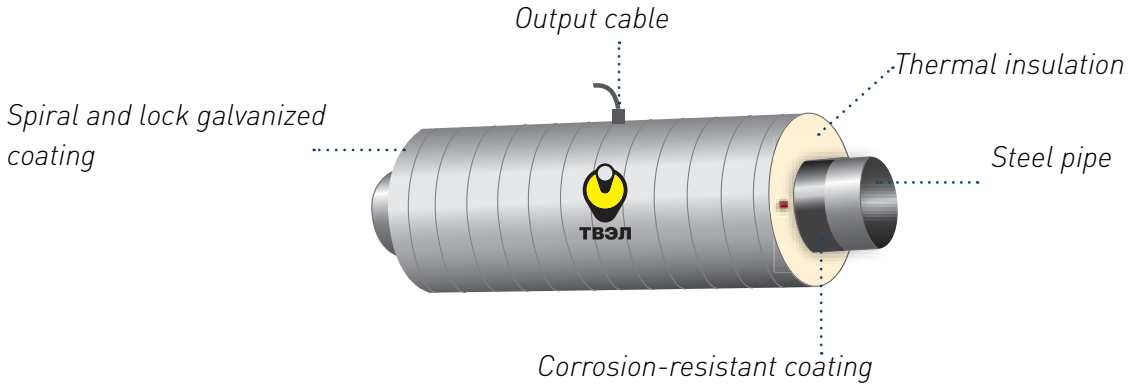
Pipe with external corrosion-resistant coating and polyurethane reinforced thermal insulation with protective hydro insulation coating in the form of spiral-lock galvanized sheath for above-ground laying with installed preheating plant based on «SKIN-Effect» (one end is normal, another - elongated for IDCS junction box) (TU 5768-017-74747996-2010)



SPECIFICATIONS

Outside diameter of steel pipe (mm)	Dimensions of sheath made of thin-sheet galvanized steel		Calculated thickness of polyurethane layer (mm)
	Nominal diameter (mm)	Minimum thickness (mm)	
57	140	0,55	40,9
76	160	0,55	41,4
89	180	0,6	44,9
108	200	0,6	45,4
133	225	0,6	45,4
159	250	0,7	44,8
219	315	0,7	47,3
273	400	0,8	62,7
325	450	0,8	61,7
426	560	1,0	66,2
530	675; 710	1,0	71,5; 89,0
630	775; 800	1,0	71,5; 84,0
720	875; 900	1,0	76,5; 89,0
820	975; 1000	1,0	76,5; 89,0
920	1075;1100	1,0	76,5; 89,0
1020	1175;1200	1,0	76,7; 89,2
1220	1375; 1400	1,0	79,0; 91,5

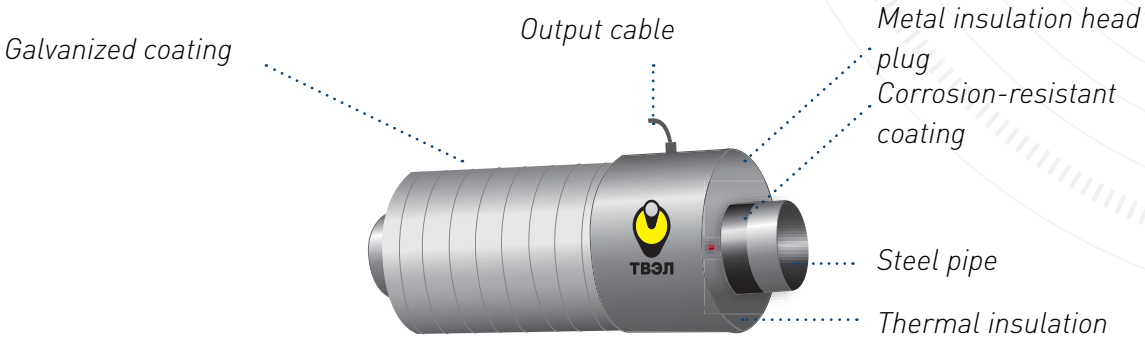
The tube with external corrosion-resistant coating and reinforced polyurethane thermal insulation with protective water-proof coating in the form of spiral and lock galvanized coating for above-ground laying with an output cable (TU 5768-017-74747996-2010)



SPECIFICATIONS

Outside diameter of steel pipe (mm)	Dimensions of sheath made of thin-sheet galvanized steel		Calculated thickness of polyurethane layer (mm)
	Nominal diameter (mm)	Minimum thickness (mm)	
57	140	0,55	40,9
76	160	0,55	41,4
89	180	0,6	44,9
108	200	0,6	45,4
133	225	0,6	45,4
159	250	0,7	44,8
219	315	0,7	47,3
273	400	0,8	62,7
325	450	0,8	61,7
426	560	1,0	66,2
530	675; 710	1,0	71,5; 89,0
630	775; 800	1,0	71,5; 84,0
720	875; 900	1,0	76,5; 89,0
820	975; 1000	1,0	76,5; 89,0
920	1075;1100	1,0	76,5; 89,0
1020	1175;1200	1,0	76,7; 89,2
1220	1375; 1400	1,0	79,0; 91,5

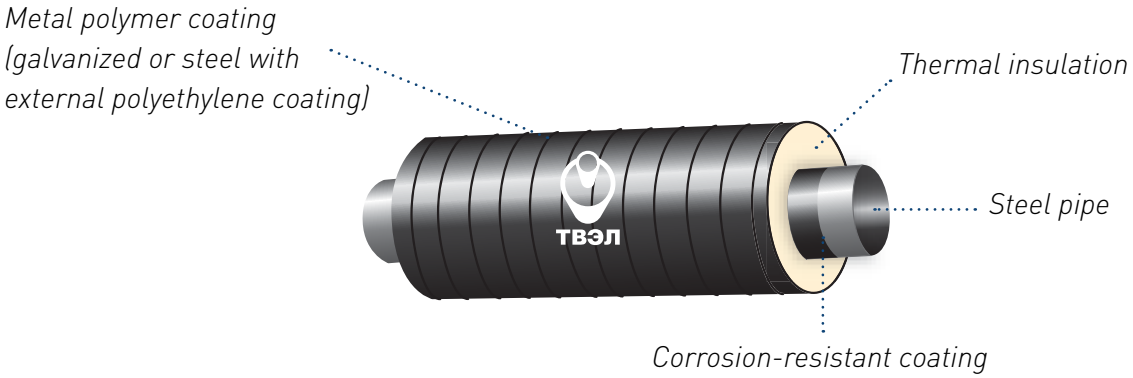
The tube with external corrosion-resistant coating and reinforced polyurethane thermal insulation with protective water-proof coating in the form of spiral and lock galvanized coating for above-ground laying with metal insulation head plug and cable output (TU 5768-017-74747996-2010)



SPECIFICATIONS

Outside diameter of steel pipe (mm)	Dimensions of sheath made of thin-sheet galvanized steel		Calculated thickness of polyurethane layer (mm)
	Nominal diameter (mm)	Minimum thickness (mm)	
57	140	0,55	40,9
76	160	0,55	41,4
89	180	0,6	44,9
108	200	0,6	45,4
133	225	0,6	45,4
159	250	0,7	44,8
219	315	0,7	47,3
273	400	0,8	62,7
325	450	0,8	61,7
426	560	1,0	66,2
530	675; 710	1,0	71,5; 89,0
630	775; 800	1,0	71,5; 84,0
720	875; 900	1,0	76,5; 89,0
820	975; 1000	1,0	76,5; 89,0
920	1075;1100	1,0	76,5; 89,0
1020	1175;1200	1,0	76,7; 89,2
1220	1375; 1400	1,0	79,0; 91,5

The tube with external corrosion-resistant coating and thermal insulation in metal polymer coating for under-ground laying (TU 5768-017-74747996-2010)



SPECIFICATIONS

Outside diameter of steel pipe (mm)	Dimensions of sheath made of thin-sheet galvanized steel		Calculated thickness of polyurethane layer (mm)
	Nominal diameter (mm)	Minimum thickness (mm)	
57	140	0,7	40,9
76	160	0,7	41,4
89	180	0,7	44,9
108	200	0,7	45,4
133	225	0,7	45,4
159	250	0,7	44,8
219	315	0,7	47,3
273	400	1,0	62,7
325	450	1,0	61,7
426	560	1,0	66,2
530	675; 710	1,0	71,5; 89,0
630	775; 800	1,0	71,5; 84,0
720	875; 900	1,0	76,5; 89,0
820	975; 1000	1,0	76,5; 89,0
920	1075;1100	1,0	76,5; 89,0
1020	1175;1200	1,0	76,7; 89,2
1220	1375; 1400	1,0	79,0; 91,5

The tube with external corrosion-resistant coating and thermal insulation foamed polyurethane with protective water-proof coating in the form of polyethylene coating for underground laying (TU 5768-017-74747996-2010)

SPECIFICATIONS

Steel pipe outer diameter (mm)	Type 1			Type 2		
	Average outer diameter of isolated pipes with polyethylene coating		Effective thickness of foamed polyurethane layer (mm)	Average outer diameter of isolated pipes with polyethylene coating		Effective thickness of foamed polyurethane layer (mm)
	Nominal diameter (mm)	Limit deviation [+]		Nominal diameter (mm)	Limit deviation [+]	
57	125	3,7	31,5	140	4,1	38,5
76	140	4,1	29,0	160	4,7	32,0
89	160	4,7	32,5	180	5,4	42,5
108	180	5,4	33,0	200	5,9	43,0
133	225	6,6	42,5	250	7,4	54,5
159	250	7,4	41,5	280	8,3	55,5
219	315	9,8	42,0	355	10,4	62,0
273	400	11,7	57,0	450	13,2	81,5
325	450	13,2	55,5	500	14,6	79,5
426	560	16,3	58,2	600; 630	16,3	77,6: 95,5
530	710	20,4	78,9	-	-	-
630	800	23,4	72,5	-	-	-
720	900	26,3	76,0	-	-	-
820	1000	29,9	72,4	1100	32,1	122,5
920	1100	32,1	74,4	1200	35,1	120,5
1020	1200	35,1	70,4	-	-	-
1220	1425	38,2	79,0	-	-	-

Thermal insulation thickness shall be calculated in accordance with regulations of SNiP 41-03-2003 «Thermal insulation of equipment and pipe lines» and SP 41-103-2000 «Designing of thermal insulation of equipment and pipe lines» for the specific conditions of the oil pipeline construction, use and operating temperature. Diameters of polyethylene mantle pipes and galvanized and non-galvanized steel mantle pipes shall be defined after thermal insulation thickness calculation.

Steel pipes with thermal insulation of polyurethane foam in a protective sheath (TU 23.99.19-030-74747996-2018)

Steel pipes with external corrosion-resistant coating and thermal insulation of polyurethane foam in a protective sheath, are intended for construction, reconstruction and repair of trunk pipelines, product pipelines, field and process pipelines, pumping, compressor stations and other objects of the gas industry.

Pipes with thermal insulation of polyurethane foam in polyethylene sheath (TU 23.99.19-030-74747996-2018)

Nominal diameter of steel pipe (mm)	The outer diameter of the pipe with a heat-insulating coating in a PE sheath				Nominal thickness of the insulation layer		Nominal wall thickness of PE shell	
	Nominal		Maximum deviation (+)					
	Type 1	Type 2	Type 1	Type 2	Type 1	Type 2	Type 1	Type 2
108	180	200	5,4	5,9	33,0	43.0	3,0	3,2
114	200	-	6,3	-	40	-	3,2	-
133	225	250	6,6	7,4	42,5	54,5	3,5	3,9
159	250	280	7,4	8,3	41,5	55,5	3,9	4,4
219	315	355	9,8	10,4	42	62	4,9	5,6
273	400	450	11,7	13,2	57	81,5	5,6	5,6
325	450	500	13,2	14,6	55,5	79,5	5,6	5,6
377	500	560	14,6	16,3	55,3	84,5	6,2	7,0
426	560	600; 630	16,3	16,3	58,2	77,6; 92,5	7,0	7,9
530	710	-	20,4	-	78,9	-	8,9	-
630	800	-	23,4	-	72,5	-	10,0	-
720	900	-	26,3	-	76	-	11,2	-
820	1000	1100	29,2	32,1	72,4	122,5	12,4	13,8
920	1100	1200	32,1	35,1	74,4	120,5	13,8	14,9
1020	1200	-	35,1	-	70,4	-	14,9	-
1220	1425	-	38,2	-	79	-	17,3	-

* In coordination with the project organization it is allowed to use pipes of other diameters.
** The thickness of the heat-insulating layer is given without taking into account the thickness of the corrosion-resistant coating of pipes, the tolerance for deviation of the axial lines of pipes from the axes of protective shells and the deviations of the geometric dimensions of PE shells.

Pipes with thermal insulation of polyurethane foam in the shell:

- made of galvanized steel (hereinafter referred to as «GSs sheath»),
- from steel with polymer (based on extruded polyethylene or based on heat-shrinkable materials) coating

(TU 23.99.19-030-74747996-2018)

Nominal diameter of steel pipe* (mm)	Dimensions of shell***		Nominal thickness of the insulation layer ** (mm)
	Nominal diameter (mm)	Minimal wall thickness (mm)	
108	200	0,6	45,4
114	200	0,6	42,4
133	225	0,6	45,4
159	250	0,7	44,8
168	260	0,7	45,3
219	315	0,7	47,3
273	400	0,8	62,7
325	450	0,8	61,7
377	500	1,0	60,5
426	560	1,0	66,2
530	675; 710	1,0	71,5; 89,0
630	775; 800	1,0	71,5; 84,0
720	875; 900	1,0	76,5; 89,0
820	975; 1000	1,0	76,5; 89,0
920	1075; 1100	1,0	76,5; 89,0
1020	1175; 1200	1,0	76,7; 89,2

* In agreement with the customer, it is allowed to apply a heat-waterproofing coating on pipes of other diameters within the specified interval.

** The thickness of the heat-insulating layer is given without taking into account the thickness of the automatic transmission of pipes, the tolerance for deviation of the axial lines of pipes from the axes of protective shells and deviations of geometric shell sizes.

*** Dimensions are given without considering the thickness of the PE coating MP shell.

Steel fittings with an external corrosion-resistant thermosetting coating

SCOPE OF APPLICATION

Below are technical documentation for fittings with a diameter of 57–530 mm with a corrosion-resistant coating of two-layer and three-layer extruded polyethylene coating for the construction of main oil and gas pipelines, gas condensate pipelines and process pipelines with a temperature of the transported product up to + 80 °C.

DIAMETER OF PRODUCTS
from 57 to 530 mm

SPECIFICATIONS

Depending on the construction of coatings, purpose, pipe diameter, permissible temperature conditions of construction and operation, the outer polyethylene coating of pipes can be made according to one of the types according to the tables.

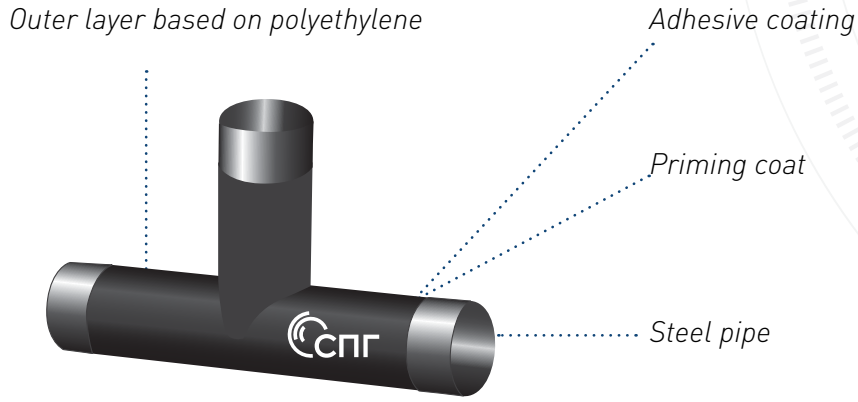
OPERATING CONDITIONS

Two-layer polyethylene coating is intended for use only as a protective coating for fittings with a diameter of up to 530 mm inclusive. External three-layer or two-layer polyethylene coatings are applied to the pipes in the factory, on the equipment of the flow-mechanized lines in accordance with the technological instruction agreed in the prescribed manner.

The coating should withstand the environmental exposure without discontinuity, peeling and cracking:

- during storage of insulated pipes - in the range of temperatures from minus 50 °C to plus 60 °C (from minus 60 °C to plus 60 °C - for the conditions of the Far North and Eastern Siberia);
- during transportation of insulated pipes - in the temperature range from minus 45 °C to plus 50 °C (from minus 50 °C to plus 50 °C - for the conditions of the Far North and Eastern Siberia);
- during construction, installation and laying works - in the temperature range from minus 40 °C to plus 50 °C (from minus 45 °C to 50 °C - for the conditions of the Far North and Eastern Siberia);
- at operation of pipelines - from minus 50 °C to plus 80 °C.

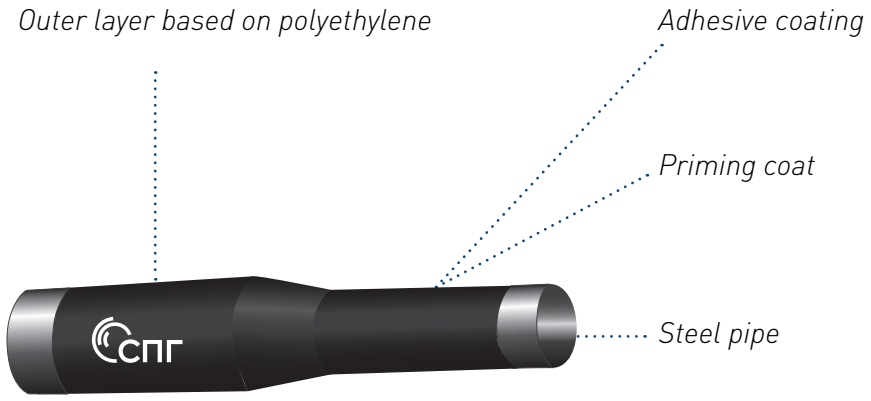
Steel Tee-joint with an external corrosion-resistant coating (GOST R 51164-98)



SPECIFICATIONS

Pipe diameter (mm)	Coating thickness (mm)			Operating temperature (°C)
	Three-layer	Two-layer, reinforced	Two-layer, highly reinforced	
57	2,0	1,5	2,5	Two-layer coating - up to +60 °C Three-layer coating - up to +80 °C
76	2,0	1,5	2,5	
89	2,0	1,5	2,5	
108	2,0	2,0	2,5	
114	2,0	2,0	2,5	
159	2,0	2,0	2,5	
219	2,2	2,2	2,5	
325	2,5	2,5	3,0	
426	2,5	2,5	3,0	
530	3,0	3,0	3,5	

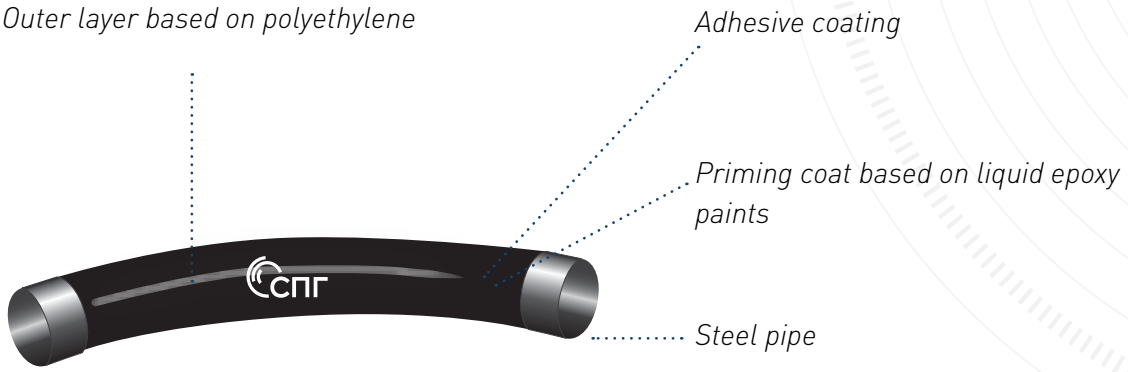
Diminishing Steel pipe with an external corrosion-resistant coating (GOST R 51164-98)



SPECIFICATIONS

Pipe diameter (mm)	Coating thickness (mm)			Operating temperature (°C)
	Three-layer	Two-layer, reinforced	Two-layer, highly reinforced	
57	2,0	1,5	2,5	Two-layer coating - up to +60 °C Three-layer coating - up to +80 °C
76	2,0	1,5	2,5	
89	2,0	1,5	2,5	
108	2,0	2,0	2,5	
114	2,0	2,0	2,5	
159	2,0	2,0	2,5	
219	2,2	2,2	2,5	
325	2,5	2,5	3,0	
426	2,5	2,5	3,0	
530	3,0	3,0	3,5	

Steel branch pipe with an external corrosion-resistant coating (GOST R 51164-98)



SPECIFICATIONS

Pipe diameter (mm)	Coating thickness (mm)			Operating temperature (°C)
	Three-layer	Two-layer, reinforced	Two-layer, highly reinforced	
57	2,0	1,5	2,5	Two-layer coating - up to +60 °C Three-layer coating - up to +80 °C
76	2,0	1,5	2,5	
89	2,0	1,5	2,5	
108	2,0	2,0	2,5	
114	2,0	2,0	2,5	
159	2,0	2,0	2,5	
219	2,2	2,2	2,5	
325	2,5	2,5	3,0	
426	2,5	2,5	3,0	
530	3,0	3,0	3,5	

Steel connecting elements with polyurethane thermal insulation for above-ground and subsurface (trench and trenchless) laying

SCOPE OF APPLICATION

The following technical documents apply to fittings with polyurethane thermal insulation in polyethylene sheath or steel protective coating intended for heat supply networks subsurface laying (in polyethylene sheath - by trenchless method, with a steel protective sheath - in passes and underpasses) and heat supply networks above-ground laying (for pipes with steel protective coating) with the following design parameters of the coolant: working pressure of not more than 1.6 mPa and temperature of not more than 140 °C (temperature can rise not more than 150 °C within heat release variable control schedule 150 °C ÷ 70 °C). According to agreement with design organization, it is allowed to use connecting parts in polyethylene sheath in crawlways.

DIAMETER OF PRODUCTS
from 57 to 1220 mm

SPECIFICATIONS

Connecting parts in polyethylene sheath can be of two types: type 1 - standard, type 2 - reinforced. The polyethylene sheaths and sheaths made of thin-sheet galvanized steel with canted pressuretight weld (external and internal) are used as thermal insulation protective sheath for connecting parts. In order to increase galvanized steel sheath life duration, it is allowed to apply an additional coating (paint, polymer, etc.) on its outer surface, which can be periodically renewed during operation.

Thermal insulation layer thickness, sheath diameter and thickness given in tables are reference and can be redeterminated by calculation, depending on specific design conditions and feasibility study.

OPERATING CONDITIONS

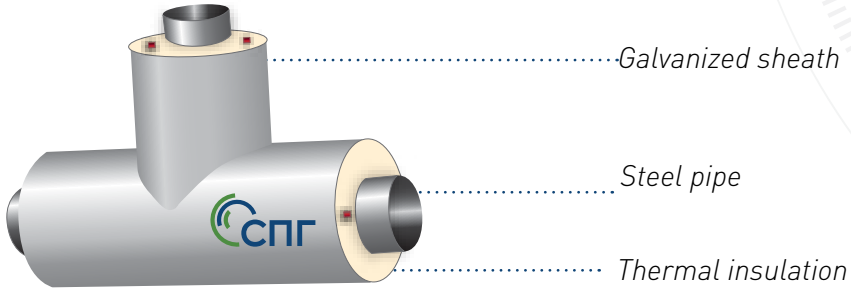
Allowable operating temperature of thermal insulation coating is determined by polyurethane grade used and can range from plus 80 °C to plus 130 °C.

Loading and unloading operations are carried out within the temperature range specified for construction and installation works, but not lower than:

- minus 18 °C - for pipes with polyethylene sheath;
- minus 50 °C - for pipes with steel protective sheath.

By agreement with the customer, it is allowed to operate at lower temperatures when using the polyethylene sheaths of special grades and ensuring the safety of shaped products.

T-connector with polyurethane thermal insulation with protective hydro insulation coating in the form of galvanized sheath for above-ground laying (GOST 30732-2006)



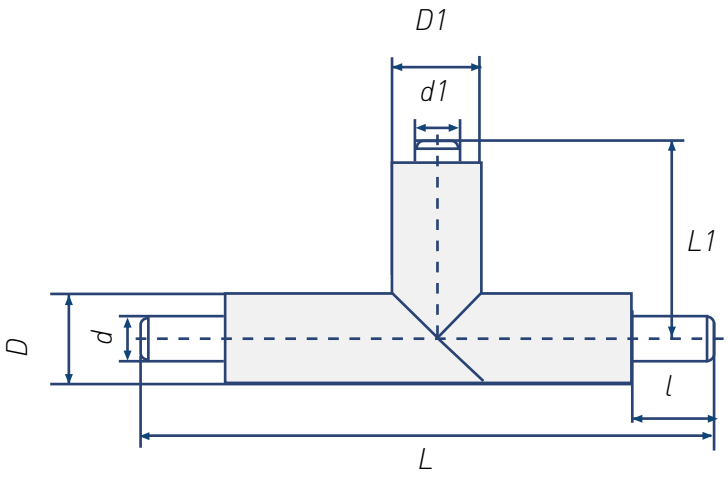
SPECIFICATIONS

Table shows the dimensions and mass of steel T-connectors insulation made in accordance with GOST 17376-2001.

It is also possible to apply FPU-insulation on steel T-connectors according to other standard technical documents (dimensions and mass of such T-connectors may differ from those given in table);

It is also possible to produce T-connector with other L and L1 standard sizes;

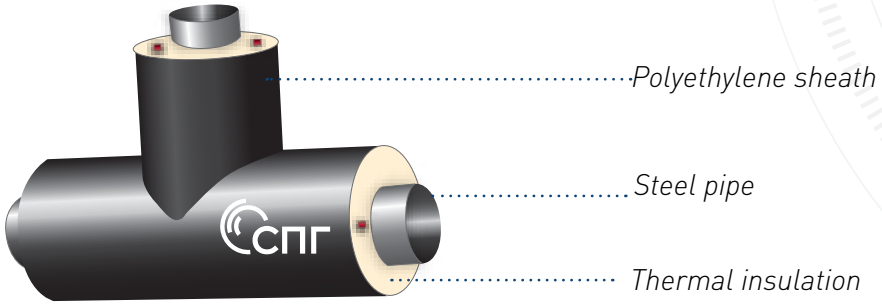
It is possible to produce the products with metal insulation plug.



T-connector with polyurethane thermal insulation with protective hydro insulation coating in the form of galvanized sheath for above-ground laying (GOST 30732-2006)

d (mm)	d1 (mm)	GVL				
		D (mm)	D1 (mm)	L (mm)	L1 (mm)	m (kg)
57	57	140	140	700	345	2,29
76	57	160	140	730	360	2,73
76	76	160	160	730	360	2,87
89	57	180	140	760	370	3,20
89	76	180	160	760	370	3,34
89	89	180	180	760	370	3,49
108	76	200	160	800	380	3,90
108	89	200	180	800	380	4,06
108	108	200	200	800	380	4,23
114	76	200	160	800	380	3,88
114	89	200	180	800	380	4,04
114	114	200	200	800	380	4,18
133	89	225	180	820	395	4,48
133	108	225	200	820	395	4,63
133	133	225	225	820	395	5,02
159	108	250	200	860	410	5,38
159	133	250	225	860	410	5,79
159	159	250	250	860	410	6,00
-	-	315	225	920	440	7,71
219	159	315	250	920	440	7,94
219	219	315	315	920	440	8,57
273	159	400	250	980	575	10,19
273	219	400	315	980	575	10,79
273	273	400	400	980	574	15,99
325	219	450	315	1040	600	12,96
325	273	450	400	1040	600	14,36
325	325	450	450	1040	600	19,33
426	325	560	450	1140	650	22,75
426	426	560	560	1140	650	32,03
530	426	675 (710)	560	1562	806	45,60
530	530	675 (710)	675 (710)	1562	831	51,23
630	426	775 (800)	560	1664	856	55,00
630	530	775 (800)	675 (710)	1664	882	61,09
630	630	775 (800)	775 (800)	1664	882	63,40
720	720	875 (900)	875 (900)	1842	971	83,05
820	820	975 (1000)	975 (1000)	1994	1047	102,31
920	920	1075 (1100)	1075 (1100)	2146	1123	139,58
1020	1020	1175 (1200)	1175 (1200)	2298	1199	165,82

Polyurethane thermal waterproofed T-connector in polyethylene sheath (GOST 30732-2006)



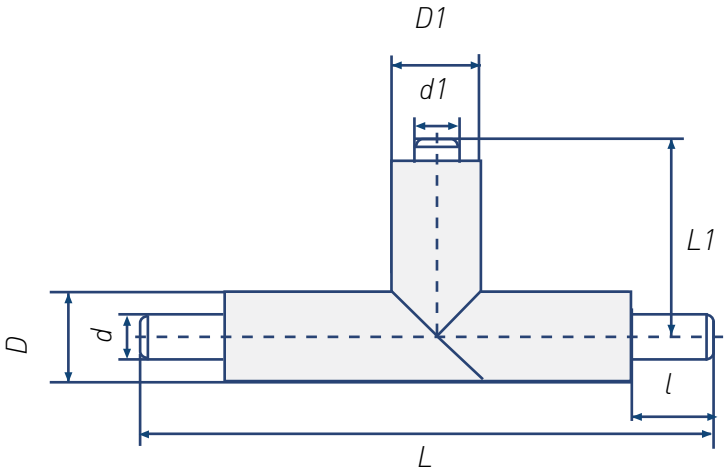
SPECIFICATIONS

Table shows the dimensions and mass of steel T-connectors insulation made in accordance with GOST 17376-2001.

It is also possible to apply FPU-insulation on steel T-connectors according to other standard technical documents (dimensions and mass of such T-connectors may differ from those given in table);

It is also possible to produce T-connector with other L and L1 standard sizes;

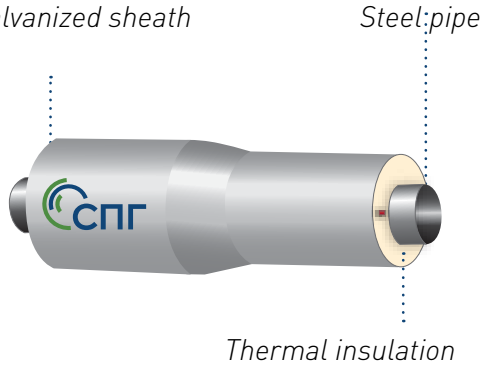
It is possible to produce the products with metal insulation plug.



Polyurethane thermal waterproofed T-connector in polyethylene sheath (GOST 30732-2006)

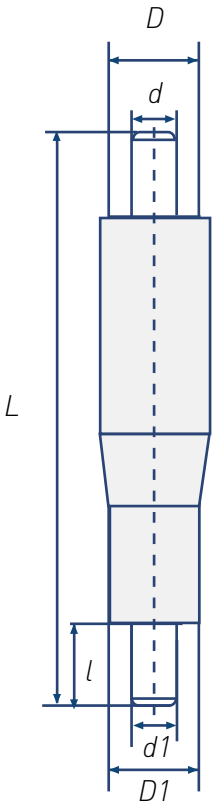
d (mm)	d1 (mm)	PE									
		Type 1					Type 2				
		D (mm)	D1 (mm)	L (mm)	L1 (mm)	m (kg)	D (mm)	D1 (mm)	L (mm)	L1 (mm)	m (kg)
57	57	125	125	700	345	1,20	140	140	700	345	1,51
76	57	140	125	730	360	1,49	160	140	730	360	1,89
76	76	140	140	730	360	1,59	160	160	730	360	1,91
89	57	160	125	760	370	1,78	180	140	760	370	2,14
89	76	160	140	760	370	1,89	180	160	760	370	2,24
89	89	160	160	760	370	1,99	180	180	760	370	2,35
108	76	180	140	800	380	2,22	200	160	800	380	2,69
108	89	180	160	800	380	2,33	200	180	800	380	2,80
108	108	180	180	800	380	2,43	200	200	800	380	2,94
114	76	180	140	800	380	2,20	200	160	800	380	2,66
114	89	180	160	800	380	2,31	200	180	800	380	2,78
114	114	180	180	800	380	2,40	200	200	800	380	2,91
133	89	-	-	-	-	-	250	180	820	445	4,04
133	108	-	-	-	-	-	250	200	820	445	4,16
133	133	-	-	-	-	-	250	250	820	445	4,68
159	108	250	180	860	410	4,10	280	200	860	460	5,18
159	133	-	-	-	-	-	280	250	860	460	5,73
159	159	250	250	860	410	4,76	280	280	860	460	6,07
-	-	-	-	-	-	-	355	250	920	490	8,72
219	159	315	250	920	440	6,90	355	280	920	490	9,11
219	219	315	315	920	440	7,69	355	355	920	490	10,24
273	159	400	250	980	525	9,03	450	280	980	575	11,37
273	219	400	315	918	525	9,78	450	355	980	575	16,51
273	273	400	400	980	525	14,51	450	450	980	575	18,29
325	219	450	315	1040	550	11,93	500	355	1040	600	15,54
325	273	450	400	1040	550	13,22	500	450	1040	600	22,05
325	325	450	450	1040	550	17,88	500	500	1040	600	23,23
426	325	560	450	1040	600	20,90	630	500	1040	650	35,53
426	426	560	560	1040	600	29,33	630	630	1040	650	40,14
530	426	710	650	1562	806	51,14	-	-	-	-	-
530	530	710	710	1562	831	59,26	-	-	-	-	-
630	426	800	560	1664	856	64,42	-	-	-	-	-
630	530	800	710	1664	882	73,22	-	-	-	-	-
720	720	900	900	1842	971	109,96	-	-	-	-	-
820	820	1000	1000	1994	1047	145,22	-	-	-	-	-
920	920	-	-	-	-	189,75	1200	1200	2146	1123	254,88
1020	1020	1200	1200	2298	1199	250,87	-	-	-	-	-

Polyurethane thermal insulation transition piece with protective hydro insulation coating in galvanized sheath for above-ground laying (GOST 30732-2006)



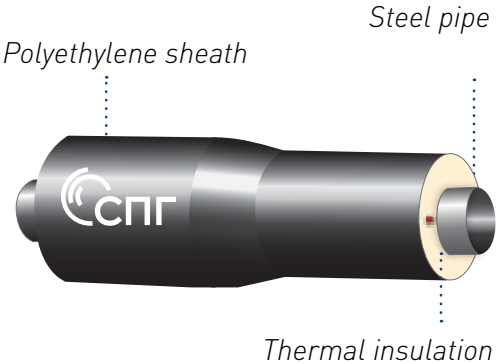
SPECIFICATIONS

The mass is calculated without considering steel pipe and transition piece.



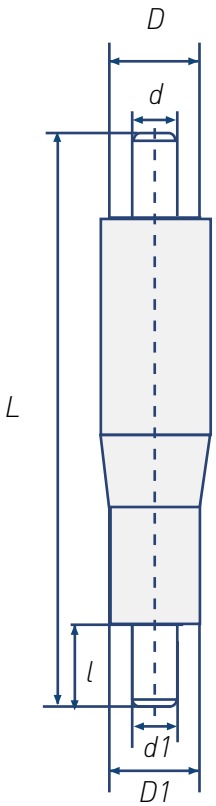
d (mm)	d1 (mm)	L (mm)	GLV		
			D (mm)	D1 (mm)	m (kg)
76	57	670	160	140	1,61
89	57	675	180	140	1,77
89	76	675	180	160	1,90
108	57	680	200	140	1,94
108	76	680	200	160	2,06
108	89	680	200	180	2,19
114	57	680	200	140	1,94
114	76	680	200	160	2,06
114	89	680	200	180	2,19
133	57	700	225	140	2,11
133	76	700	225	160	2,21
133	89	700	225	180	2,34
133	108	700	225	200	2,46
159	57	675	250	140	2,18
159	76	675	250	160	2,27
159	89	730	250	180	2,68
159	108	730	250	200	2,82
159	133	730	250	225	3,16
219	57	695	315	140	2,77
219	76	695	315	160	2,86
219	89	695	315	180	2,99
219	108	695	315	200	3,12
219	133	740	315	225	3,76
219	159	740	315	250	3,94
273	108	740	400	200	4,49
273	133	740	400	225	4,84
273	159	780	400	250	5,42
273	219	780	400	315	5,95
325	108	740	450	200	4,95
325	133	740	450	225	5,30
325	159	740	450	250	5,48
325	219	780	450	315	6,44
325	273	780	450	400	7,57
426	159	1020	560	250	11,30
426	219	1020	560	315	12,07
426	273	1020	560	400	13,72
426	325	1020	560	450	14,38
530	426	1100	675 (710)	560	21,18
630	426	1308	775 (800)	560	28,60
630	530	1308	775 (800)	675(710)	31,37
720	530	1410	875 (900)	675 (710)	37,24
720	630	1410	875 (900)	775 (800)	39,68
820	530	1410	975 (1000)	675 (710)	39,80
820	630	1410	975 (1000)	775 (800)	42,24
820	720	1410	975 (1000)	975 (1000)	45,05
920	630	1410	1075 (1100)	775 (800)	48,17
920	720	1410	1075 (1100)	875 (900)	50,98
920	820	1410	1075 (1100)	975 (1000)	53,47
1020	720	1410	1175 (1200)	875 (900)	53,85
1020	820	1410	1175 (1200)	975 (1000)	56,34
1020	920	1410	1175 (1200)	1075 (1100)	62,20

Polyurethane thermal waterproofed transition piece in polyethylene sheath (GOST 30732-2006)



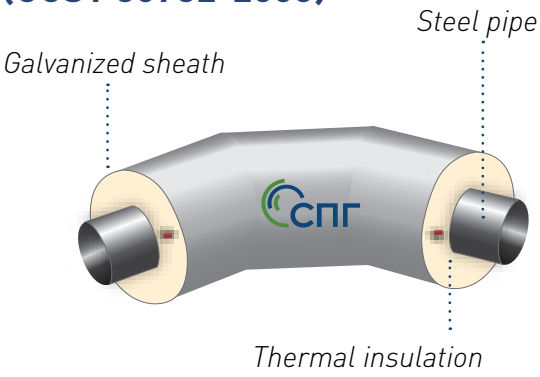
SPECIFICATIONS

The mass is calculated without considering steel pipe and transition piece.



d (mm)	d1 (mm)	L (mm)	PE					
			Type 1			Type 2		
			D (mm)	D1 (mm)	m (kg)	D (mm)	D1 (mm)	m (kg)
76	57	670	140	125	0,90	160	140	1,10
89	57	675	160	125	1,01	180	140	1,21
89	76	675	160	140	1,11	180	160	1,30
108	57	680	180	125	1,12	200	140	1,36
108	76	680	180	140	1,22	200	160	1,45
108	89	680	180	160	1,31	200	180	1,54
114	57	680	180	125	1,12	200	140	1,36
114	76	680	180	140	1,22	200	160	1,45
114	89	680	180	160	1,31	200	180	1,54
133	57	700	-	-	-	250	140	1,86
133	76	700	-	-	-	250	160	1,96
133	89	700	-	-	-	250	180	2,06
133	108	700	-	-	-	250	200	2,18
159	57	675	250	125	1,64	280	140	2,04
159	76	675	250	140	1,47	280	160	2,13
159	89	730	250	160	2,04	280	180	2,50
159	108	730	250	180	2,13	280	200	2,63
159	133	730	-	-	-	280	250	3,09
219	57	695	315	125	2,31	355	140	2,98
219	76	695	315	140	2,41	355	160	3,07
219	89	695	315	160	2,50	355	180	3,17
219	108	695	315	180	2,59	355	200	3,29
219	133	740	-	-	-	355	250	4,07
219	159	740	315	250	3,40	355	280	4,37
273	108	740	400	180	3,84	450	200	4,72
273	133	740	-	-	-	450	250	5,19
273	159	780	400	250	4,75	450	280	5,92
273	219	780	400	315	5,41	450	355	6,88
325	108	740	450	180	4,32	500	200	5,43
325	133	740	-	-	-	500	250	5,90
325	159	740	450	250	4,89	500	280	6,20
325	219	780	450	315	5,93	500	355	7,65
325	273	780	450	400	6,98	500	450	8,81
426	159	1020	560	250	10,06	630	280	13,44
426	219	1020	560	315	11,02	630	355	14,83
426	273	1020	560	400	12,56	630	450	16,55
426	325	1020	560	450	11,45	630	500	17,62
530	426	1100	710	560	22,69	-	-	-
630	426	1308	800	560	31,86	-	-	-
630	530	1308	800	710	38,48	-	-	-
720	530	1410	900	710	46,35	-	-	-
720	630	1410	900	800	50,27	-	-	-
820	530	1410	1000	710	53,50	-	-	-
820	630	1410	1000	800	57,43	-	-	-
820	720	1410	1000	900	61,52	-	-	-
920	630	1410	-	-	-	1200	800	84,58
920	720	1410	-	-	-	1200	900	92,51
920	820	1410	-	-	-	1200	1000	99,64
1020	720	1410	1200	900	76,50	-	-	-
1020	820	1410	1200	1000	83,58	-	-	-
1020	920	1410	-	-	-	-	-	-

Bend with polyurethane thermal insulation with protective hydro insulation coating in the form of galvanized sheath for above-ground laying (GOST 30732-2006)

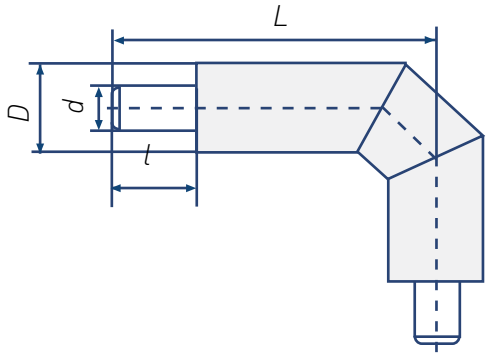


SPECIFICATIONS

Bends with any angle can be made optionally;

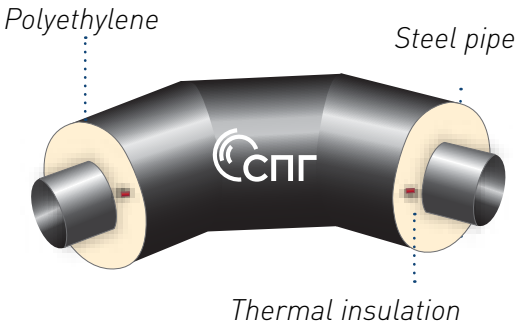
Table shows the dimensions and mass of steel bends insulation made in accordance with GOST 17375-2001.

It is also possible to apply FPU-insulation on steel bends made according to other standard technical documents (dimensions and weight of such bends may differ from those given in table); It is possible to produce the products with metal insulation plug.



d (mm)	GVL		
	D (mm)	L (mm)	m (kg)
Angle of bend 90°			
57	140	335	1,35
76	160	350	1,63
89	180	355	1,88
108	200	375	2,27
114	200	375	2,26
133	225	440	3,28
159	250	475	4,05
219	315	550	6,27
273	400	675	10,90
325	450	750	14,06
426	560	900	26,10
530	675 (710)	1150	44,22
630	775 (800)	1200	52,16
720	875 (900)	1400	73,21
820	975 (1000)	1600	94,62
920	1075 (1100)	1750	130,62
1020	1175 (1200)	1900	156,08
Angle of bend 60°			
57	140	303	1,18
76	160	307	1,41
89	180	304	1,59
108	200	312	1,86
114	200	312	1,85
133	225	360	2,68
159	250	380	3,26
219	315	423	4,91
273	400	517	9,64
325	450	560	12,07
426	560	646	21,38
530	675 (710)	833	36,24
630	775 (800)	819	40,48
720	875 (900)	977	57,82
820	975 (1000)	1093	73,17
920	1075 (1100)	1178	99,57
1020	1175 (1200)	1263	117,83
Angle of bend 45°			
57	140	290	1,11
76	160	291	1,31
89	180	285	1,44
108	200	287	1,65
114	200	287	1,64
133	225	329	2,38
159	250	343	2,86
219	315	374	4,23
273	400	455	8,36
325	450	486	10,33
426	560	548	17,92
530	675 (710)	710	30,88
630	775 (800)	673	33,07
720	875 (900)	804	48,31
820	975 (1000)	885	60,41
920	1075 (1100)	943	81,56
1020	1175 (1200)	1002	95,92

Polyurethane thermal waterproofed bend in polyethylene sheath (GOST 30732-2006)

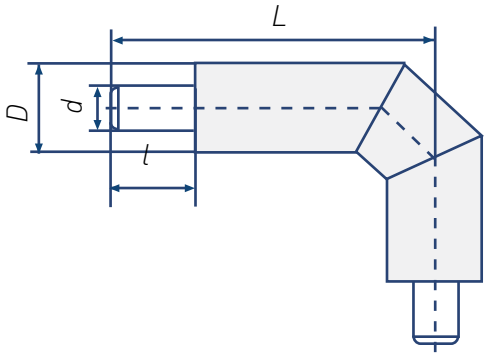


SPECIFICATIONS

Bends with any angle can be made optionally;

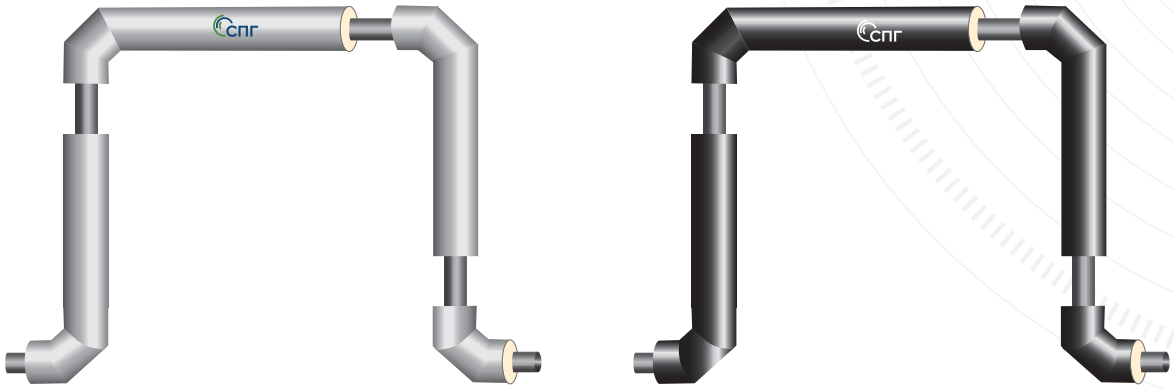
Table shows the dimensions and mass of steel bends insulation made in accordance with GOST 17375-2001. It is also possible to apply FPU-insulation on steel bends made according to other standard technical documents (dimensions and mass of such bends may differ from those given in table);

It is possible to produce the products with metal insulation plug.



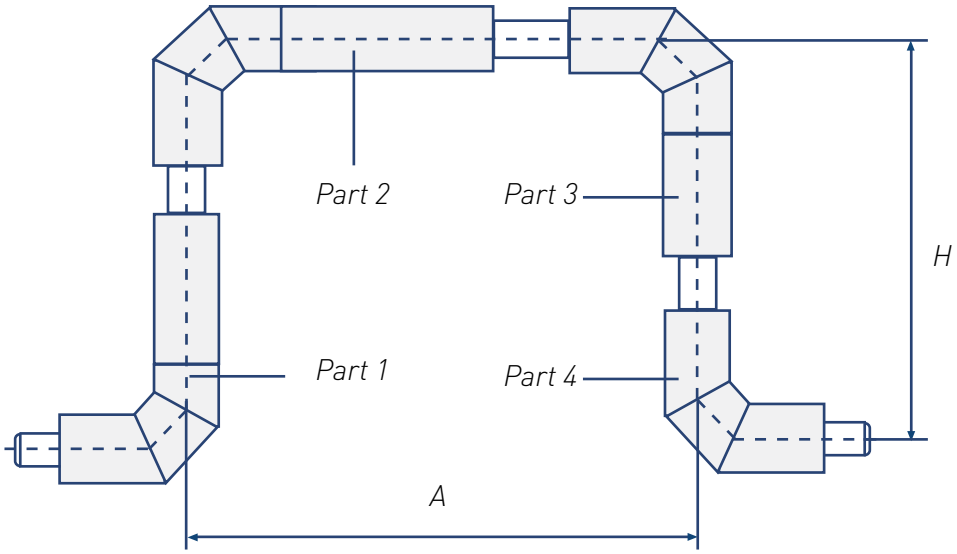
d (mm)	PE					
	Type 1			Type 2		
	D (mm)	L (mm)	m (kg)	D (mm)	L (mm)	m (kg)
Angle of bend 90°						
57	125	285	0,53	140	335	0,88
76	140	310	0,75	160	350	1,09
89	160	355	1,09	180	355	1,28
108	180	375	1,33	200	375	1,60
114	180	375	1,32	200	375	1,59
133	-			250	440	3,06
159	250	475	3,21	280	475	4,09
219	315	550	5,62	355	550	7,50
273	400	675	9,89	450	675	12,47
325	450	750	13,00	500	750	16,91
426	560	900	23,88	630	900	32,75
530	710	1150	53,20	-	-	-
630	800	1200	65,69	-	-	-
720	900	1400	99,55	-	-	-
820	1000	1600	137,92	-	-	-
920	-	-	-	1200	1750	241,64
1020	1200	1900	238,92	-	-	-
Angle of bend 60°						
57	125	253	0,46	140	303	0,79
76	140	267	0,64	160	307	0,96
89	160	304	1,93	180	304	1,09
108	180	312	1,11	200	312	1,32
114	180	312	1,10	200	312	1,31
133	-	-	-	250	360	2,50
159	250	380	2,60	280	380	3,30
219	315	423	4,42	355	423	5,86
273	400	517	8,76	450	517	11,03
325	450	560	11,16	500	560	14,49
426	560	646	19,58	630	646	26,8
530	710	833	43,56	-	-	-
630	800	819	50,91	-	-	-
720	900	977	78,51	-	-	-
820	1000	1093	106,47	-	-	-
920	-	-	-	1200	1178	184,01
1020	1200	1262	180,09	-	-	-
Angle of bend 45°						
57	125	240	0,43	140	290	0,75
76	140	251	0,58	160	291	0,89
89	160	285	0,85	180	285	0,99
108	180	285	0,99	200	285	1,18
114	180	287	0,99	200	287	1,18
133	-	-	-	250	329	2,23
159	250	343	2,29	280	343	2,90
219	315	374	3,81	355	374	5,04
273	400	455	7,60	450	455	9,56
325	450	486	9,57	500	486	12,39
426	560	548	16,42	630	548	22,43
530	710	710	37,09	-	-	-
630	800	673	41,52	-	-	-
720	900	804	65,50	-	-	-
820	1000	885	87,76	-	-	-
920	-	-	-	1200	943	150,45
1020	1200	1002	146,39	-	-	-

U-shaped polyurethane thermal waterproofed expansion bend (GOST 30732-2006)



SPECIFICATIONS

Size A and H are accepted according to the project; U-shaped expansion bend is supplied in 4 parts. It should be assembled at installation site.



Steel fittings with external corrosion-resistant coating and polyurethane thermal insulation for oil and gas pipelines

DESIGNATED AREA

Technical documentation given below covers fittings with the diameter of 57–1220 mm with corrosion-resistant coating, polyurethane thermal insulation and protective water-proof coating in the form of polyethylene mantle pipe or spiral and lock steel coating with protective polyethylene coating (for under-ground laying), and galvanized steel mantle pipes in the form of spiral and lock pipe (for above-ground laying).

Heat insulated pipes are designed for construction of oil pipelines, gas pipelines, oil product pipelines and industrial pipelines with the transported product temperature to +90 °C. Thermal insulation thickness shall be calculated with regard of the pipeline operating temperature.

DIAMETER OF PRODUCTS
from 57 mm to 1220 mm

SPECIFICATIONS

The thermal insulation layer in the protective coating shall be applied on items with the diameter from 57 to 1220 mm with corrosion-resistant coating. In order to prevent the decrease of the temperature of fluid transported via the pipeline below the permissible level, at the pipeline operation stops, heat tracing is used in the form of satellite pipelines or devices with a heating cable, which are mounted on the metal pipe surface prior to thermal insulation application. Type and characteristics of line heaters shall be defined in the process of pipelines design.

OPERATING CONDITIONS

Pipes with coating shall resist the environmental exposure without the water-proof insulation breach, flaking and crack:

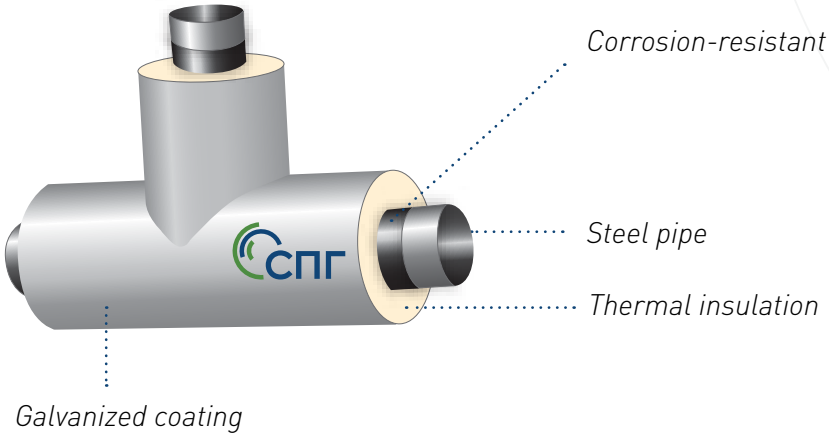
• at the storage of isolated pipes - within the temperature range from -50 °C to +60 °C (from -60 °C to +60 °C - for conditions of the Extreme North and Eastern Siberia);

• at the transportation of isolated pipes - within the temperature range from -45 °C to +50 °C (from -50 °C to +50 °C - for conditions of the Extreme North and Eastern Siberia);

• at the conduct of construction and installation and laying work - within the temperature range from -40 °C to +50 °C (from -50 °C to +50 °C - for conditions of the Extreme North and Eastern Siberia);

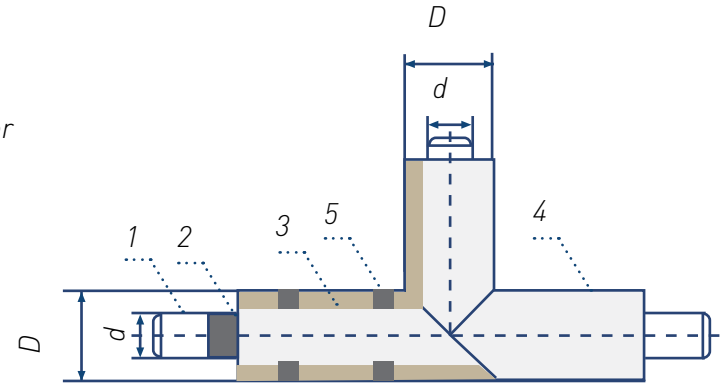
• at pipelines operation - from -50 °C to +60 °C (from -60 °C to +60 °C for conditions of the Extreme North and Eastern Siberia, from -50 °C to +80 °C – at the use of H-2 heat resistant coating).

Three-way pipe with corrosion-resistant coating and with polyurethane thermal insulation with protective water-proof coating in the form of galvanized coating (TU 5768-017-74747996-2010)



SPECIFICATIONS

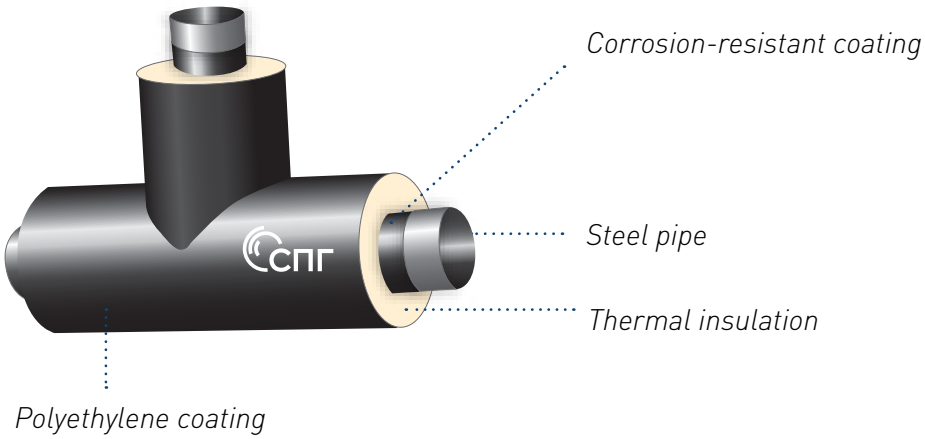
d – steel pipe outer diameter
Dg – galvanized steel mantle pipe outer diameter
1 – steel pipe;
2 – corrosion-resistant coating;
3 – polyurethane thermal insulation;
4 – galvanized steel protective coating;
5 – centralizers.



Thermal insulation thickness shall be calculated in accordance with regulations of SNiP 41-03-2003 «Thermal insulation of equipment and pipe lines» and SP 41-103-2000 «Designing of thermal insulation of equipment and pipe lines» for the specific conditions of the oil pipeline construction, use and operating temperature.

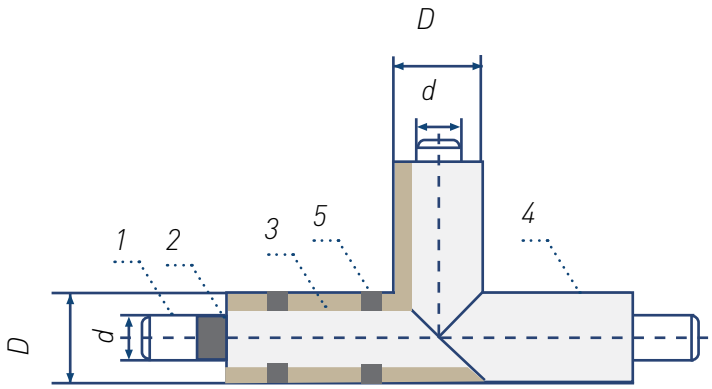
Diameters of galvanized steel mantle pipes shall be defined after thermal insulation thickness calculation.

Three-way pipe with corrosion-resistant coating and with polyurethane thermal insulation with protective water-proof coating in the form of polyethylene coating (TU 5768-017-74747996-2010)



SPECIFICATIONS

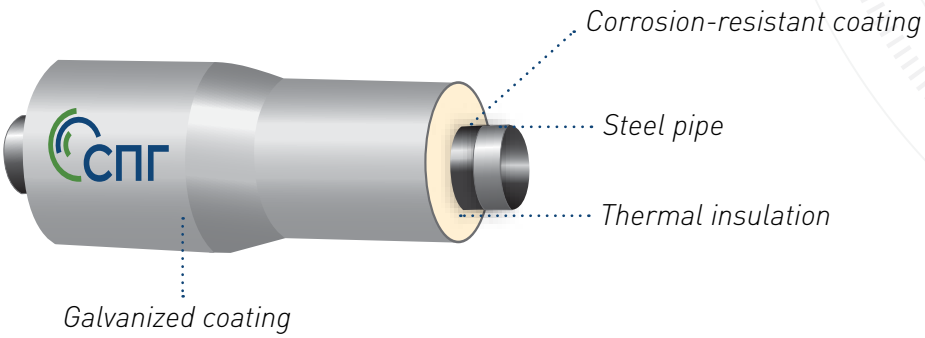
d – steel pipe outer diameter
Dpe - polyethylene mantle pipe outer diameter;
1 - steel pipe;
2 - corrosion-resistant coating;
3 - polyurethane thermal insulation;
4 – protective polyethylene coating;
5 – centralizers.

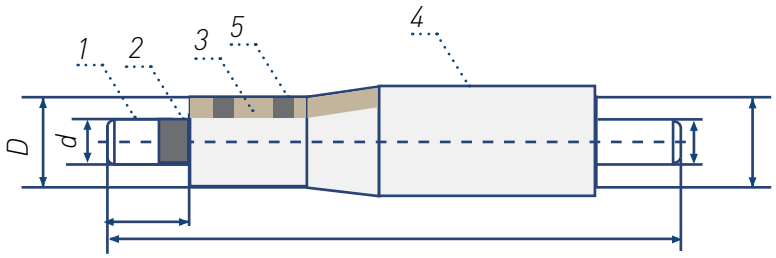


Thermal insulation thickness shall be calculated in accordance with regulations of SNiP 41-03-2003 «Thermal insulation of equipment and pipe lines» and SP 41-103-2000 «Designing of thermal insulation of equipment and pipe lines» for the specific conditions of the oil pipeline construction, operating specifications and operating temperature.

Diameters of polyethylene mantle pipes shall be defined after thermal insulation thickness calculation.

Increaser with corrosion-resistant coating and with polyurethane thermal insulation with protective water-proof coating in the form of galvanized coating (TU 5768-017-74747996-2010)





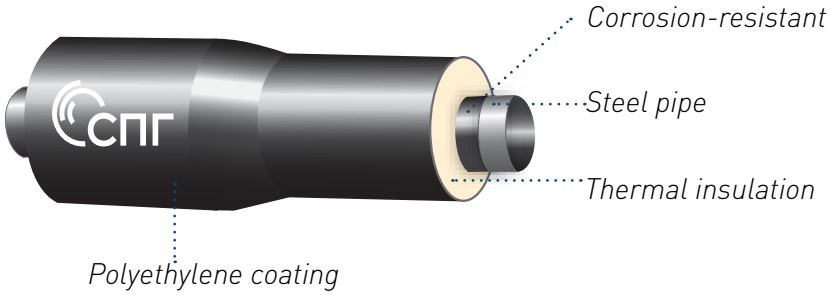
SPECIFICATIONS

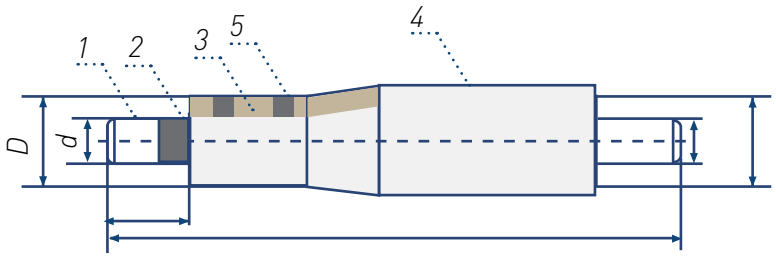
d – steel pipe outer diameter
Dg – galvanized steel mantle pipe outer diameter
1 – steel pipe;
2 – corrosion-resistant coating;
3 – polyurethane thermal insulation;
4 – galvanized steel protective coating;
5 – centralizers.

Thermal insulation thickness shall be calculated in accordance with regulations of SNiP 41-03-2003 «Thermal insulation of equipment and pipe lines» and SP 41-103-2000 «Designing of thermal insulation of equipment and pipe lines» for the specific conditions of the oil pipeline construction, operating specifications and operating temperature.

Diameters of galvanized steel mantle pipes shall be defined after thermal insulation thickness calculation.

Increaser with corrosion-resistant coating and with polyurethane thermal insulation with protective water-proof coating in the form of polyethylene coating (TU 5768-017-74747996-2010)





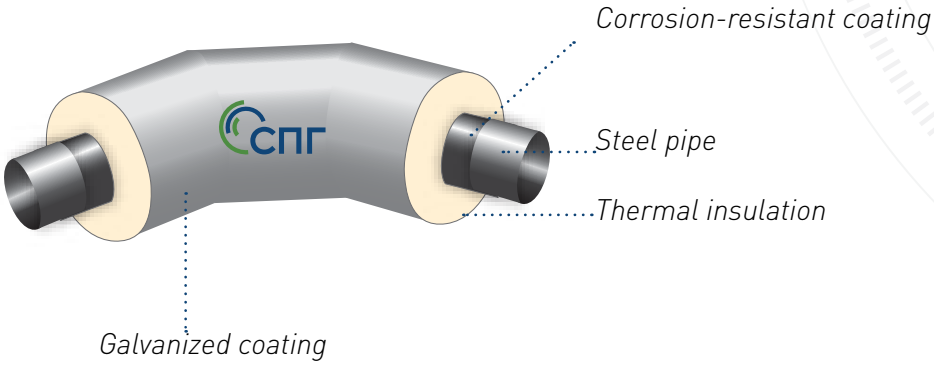
SPECIFICATIONS

d – steel pipe outer diameter
Dpe - polyethylene mantle pipe outer diameter; 1 - steel pipe;
2 – corrosion-resistant coating;
3 – polyurethane thermal insulation;
4 – polyethylene protective coating;
5 – centralizers.

Thermal insulation thickness shall be calculated in accordance with regulations of SNiP 41-03-2003 «Thermal insulation of equipment and pipe lines» and SP 41-103-2000 «Designing of thermal insulation of equipment and pipe lines» for the specific conditions of the oil pipeline construction, operating specifications and operating temperature.

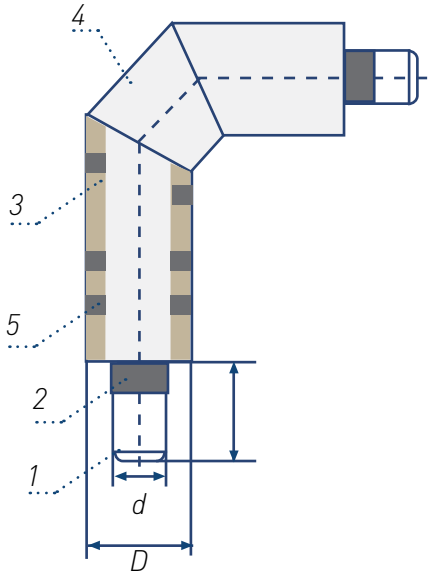
Diameters of polyethylene mantle pipes shall be defined after thermal insulation thickness calculation.

Sharply-bent branch with corrosion-resistant coating and with polyurethane thermal insulation with protective water-proof coating in the form of galvanized coating (TU 5768-017-74747996-2010)



SPECIFICATIONS

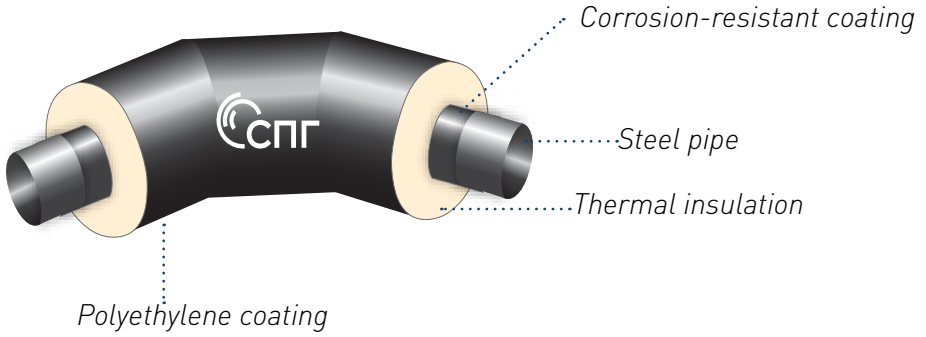
d – steel pipe outer diameter
Dg – galvanized steel mantle pipe outer diameter 1 – steel pipe;
2 – corrosion-resistant coating;
3 – polyurethane thermal insulation;
4 – galvanized steel protective coating;
5 – centralizers.



Thermal insulation thickness shall be calculated in accordance with regulations of SNiP 41-03-2003 «Thermal insulation of equipment and pipe lines» and SP 41-103-2000 «Designing of thermal insulation of equipment and pipe lines» for the specific conditions of the oil pipeline construction, operating specifications and operating temperature.

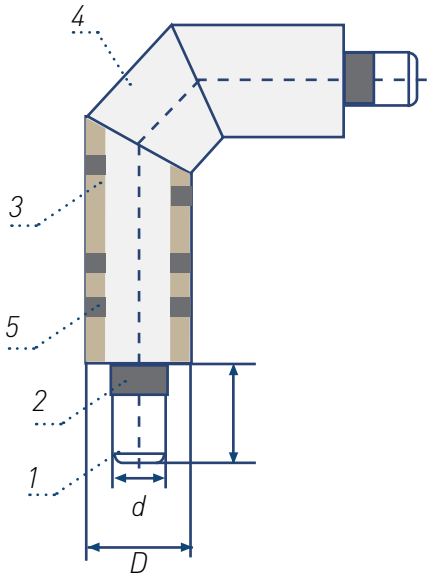
Diameters of galvanized steel mantle pipes shall be defined after thermal insulation thickness calculation.

Sharply-bent branch with corrosion-resistant coating and with polyurethane thermal insulation with protective water-proof coating in the form of polyethylene coating (TU 5768-017-74747996-2010)



SPECIFICATIONS

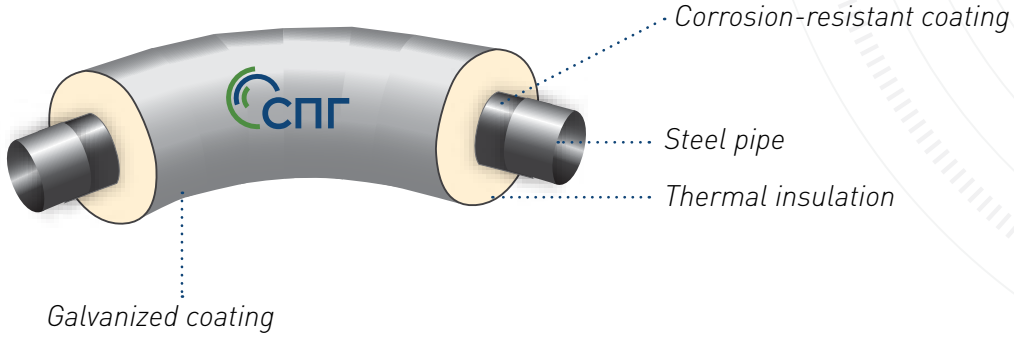
d – steel pipe outer diameter
Dpe - polyethylene mantle pipe outer diameter;
1 - steel pipe;
2 –corrosion-resistant coating;
3 – polyurethane thermal insulation;
4 –polyethylene protective coating;
5 – centralizers.



Thermal insulation thickness shall be calculated in accordance with regulations of SNiP 41-03-2003 «Thermal insulation of equipment and pipe lines» and SP 41-103-2000 «Designing of thermal insulation of equipment and pipe lines» for the specific conditions of the oil pipeline construction, operating specifications and operating temperature.

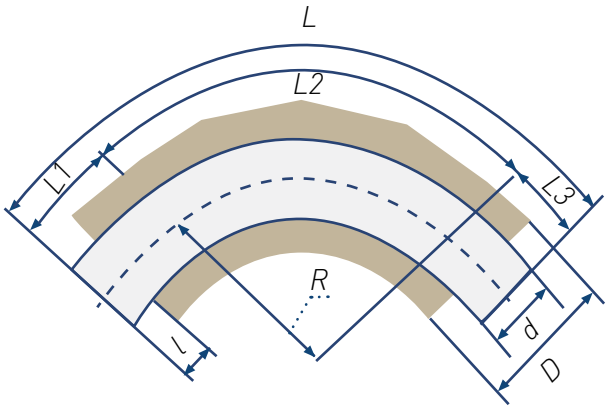
Diameters of polyethylene mantle pipes shall be defined after thermal insulation thickness calculation.

Bent branch with corrosion-resistant coating and with polyurethane thermal insulation with protective water-proof coating in the form of galvanized coating (TU 5768-017-74747996-2010)



SPECIFICATIONS

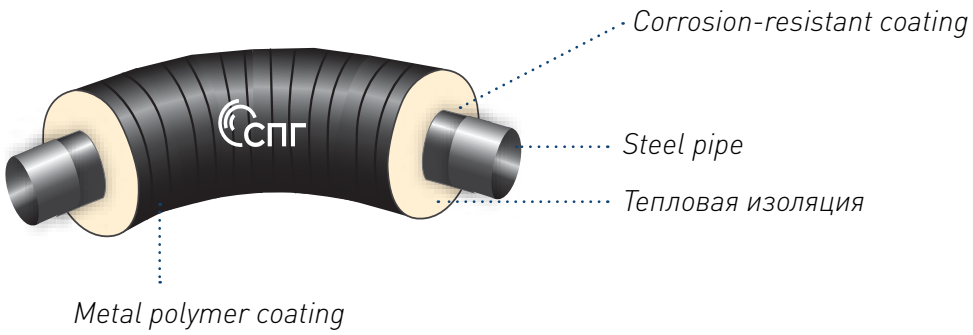
L – length of development with regard of rectangular areas;
L1, L3 – length of the bent branch rectangular area;
L2 – length of the branch bent part;
R – branch radius (not more than 5Du);
l– length of the non-insulated area



Thermal insulation thickness shall be calculated in accordance with regulations of SNiP 41-03-2003 «Thermal insulation of equipment and pipe lines» and SP 41-103-2000 «Designing of thermal insulation of equipment and pipe lines» for the specific conditions of the oil pipeline construction, operating specifications and operating temperature.

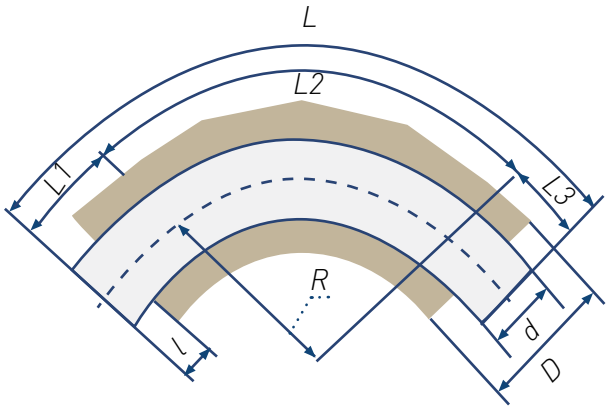
Diameters of galvanized steel mantle pipes shall be defined after thermal insulation thickness calculation.

Bent branch with corrosion-resistant coating and with polyurethane thermal insulation with protective water-proof coating in the form of polyethylene coating (TU 5768-017-74747996-2010)



SPECIFICATIONS

L – length of development with regard of rectangular areas;
L1, L3 – length of the bent branch rectangular area;
L2 – length of the branch bent part;
R – branch radius (not more than 5Du);
ll– length of the non-insulated area



Thermal insulation thickness shall be calculated in accordance with regulations of SNiP 41-03-2003 «Thermal insulation of equipment and pipe lines» and SP 41-103-2000 «Designing of thermal insulation of equipment and pipe lines» for the specific conditions of the oil pipeline construction, operating specifications and operating temperature.

Diameters of metal polymer mantle pipes shall be defined after thermal insulation thickness calculation.

Immovable supports

DESIGNATED AREA

Technical documentation given below covers pipeline supports deigned for construction of new and reconstruction of existing pipelines on above-ground laying areas.

SPECIFICATIONS

By construction performance, supports are manufactured in the following forms:

a) immovable supports (IS);

6) movable supports:

- long-movable support (hereinafter referred to as the LMS);
- free-movable support (hereinafter referred to as the FMS).

DIAMETER OF PRODUCTS
from 108 mm to 1220 mm
(more – as agreed with the customer)

Support structure elements resist loads from the side of connected pipelines.

The type of climactic modification shall be defined according to GOST 15150.

The support is manufactured in the non-seismic design basis (C0) for regions with seismicity to 6 points including under the MSK-64 scale.

The IS is designed for preventing the pipeline linear displacements in all directions and for the pipeline division into thermal compensation units inside which compensation of the pipeline temperature distortions occurs, and is installed in the beginning and in the end of the thermal compensation unit. The ISs are manufactured with thermal insulation. The ISs are manufactured with a pipe for welding a support unit accepting he load from the pipeline. A steady bush is welded to the pipe with full circumferential seams on the steady bush edges. The space between the pipe and the protective adapter is filled with thermal insulation.

The ISs pipe thickness is determined depending on the main pipeline S1 pipe thickness with regard of the coefficient 1,3±1,5: S = (1,3±1,5) S1.

The LMSs are designed for provision of the pipeline smooth axial movements from temperature distortions, and prevention of lateral displacement. They are installed on rectangular areas (excluding supports adjacent to the compensator) in front of and behind the immovable support for its unloading from side efforts and for provision of the pipeline buckling stability.

The LMS consists of movable and immovable parts. The movable part is a foot-saddle with a joint, connected with a sole. The pipeline in thermal insulation is mounted and fixed on the saddle with pipeline clamps.

IMMOVABLE SUPPORTS

The immovable part is a support installed on a foundation grill. In order to provide the movable part motion on the support, a pad from anti-friction material is installed on the sole.

The FMSs are designed for provision of the pipeline smooth axial and lateral movements from temperature distortions. They are installed in front of the compensator, in corners and on the compensator shelf.

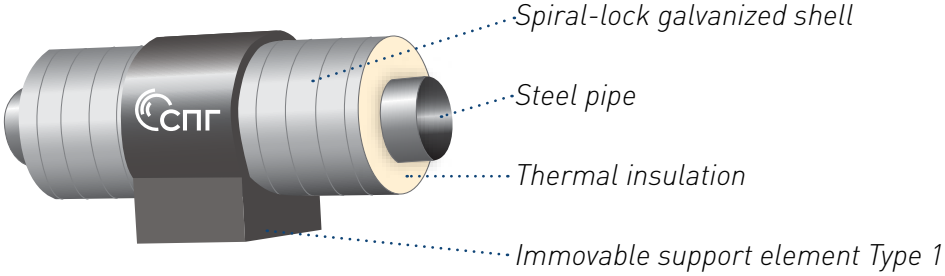
The FMS consists of movable and immovable parts. The movable part is a foot-saddle with a joint, connected with a sole. The pipeline in thermal insulation is mounted and fixed on the saddle with pipeline clamps.

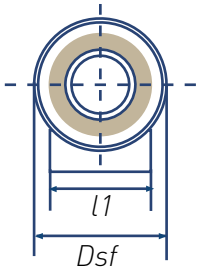
The immovable part is a support installed on a foundation grill. In order to provide the movable part motion on the support, a pad from anti-friction material is installed on the sole.

OPERATING CONDITIONS

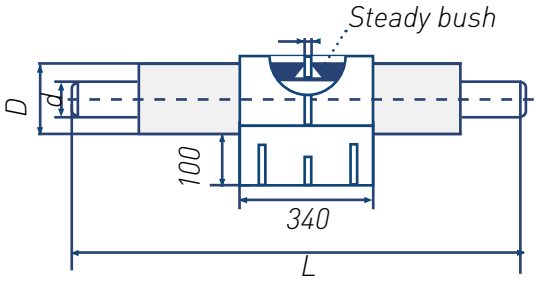
At transportation, storage, assembly and operation supports resist the ambient temperature variations for 8 h of no less than 40 °C.

Element of immovable support for oil and gas pipelines type 1 with thermal hydro polyurethane insulation for above-ground horizontal laying (GOST 36-146-88)





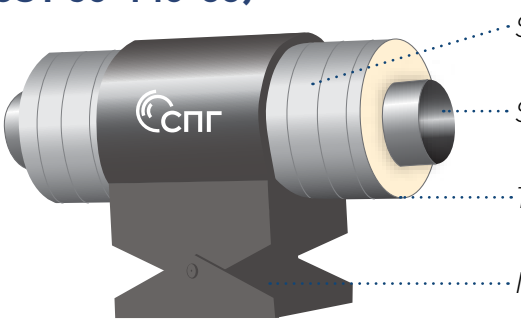
Pmax – maximum permissible axial load on the element;
OP – oil pipeline (GP – gas pipeline);
Dsf – diameter and thickness of support flange;
S – thickness of support flange;
It is possible to manufacture with a heat tracing system;
The design was developed by the specialists of OOO NPO;

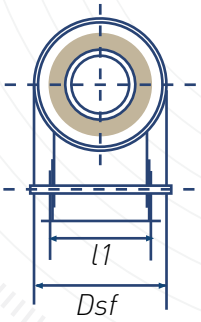


SPECIFICATIONS

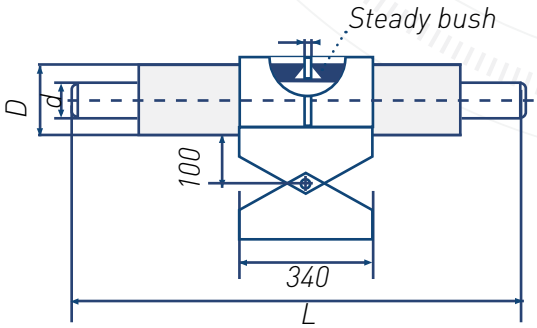
d (mm)	D (mm)	PU foam thickness (mm)	Dsf (mm)	L (mm)	l1 (mm)	S (mm)	Pmax (t)	m (kg)
108	180	35,3	219	1500	110	20	5	45,39
108	200	45,4	219	1500	110	20	5	46,75
108	315	102,8	345	1500	110	20	5	66,06
159	250	44,8	273	1500	160	25	6	70,01
159	280	59,8	325	1500	160	25	6	78,26
159	355	97,2	377	1500	160	25	6	92,64
219	315	47,3	377	1500	220	25	16	111,5
219	355	67,2	377	1500	220	25	16	115,47
219	410	94,7	426	1500	220	25	16	128.94
273	400	62,7	426	1500	280	30	25	152,58
273	450	87,7	485	1500	280	30	25	173,88
273	475	100	510	1500	280	30	25	181,93
325	450	61,7	485	2000	330	40	31	198,56
325	500	86,7	535	2000	330	40	31	219,85
325	530	101,5	570	2000	330	40	31	238,67
426	560	66,2	605	2000	430	40	37	269,95
426	630	101,2	670	2000	430	40	37	303,74

Element of immovable support for oil and gas pipelines type 2 with thermal hydro polyurethane insulation for above-ground laying with a slope up to 16° (GOST 36-146-88)





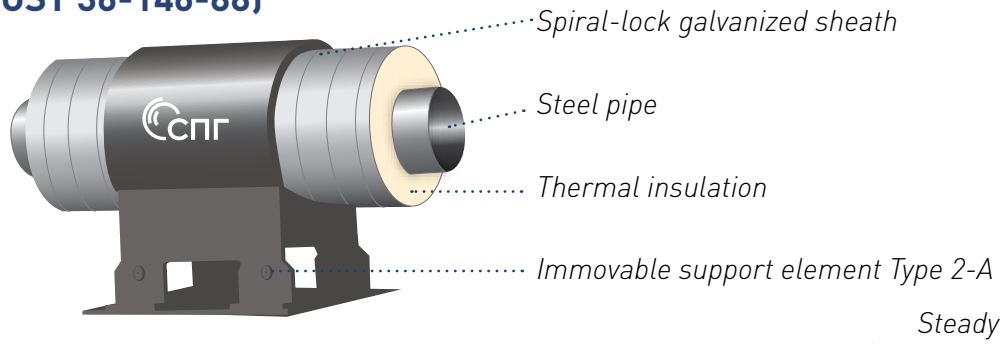
Pmax – max axial load on the element;
OP – oil pipeline (GP – gas pipeline);
Dsf – diameter and thickness of support flange;
S – thickness of support flange;
It is possible to manufacture with a heat tracing system;

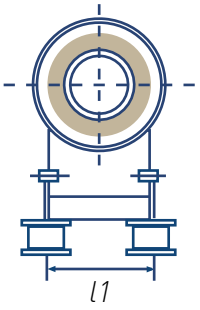


SPECIFICATIONS

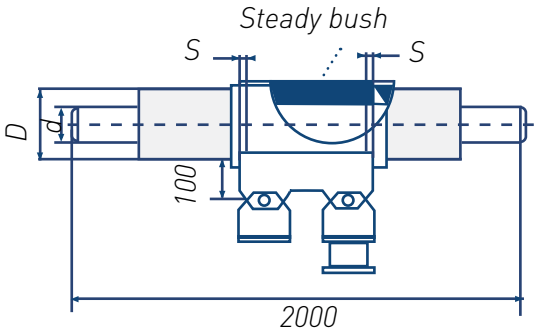
d (mm)	D (mm)	PU foam thickness (mm)	Dsf (mm)	L (mm)	l1 (mm)	S (mm)	Pmax (t)	m (kg)
108	180	35,3	219	1500	110	20	5	50,15
108	200	45,4	219	1500	110	20	5	51,13
108	315	102,8	345	1500	110	20	5	70,82
159	250	44,8	273	1500	160	25	6	76,36
159	280	59,8	325	1500	160	25	6	85,13
159	355	97,2	377	1500	160	25	6	99,15
219	315	47,3	377	1500	220	25	16	122,44
219	355	67,2	377	1500	220	25	16	126,05
219	410	94,7	426	1500	220	25	16	139.5
273	400	62,7	426	1500	280	30	25	161,78
273	450	87,7	485	1500	280	30	25	183,37
273	475	100	510	1500	280	30	25	191,42
325	450	61,7	485	2000	330	40	31	209,77
325	500	86,7	535	2000	330	40	31	231,07
325	530	101,5	570	2000	330	40	31	250,0
426	560	66,2	605	2000	430	40	37	287,74
426	630	101,2	670	2000	430	40	37	319,24

Element of immovable support for oil and gas pipelines type 2-A with thermal hydro polyurethane insulation for above-ground laying with a slope up to 16° (GOST 36-146-88)





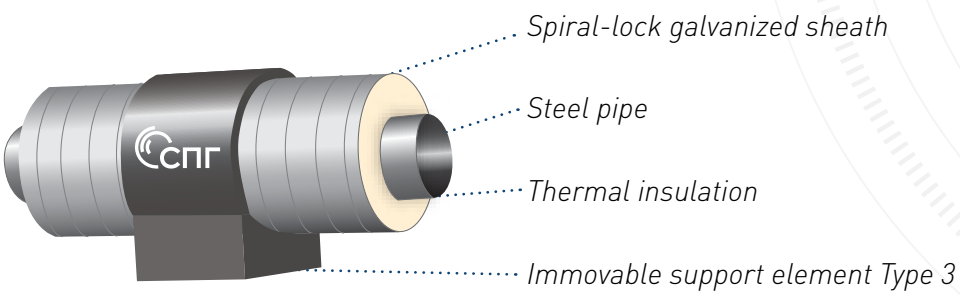
Pmax – max axial load on the element;
OP – oil pipeline:
(GP – gas pipeline);
Dsf – diameter and thickness of support flange;
S – thickness of support flange;

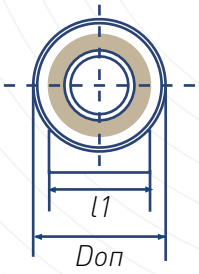


SPECIFICATIONS

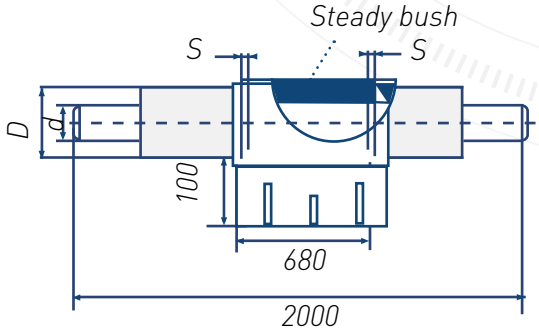
d (mm)	D (mm)	PU foam thickness (mm)	Dsf (mm)	l1 (mm)	S (mm)	Pmax (t)	m (kg)
530	675	71,5	720	550	25	47	743,44
530	732	100,2	820	550	25	47	818,0
630	775	71,5	820	650	25	53	893,4
630	832	100,0	920	650	25	53	974,7
720	875	76,5	920	720	25	71	1043,6
720	922	100,0	1020	720	25	71	1129,4
820	975	76,5	1020	820	25	83	1179,6
820	1023	100,0	1120	820	25	83	1271,98
920	1075	76,5	1120	920	30	95	1498,7
920	1123	100,0	1220	920	30	95	1607,9
1020	1175	76,7	1220	1020	30	113	1764,6
1020	1223	100	1320	1020	30	113	1884,2
1220	1375	76,7	1425	1220	30	149	2089
1220	1423	100	1475	1220	30	149	2162

Element of immovable support for oil and gas pipelines type 3 with thermal hydro polyurethane insulation for above-ground horizontal laying (GOST 36-146-88)





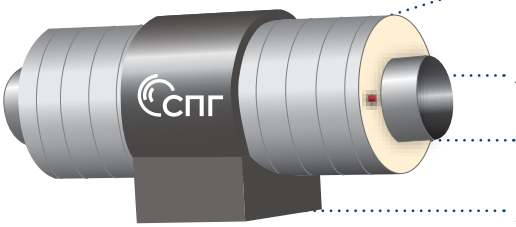
Pmax – maximum permissible axial load on the element;
OP – oil pipeline;
(GP – gas pipeline);
Dsf – diameter and thickness of support flange;
S – thickness of support flange;



SPECIFICATIONS

d (mm)	D (mm)	PU foam thickness (mm)	Dsf (mm)	l1 (mm)	S (mm)	Pmax (t)	m (kg)
530	675	71,5	720	550	25	47	652,9
530	732	100,2	820	550	25	47	739,1
630	775	71,5	820	650	25	53	798,3
630	832	100,0	920	650	25	53	876,55
720	875	76,5	920	720	25	71	930,2
720	922	100,0	1020	720	25	71	1020,7
820	975	76,5	1020	820	25	83	1054,3
820	1023	100,0	1120	820	25	83	1140,8
920	1075	76,5	1120	920	30	95	1345,7
920	1123	100,0	1220	920	30	95	1451,8
1020	1175	76,7	1220	1020	30	113	1541,1
1020	1223	100	1320	1020	30	113	1657,9
1220	1375	76,5	1425	1220	30	149	1976
1220	1423	100	1475	1220	30	149	2162

The element of the immovable support Type 3-A with thermal hydro polyurethane insulation for above-ground and canal laying for one pipeline installing (GOST 36-146-88)

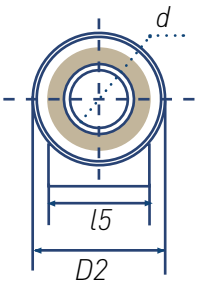


Spiral-lock galvanized sheath

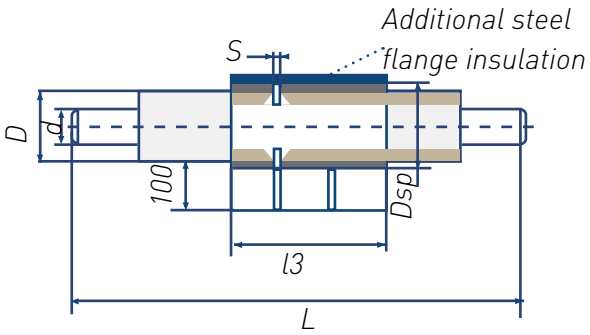
Steel pipe

Thermal insulation

Immovable support element Type 3-A



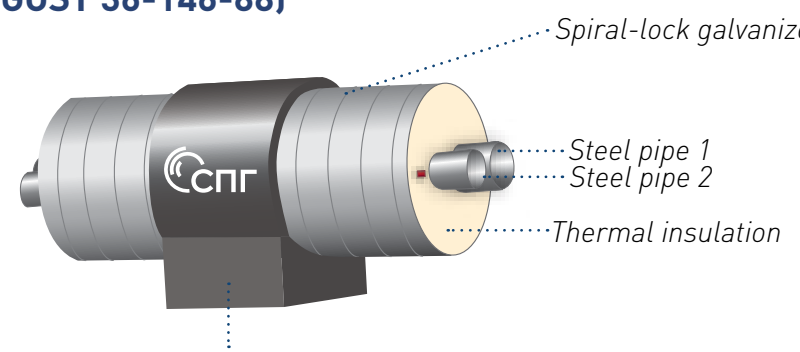
Pmax — max. load on the element;
«A» in the name of the immovable support type means an additional insulation of steel flange;
Weight is calculated without considering steel pipe.



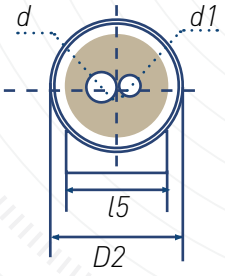
SPECIFICATIONS

d (mm)	D (mm)	L (mm)	l3 (mm)	l5 (mm)	S (mm)	Pmax (t)	Dsp (mm)	D2 (mm)	m (kg)
57	140	1115	320	80	15,0	2,0	159	225	20,04
76	160	1115	320	110	15,0	2,0	219	300	25,82
89	180	1120	320	110	20,0	3,0	219	300	27,37
108	200	1120	320	110	20,0	5,0	219	300	30,63
114	200	1120	320	110	20,0	5,0	219	300	30,42
133	225	1125	320	150	25,0	6,0	273	355	39,21
159	250	1125	320	150	25,0	6,0	273	355	38,45
219	315	1125	320	190	25,0	16,0	377	460	52,54
273	400	1130	320	220	30,0	24,0	426	520	64,99
325	450	1130	320	330	30,0	30,0	530	630	92,11
426	560	1130	320	430	30,0	35,0	630	720	139,75
530	675 (710)	1640	680	530	40,0	45,0	820	920	303,12
630	775 (800)	1640	680	630	40,0	50,0	920	1000	357,14
720	875 (900)	1650	680	700	50,0	65,0	1020	1130	435,40
820	975 (1000)	1660	680	800	50,0	75,0	1120	1230	490,19
920	1075 (1100)	1660	680	900	50,0	80,0	1220	1330	551,44
1020	1175 (1200)	1660	680	1000	50,0	85,0	1320	1440	611,16

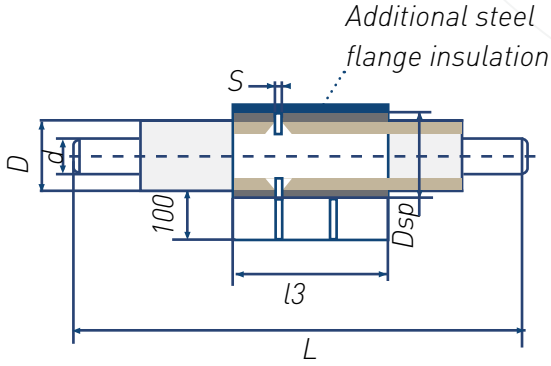
The element of the immovable support Type 4 with thermal hydro polyurethane insulation for the above-ground and canal laying with joint laying of several pipelines (GOST 36-146-88)



Immovable support element Type 4



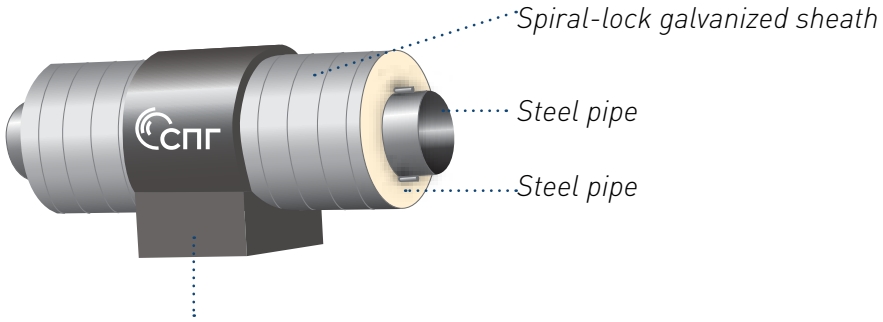
Pmax — max. load on the element;



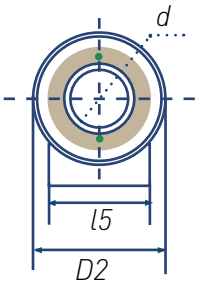
SPECIFICATIONS

D (mm)	d/d1 (mm)	L (mm)	l3 (mm)	S (mm)	Pmax (t)	Dsp (mm)	D2 (mm)	m (kg)
125	Steel pipes diameters of T2, T3, T4, B systems according to the project	1115	340	15	2,0	159	225	Depends on the pipelines diameter
140		1115	340	15	2,0	159	225	
160		1115	340	20	2,0	219	300	
180		1120	340	20	3,0	219	300	
200		1120	340	20	5,0	219	300	
225		1125	340	25	5,0	273	355	
250		1125	340	25	6,0	273	355	
280		1125	340	25	6,0	325	355	
315		1125	340	25	16,0	377	460	
355		1125	340	25	16,0	377	460	
400		1130	340	30	24,0	426	520	
450		1130	340	30	24,0	530	630	
500		1130	340	30	30,0	530	630	
560		1140	340	40	35,0	630	720	
630		1140	340	40	35,0	720	820	
710		1640	680	40	45,0	820	920	
800		1640	680	40	50,0	920	1000	
900		1650	680	50	65,0	1020	1130	
1000		1650	680	50	75,0	1120	1230	
1200		1650	680	50	85,0	1320	1440	

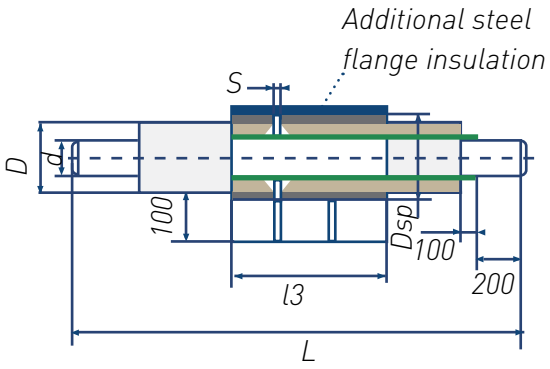
The element of the immovable support Type 5 with thermal hydro polyurethane insulation for the above-ground and canal laying with an electric heating device (GOST 36-146-88)



Element of immovable support Type 5



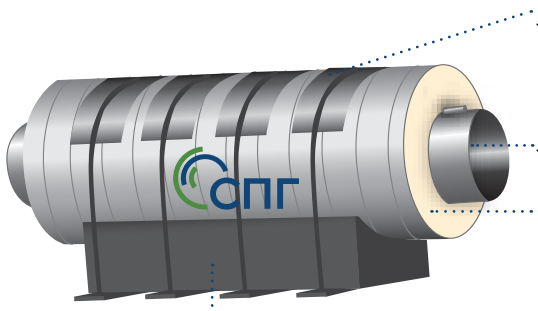
Pmax —max. load on the element; weight is calculated taking into account two satellites DN25;



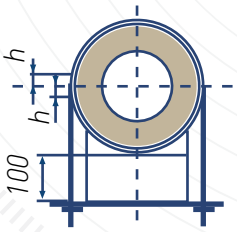
SPECIFICATIONS

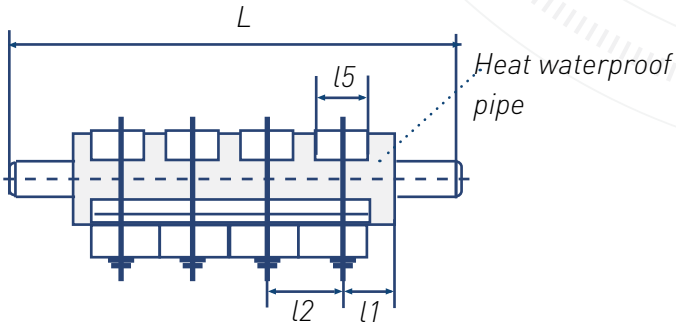
d (mm)	D (mm)	L (mm)	l3 (mm)	l5 (mm)	S (mm)	Pmax (t)	Dsp (mm)	D2 (mm)	m (kg)
57	250	1225	340	150	25	6,0	273	355	46,93
76	280	1225	340	165	25	6,0	315	410	56,48
89	280	1225	340	165	25	6,0	315	410	56,09
108	315	1225	340	190	25	16,0	377	460	63,09
114	315	1225	340	190	25	16,0	377	460	62,88
133	355	1225	340	190	25	16,0	377	460	67,13
159	355	1225	340	190	25	16,0	377	460	65,72
219	450	1230	340	330	30	24,0	530	630	108,73
273	500	1230	340	330	30	30,0	530	630	114,02
325	560	1230	340	430	30	35,0	630	720	143,84
426	630	1240	340	530	30	35,0	720	820	196,91
530	800	1640	680	630	40	50,0	900	1000	385,49

The element of immovable support type 6 for water lines with an electric heating device and without it (GOST 36-146-88)



Element of immovable support Type 6



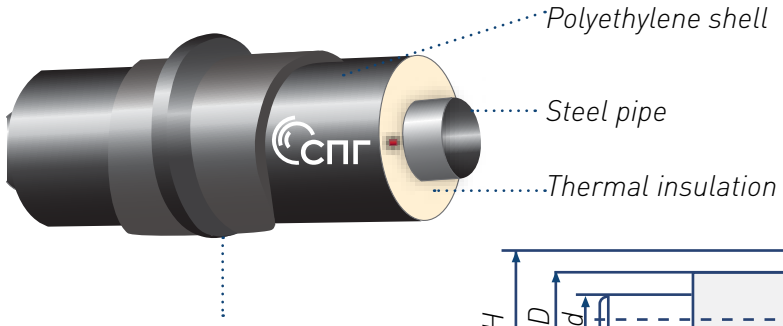


The support is designed for pipelines that are not subject to vibrations and hydraulic loads.

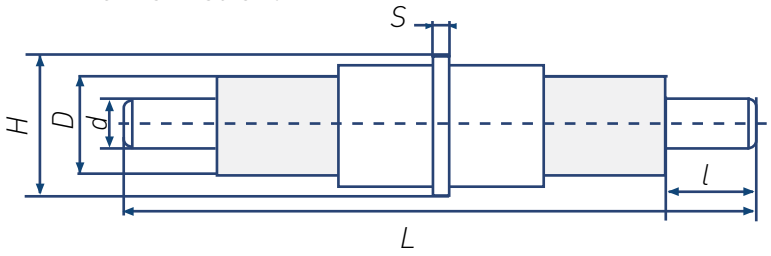
SPECIFICATIONS

D (mm)	L (mm)	l1 (mm)	l2 (mm)	h (mm)	Loads		
					axial (t)	vertical (t)	lateral (t)
225	850	100	-	30	1,15	0,6	0,85
250	850	100	-	30	1,15	0,6	0,85
280	850	100	-	35	1,15	0,9	1,1
315	1000	150	-	40	2,4	1,3	2,0
355	1150	100	225	40	3,4	2,2	3,2
400	1350	125	275	45	4,75	3,5	4,7
450	1500	175	375	50	7,4	4,8	7,2
500	1900	225	475	50	10,0	7,0	10,0
560	2150	225	475	50	11,0	9,0	11,0
630	2300	250	525	60	13,0	11,0	13,0
710	2450	250	525	90	15,0	13,0	15,0
800	2450	250	525	100	15,0	13,0	15,0
900	2750	300	625	150	20,0	20,0	20,0
1000	2750	325	675	175	24,0	24,0	24,0

The element of the panel immovable support with one supporting flange with thermal polyurethane insulation foam (GOST 36-146-88)



Element of immovable support

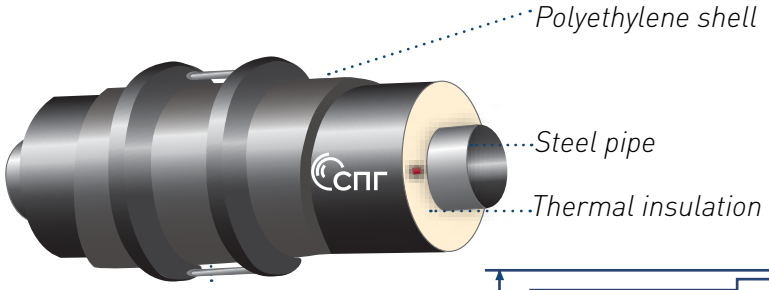


Pmax —max. load on the element;
It is possible to manufacture a product with a metal isolation plug; Weight is calculated without taking into account a steel pipe;
Size L can be changed according to the customer's request.

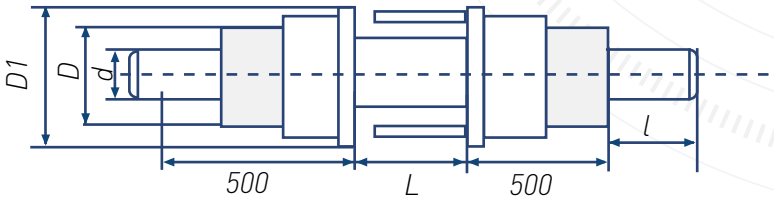
SPECIFICATIONS

d (mm)	Type 1		Type 2		L (mm)		H (mm)	Pmax (t)	S (mm)
	D (mm)	m (kg)	D (mm)	m (kg)	GALV	PE			
57	125	14,17	140	15,41	1500	1500	255	7,5	15,0
76	140	16,17	160	17,52	1500	1500	275	7,5	15,0
89	160	18,44	180	19,87	1500	1500	295	12,5	15,0
108	180	24,50	200	26,24	1500	1500	315	20,5	20,0
114	180	24,07	200	26,04	1500	1500	315	20,5	20,0
133	-	-	250	38,85	1500	1500	340	26,5	25,0
159	250	41,52	280	84,97	1500	1500	450	36,0	25,0
219	315	66,40	355	73,24	1500	1500	450	50,0	25,0
273	400	73,72	450	78,43	1500	1500	550	75,0	30,0
325	450	125,28	500	131,30	1500	1500	650	90,0	40,0
426	560	157,99	630	213,23	1500	1500	750	120,0	40,0
530	710	242,99	-	-	2000	2000	900	150,0	50,0
630	800	338,39	-	-	2000	2000	1000	205,0	50,0
720	900	395,06	-	-	2000	2000	1100	235,0	50,0
820	1000	551,82	-	-	2000	2000	1300	310,0	50,0
920	-	-	1200	723,67	2000	2000	1300	430,0	60,0
1020	1200	674,67	-	-	2000	2000	1400	470,0	60,0

The element of the panel immovable support with two support flanges with thermal polyurethane insulation foam (GOST 36-146-88)



Element of immovable support

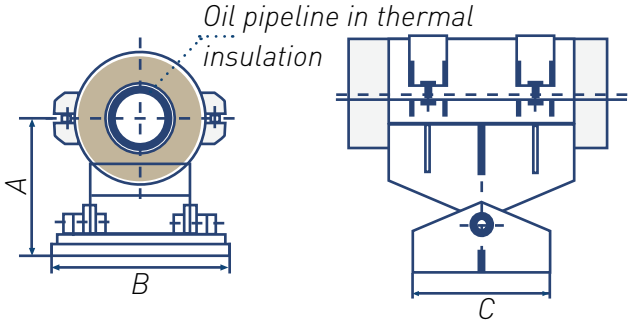


Pmax — max. load on the element; Manufacturing Weight of this element is possible with any size A; Weight is calculated without considering steel pipe;
It is possible to manufacture the product in a galvanized shell.

SPECIFICATIONS

d (mm)	Type 1			Type 2			Pmax (t)
	D (mm)	D1 (mm)	m (kg)	D (mm)	D1 (mm)	m (kg)	
57	125	300	22,20	140	300	23,58	5,0
76	140	330	25,29	160	330	26,90	5,0
89	160	330	26,77	180	330	28,52	5,0
108	180	330	29,92	200	330	31,99	7,0
114	180	330	29,83	200	330	31,89	7,0
133	-	-	-	250	440	45,87	10,0
159	250	390	42,75	280	440	49,70	10,0
219	315	510	63,36	355	520	71,38	20,0
273	400	510	76,73	450	610	92,88	24,0
325	450	590	96,24	500	660	113,24	30,0
426	560	720	114,26	630	790	173,09	55,0
530	710	870	211,23	-	-	-	55,0
630	800	960	274,35	-	-	-	85,0
720	900	1060	337,45	-	-	-	95,0
820	1000	1200	410,97	-	-	-	100,0
920	-	-	-	1200	1400	575,11	105,0
1020	-	1400	579,10	-	-	-	110,0

Free-moving support for oil and gas pipelines on sites with a slope up to 16° (GOST 14911-82)



SPECIFICATIONS

Shell diameter (mm)	A (mm)	B (mm)	C (mm)	Weight, (kg)	Maximum permissible load on the support (t)		
					Vertical	Side	Axial
180	231	326	243	14,6	0,9	0,60	0,27
200	241	326	243	15,4	1,0	0,62	0,30
250	266	326	243	15,9	1,0	0,64	0,33
315	371	486	370	54,7	2,0	1,2	0,6
355	391	486	370	55,8	2,0	1,2	0,6
400	413	486	370	57,1	2,5	1,35	0,75
410	418	486	370	57,3	2,5	1,35	0,75
450	504	706	484	147,5	6,0	4,0	1,8
475	517	706	484	148,8	6,0	4,0	1,8
500	530	706	484	150,2	7,0	4,2	2,1
530	545	706	484	152,5	7,0	4,2	2,1
560	560	706	484	155,0	7,0	4,2	2,1
630	595	706	484	161,0	8,0	4,5	2,4
675	700	926	684	291,0	11,50	7,40	3,45
710	717	926	684	292,0	12,00	7,50	3,60
732	728	926	684	293,0	12,50	7,60	3,75
775	750	926	684	296,0	13,50	7,90	4,05
800	562	926	684	299,0	14,00	8,00	4,20
832	778	926	684	301,0	14,50	8,20	4,35
875	859	1106	826	540,0	18,0	11,0	5,4
922	882	1106	826	542,0	19,0	11,0	5,7
975	909	1106	826	545,0	20,0	11,5	6,0
1023	933	1106	826	549,0	21,0	12,0	6,3
1075	960	1106	826	556,0	22,0	12,0	6,6
1123	984	1106	826	560,0	24,0	13,0	7,2
1175	1077	1506	876	877,0	30,0	19,5	9,0
1200	1089	1506	876	875,0	31,0	20,0	9,3
1223	1101	1506	876	874,0	32,0	21,5	9,6
1375	1177	1506	876	881,0	35,0	21,5	10,5
1423	1201	1506	876	886,0	37,0	22,5	11,1

Heat shrinkable polyethylene couplings (GOST 14911-82)

SCOPE OF APPLICATION

These specifications cover heat shrinkable polyethylene couplings for sealing of thermal insulation construction of thermal polyurethane insulated pipes welding joints.

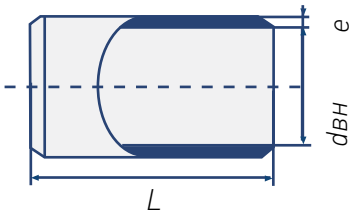
OPERATION CONDITIONS

Couplings are transported by any transport in covered vehicles ensuring the safety of the protective packaging of couplings from mechanical damage and from direct sunlight in accordance with haulage rules.

Loading and unloading works are carried out manually in the temperature range specified for construction and installation works, but not below 18 °C. It is forbidden to drop, roll, collide the couplings, and move them by traction.

Couplings should be stored in covered, unheated rooms, according to GOST 15150 at a temperature of no above than 30 °C. It is allowed to stack couplings in three tiers sorted by diameters.

DIAMETER OF PRODUCTS
from 125 to 900 mm



Outer shell diameter lenght D (mm)	Inner coupling diameter (mm)	Shrinkage in radial axis (% not less than)	Wall thickness (mm not less than)	Tolerance for inner diameter (mm)	Coupling L (mm)
125	140	8,0	2,5	from -5 to +4	500+20
140	156	7,5	2,5	from -5 to +4	500+20
160	177	7,5	2,5	from -5 to +4	500+20
180	197	6,5	2,5	from -5 to +4	500+20
200	218	6,5	2,8	from -5 to +4	500+20
225	244	6,0	3,0	from -5 to +4	500+20
250	269	5,5	3,7	from -5 to +5	500+20
315	336	5,0	4,7	from -5 to +5	700+20
400	425	5,0	6,1	from -5 to +5	700+20
450	476	4,5	6,8	from -5 to +5	700+20
560	591	4,5	8,6	from -5 to +5	700+20
630	663	4,0	9,6	from -5 to +5	700+20
710	746	4,0	10,9	from -5 to +5	700+20
800	839	4,0	12,3	from -5 to +5	700+20
900	943	4,0	13,8	from -5 to +6	700+20

Foam packs for thermal insulation of pipelines welded joints with polyurethane insulation (GOST 14911-82)

Diameter of steel pipe (mm)	Shell diameter (mm)	Length (mm)
57	125	300
57	140	300
76	140	300
76	180	300
89	180	300
89	180	300
108	180	300
108	200	300
133	225	300
159	250	300
159	280	300
219	315	300
219	355	300
273	400	420
273	450	420
325	450	420
325	500	420
426	560	420
426	630	420
530	710	550
630	800	550
720	900	550

Components of polyurethane foam for filling the welded joint

d (mm)	Joint lenght (mm)	Type 1			Type 2			Reinforced insulation		
		D (mm)	PU foam-350		D (mm)	PU foam-350		D (mm)	PU foam-350	
			A (kg)	B (kg)		A (kg)	B (kg)		A (kg)	B (kg)
57	300	125	0,1	0,2	140	0,14	0,26	250	0,50	0,96
76	300	140	0,12	0,22	160	0,17	0,32	280	0,61	1,17
89	300	160	0,15	0,29	180	0,22	0,4	280	0,59	1,14
108	300	180	0,16	0,31	200	0,23	0,44	315	0,72	1,39
114	300	180	0,16	0,31	200	0,23	0,44	315	0,72	1,39
159	300	250	0,31	0,6	280	0,44	0,86	355	0,84	1,63
219	300	315	0,44	0,83	355	0,65	1,26	450	1,29	2,50
273	400	400	1,19	2,3	450	1,78	3,45	500	2,43	4,73
325	400	450	1,39	2,61	500	2,00	3,89	560	2,89	5,60
426	400	560	1,83	3,56	630	2,99	5,80	630	2,99	5,80
530	400	710	3,10	6,01	-	-	-	800	4,99	9,67
630	400	800	3,37	6,55	-	-	-	900	5,73	11,13
720	400	900	4,05	7,85	-	-	-	1000	6,68	12,98
820	400	1000	4,44	8,88	1100	7,29	14,58	-	-	-
920	400	1100	4,93	9,86	1200	8,05	16,10	-	-	-
1020	400	1200	5,42	10,84	1300	8,81	17,62	-	-	-
1120	400	1300	5,91	11,82	1400	9,57	19,14	-	-	-
1220	400	1400	6,40	12,80	-	-	-	-	-	-

Steel protective galvanized casing (shell)

Steel shell in a metal-polymer cover for underground pipe laying

The shell is made of steel strip of light-gage sheet carbon steel (quality or of ordinary quality) according to GOST 16523. This shell should be covered with a NK-50 primer as a part of the thermal and hydro insulation joint. It is allowed to use light-gage sheet galvanized steel with zinc coating according to GOST 14918 not lower than the second class or with a zinc coating not lower than class 180 according to GOST R 52246.

Shell thickness:

- not less than 1,0 mm for ø140÷1000 mm;
- not less than 1,2 mm for over ø1000 mm.

By agreement with the Customer, it is allowed to use products of other diameters and set composition of other dimensions.

Galvanized shell for above-ground pipe laying in galvanized cover

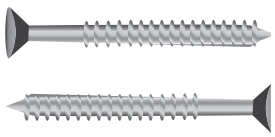
The shell is made of light-gage sheet galvanized steel with zinc coating of the first class according to the GOST 14918 or with a zinc coating not lower than class 450 according to the GOST R52246.

Feedwell thickness:

- not less than 0,7 mm for ø140÷355 mm;
- not less than 1,0 mm for over ø355 up to 1000 mm;
- not less than 1,2 mm for over ø1000 mm.

By agreement with the Customer, it is allowed to use the products of other diameters and set composition of other dimensions.

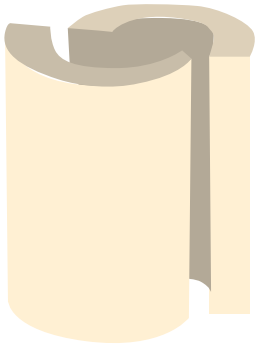
Self-tapping screws



To fix the shell, which is, used both for underground and aboveground pipeline laying it is necessary to use galvanized self-tapping screws with a backpad sharp for metal with a diameter of 3 ÷ 5 mm and a length of 15-30 mm. Formula for calculating the number of screws, pcs: q = 3,14 * D / 250.

* 2 + 2 + 4, where q - the number of screws; D - is the diameter of the shell.

Heat insulating shells made of polyurethane foam (TU 5768-022-7474-7996-2010)



d – inner diameter of shell;

D – outer diameter of shell.

Shell length from 750 till 1500 mm.

The table shows the recommended dimensions.

At the request of the customer, in the presence of design reasons, the overall dimensions and length of the shell can be adjusted by selection by agreement with the manufacturer.

SPECIFICATIONS

d (mm)	Type 1		Type 2	
	D (mm)	Weight (kg)	D (mm)	Weight (kg)
57	125	0,29	140	0,39
76	140	0,33	160	0,47
89	160	0,42	180	0,58
108	180	0,49	200	0,67
114	180	0,46	200	0,64
159	250	0,88	280	1,25
219	315	1,21	355	1,84
273	400	2,01	450	3,01
325	450	2,28	500	3,40
426	560	3,11	630	5,07
530	710	5,26	800	8,46
630	800	5,73	900	9,73
720	900	6,87	1000	11,34
820	1000	8,01	1100	12,95
920	1100	8,56	1200	13,98
1020	1200	9,41	1300	15,30
1220	1420	12,43	1460	15,15

SET OF HEAT SHRINKABLE SLEEVE CUFF

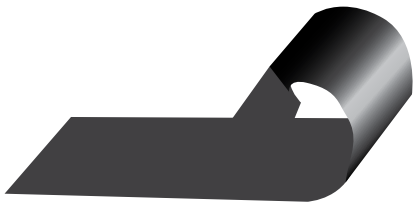
Heat shrinkable tape

HEAT SHRINKABLE MATERIALS DIMENSIONS:

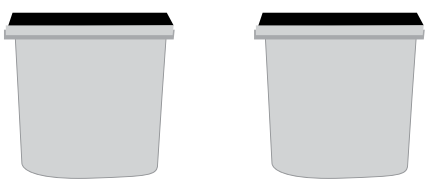
Coupling TERMA-STMP			Locking plate TERMA-LKA			
ø Pipe (mm)	Thickness (mm)	Width (mm)	ø Pipe (mm)	Thickness (mm)	Width (mm)	Length (mm)
up to 530 inclusive	Not less than 1,5	Not less than 450	up to 168 inclusive	1,4±0,2	80±5	450±5
			up to 426 inclusive		100±5	
above 530 up to 1420	Not less than 2,0		up to 920 inclusive		120±5	
			over 920		150±5	
It is allowed to use heat shrinkable materials of other geometric dimensions.						

Coupling TIAL-MGP			Locking plate TIAL-ZP			
ø Pipe (mm)	Thickness (mm)	Width (mm)	ø Pipe (mm)	Thickness (mm)	Width (mm)	Length (mm)
up to 273 inclusive	1,2±0,2	Not less than 450	up to 530 inclusive	1,4±0,2	100±5	455±2
up to 530 inclusive	1,8±0,2					
up to 820 inclusive	2,0±0,2		up to 820 inclusive		125±5	
over 820 inclusive	2,4±0,2		over 820		150±5	
It is allowed to use heat shrinkable materials of other geometric dimensions						

Locking plate

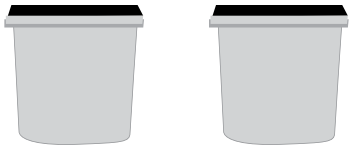


Epoxy two part primer



Set of materials for insulation of a welded joint for underground laying of pipes in a polyethylene sheath using shells 1

1. Set of heat shrinking coupling for the pipe

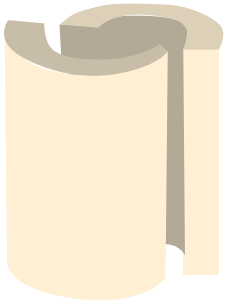


1.1 Two part epoxy

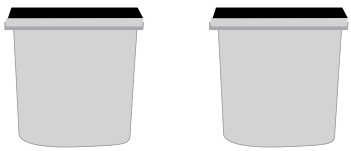
1.2 Heat shrinkable tape

1.3. Locking plate

2. PU foam shells

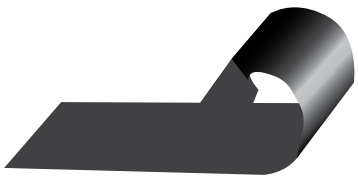


3. Set of heat shrinking coupling for shell



3.1 Two part epoxy

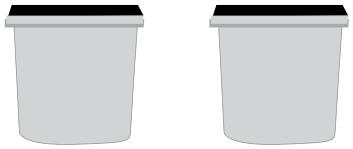
3.2 Heat shrinkable tape



3.3. Locking plate

Set of materials for insulation of a welded joint for underground laying of pipes in a polyethylene sheath using shells 2

1. Set of heat shrinking coupling for the pipe

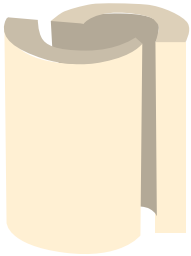


1.1 Two part epoxy

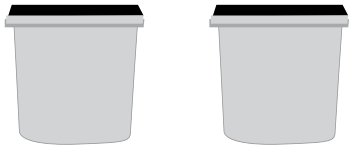
1.2 Heat shrinkable tape

1.3. Locking plate

2. PU foam shells



3. Set of heat shrinking coupling for shell

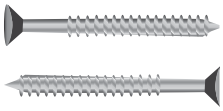


3.1 Two part epoxy

3.2 Heat shrinkable tape

3.3. Locking plate

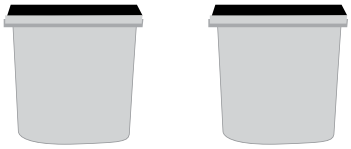
4. Shell



Self-tapping screws

Set of materials for insulation of a welded joint for the underground laying of pipes in a galvanized shell with the use of shells 3

1. Set of heat shrinking coupling for the pipe

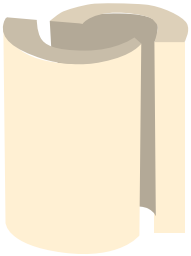


1.1 Two part epoxy

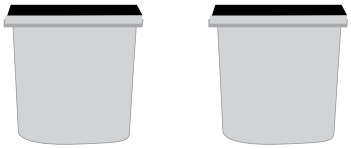
1.2 Heat shrinkable tape

1.3. Locking plate

2. PU foam shells



3. Set of heat shrinking coupling for shell

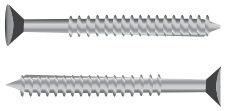


3.1 Two part epoxy

3.2 Heat shrinkable tape

3.3. Locking plate

4. Shell



Self-tapping screws

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