Торговый дом
Сибирский
Промышленный
Холдинг

2017

PRODUCT
CATALOG

TABLE OF CONTENTS

ABOUT COMPANY

Siberian Industrial Group JSC is an industrial holding of the metallurgical and machine building complex of Russia, which includes two production divisions: pipe and machine building.

Pipe production division consist of such companies as: TVEL-Tobolsk plant, Izhevsk Isolation Plant and others. Machine building consist of such companies as: PromInTech Plant and etc.

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

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

Торговый дом
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Промышленный
Холдинг

The trading house Siberian Industrial Holding is authorized and exclusive agent that carries out the whole range of sales operations in Russia and abroad.

The trading house is a team of professionals which specialized in organization of supply of pipe products and shaped objects of various grades and purposes, including procurements of pipe production in thermal insulation and anticorrosive coverings, execution of contract works for application corrosion-resistant insulation of various constructions on pipes and shaped objects, the manufacture and supply of various types of metal structures (piles, supports, abuts, pipeline's nodes, shut-off and control valves).

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 Plant 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 OC Rosneft PJSC;
- the technical conditions of the enterprise were agreed and recommended for use in the construction and repair of the pipelines of Transneft PJSC;
- the company Tobolsk-Neftekhim LLC (part of Sibur Holding PJSC) 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 Gazprom PJSC.

Technological lines for pipe insulation include lines for:

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

PIPE PRODUCTION DIVISION
IZHEVSK ISOLATION PLANT

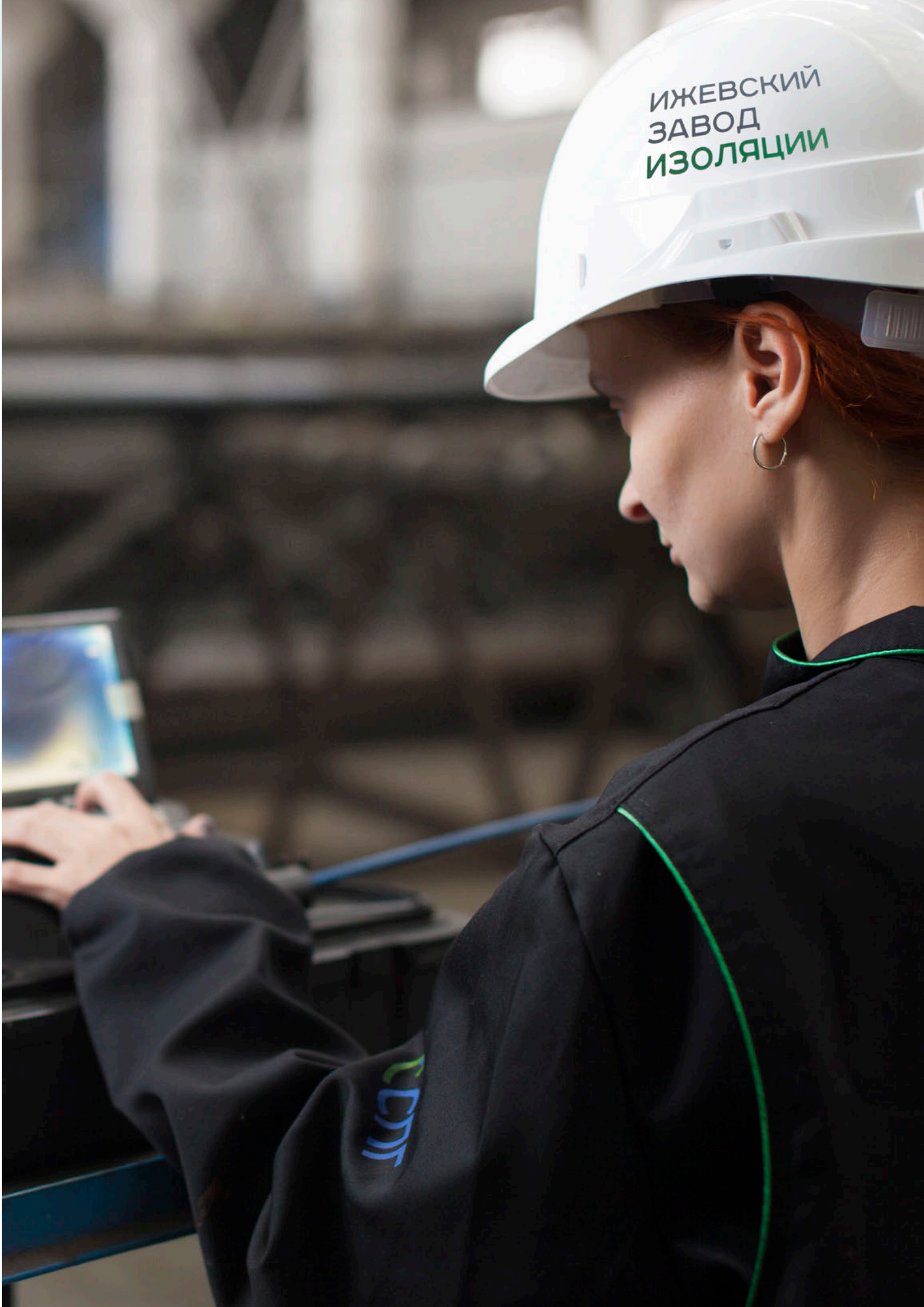
ИЖЕВСКИЙ ЗАВОД ИЗОЛЯЦИИ

Izhevsk Isolation Plant is an enterprise specializing in the production of pipes with an 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 DOCUMENTS
OF TWEL PLANT

Северсталь

ЗАО «ИЖОРСКИЙ ТРУБНЫЙ ЗАВОД»

«УТВЕРЖДАЮ»

Директор по качеству
ЗАО «Ижорский трубный завод»
А.А. Величко
«05» мая 2015 г.

ЗАКЛЮЧЕНИЕ

на двухслойное полиэтиленовое покрытие, полученное на линии изоляции ЗАО «ТВЭЛ-Тобольск» в конструкции "Тризолен 190 / ПЭВД 153-10К".

В соответствии с дополнительным соглашением № 1 к договору № ДИТЗ-12-0227 от 13 ноября 2013 г. в лаборатории антикоррозионных покрытий ЗАО «Ижорский трубный завод были проведены испытания двухслойного полиэтиленового покрытия, полученного на линии изоляции ЗАО «ТВЭЛ-Тобольск» с использованием полиэтилена ПЭВД 153-10К производства ОАО «КазаньОргСинтез» и адгезива Тризолен 190 производства GMBH "Tibrizol".

Для испытаний были предоставлены образцы двухслойного полиэтиленового покрытия, нанесенного на поверхность стальной трубы на линии изоляции ЗАО «ТВЭЛ-Тобольск», акт отбора образцов № 31 от 24.02.2015 г.

Испытания проводились по методикам Заказчика, изложенным в ТУ 1390-008-74747996-2012.

Результаты испытаний полиэтиленового покрытия приведены в таблице.

Северсталь

ЗАО «ИЖОРСКИЙ ТРУБНЫЙ ЗАВОД»

«УТВЕРЖДАЮ»

Директор по качеству
ЗАО «Ижорский трубный завод»
А.А. Величко
«05» мая 2015 г.

ЗАКЛЮЧЕНИЕ

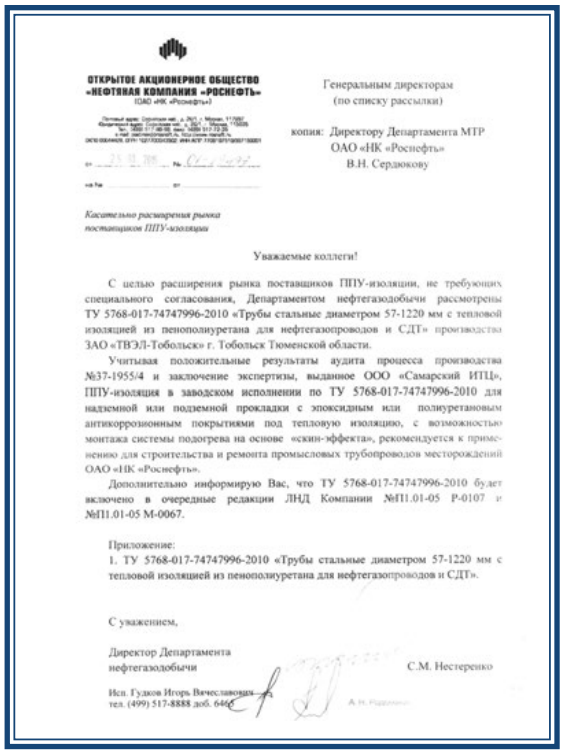
на трехслойное полиэтиленовое покрытие, полученное на линии изоляции ЗАО «ТВЭЛ-Тобольск» в конструкции "Scotchkote 226 N8G / Borcoat ME 0420 / Borcoat HE 3450".

В соответствии с дополнительным соглашением № 1 к договору № ДИТЗ-12-0227 от 13 ноября 2013 г. в лаборатории антикоррозионных покрытий ЗАО «Ижорский трубный завод были проведены испытания трехслойного полиэтиленового покрытия, полученного на линии изоляции ЗАО «ТВЭЛ-Тобольск» с использованием полиэтилена Borcoat HE 3450, адгезива Borcoat ME 0420 производства «Borealis» и порошковой грунтовки Scotchkote 226 N8G производства «3М».

Для испытаний были предоставлены образцы трехслойного полиэтиленового покрытия, нанесенного на стальную трубу на линии изоляции ЗАО «ТВЭЛ-Тобольск», акт отбора образцов № 30 от 24.02.2015 г.

Испытания проводились по методикам Заказчика, изложенным в ТУ 1390-008-74747996-2012.

Результаты испытаний полиэтиленового покрытия приведены в таблице.



ОТКРЫТОЕ АКЦИОНЕРНОЕ ОБЩЕСТВО
«НЕФТЯНАЯ КОМПАНИЯ «РОСНЕФТЬ»
(ОАО «НК «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

Исп. Гудков Игорь Вячеславович
тел. (499) 517-8888 доб. 6466

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС RU.АВ86.Н10545

Срок действия с 19.09.2014 по 18.09.2017

№ 1658696

ОРГАН ПО СЕРТИФИКАЦИИ рег. № РОСС RU.0001.11АВ86 ПРОДУКЦИИ ООО "ИНТЕРСЕРТ". 117279, г. Москва, ул. Профсоюзная, д. 93А, оф. 423. Телефон (495) 335-42-88, факс (495) 335-42-88, адрес электронной почты intersert@bk.ru.

ПРОДУКЦИЯ Трубы стальные с наружным покрытием на основе экструдированного полиэтилена для строительства магистральных нефтепроводов.
ТУ 1390-008-74747996-2012.
Серийный выпуск.

код ОК 005 (ОКП): 13 9000

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ
ТУ 1390-008-74747996-2012, ГОСТ Р 51164-98

код ТН ВЭД России:

ИЗГОТОВИТЕЛЬ ЗАО "ТВЭЛ-Тобольск".
Адрес: 626158, Россия, Тюменская область, город Тобольск. 9-й микрорайон, дом 28А, офис 30.

СЕРТИФИКАТ ВЫДАН ЗАО "ТВЭЛ-Тобольск".
Адрес: 626158, Россия, Тюменская область, город Тобольск. 9-й микрорайон, дом 28А, офис 30.
Телефон 8 (3456) 25 59 59.

НА ОСНОВАНИИ Протокол испытаний № 68Л107/6-14 от 18.09.2014 г., Испытательная лаборатория "ИЛ ЭП ЭМС", рег. № РОСС RU.0001.21МД31 от 16.03.2011 г., адрес: 141400, Московская обл., г. Химки, ул. Ленинградская, 29

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Схема сертификации: 3.

Руководитель органа (заместитель руководителя) А.А. Дмитриева
Эксперт О.В. Кузьмичева

Сертификат не применяется при обязательной сертификации

CERTIFICATES AND DOCUMENTS
OF TWEL PLANT

НЕКОММЕРЧЕСКОЕ ПАРТНЕРСТВО
«САМОРЕГУЛИРУЕМАЯ ОРГАНИЗАЦИЯ
СПЕЦИАЛИСТОВ ПОЖАРНОЙ БЕЗОПАСНОСТИ «ПОЖСОЮЗ»

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ ССБК RU.ПБ10.В00045

Заявитель: Акционерное Общество "ТВЭЛ-Тобольск", ОГРН 1047200156904, 626158, Тюменская область, г. Тобольск, 9 микрорайон, дом 28 А, офис 30.

Изготовитель: Акционерное Общество "ТВЭЛ-Тобольск", ОГРН 1047200156904, 626158, Тюменская область, г. Тобольск, 9 микрорайон, дом 28 А, офис 30.

Орган по сертификации: ССБК RU.ПБ10, Орган по сертификации "ЛСМ-пожсерт"

подтверждает, что продукция

соответствует требованиям ГОСТ Р 53327-2009, «Теплоизоляционные конструкции промышленных трубопроводов. Метод испытаний на

Руководитель (заместитель руководителя) органа по сертификации М.В. Налетов

Эксперт (эксперты) Б.П. Жилов

ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ «САМАРСКИЙ ИНЖЕНЕРНО-ТЕХНИЧЕСКИЙ ЦЕНТР»
(ООО «Самарский ИТЦ»)

УТВЕРЖДАЮ
Управляющий
ООО «Самарский ИТЦ»
А. Ю. Нильский
2015 г.

ЗАКЛЮЧЕНИЕ
по договору № 1-01-89/14
дополнительное соглашение №1

Оказание услуг по экспертизе Нормативно-технической документации (НТД) на соответствие требованиям Компании ОАО «НК «Роснефть»

Экспертиза ТУ

ТУ 5768-017-74747996-2010

«Трубы стальные диаметром 57-1220 мм с тепловой изоляцией из пенополиуретана для нефтегазопроводов»

Заказчик
ЗАО «ТВЭЛ-Тобольск»

Самара 2015

Система добровольной сертификации
«Единый Стандарт»

Орган по сертификации:
Общество с ограниченной ответственностью «Управление Качеством по Международным Стандартам»,
ООО "УКМС", Россия, г. Москва, ул. Беговая, д. 7/9, тел.:+7 (495) 646-11-17
№ РОСС RU.3609.04ЧЖ00 / ЕС.С.О.02-12

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 ЗАО "ТВЭЛ-Тобольск" (ИНН 7206029214), г. Тобольск, разрешает использовать знак соответствия системы менеджмента качества на период действия сертификата № РОСС RU.3609.04ЧЖ00 / ЕС.С.О.02.01.001286-14 от 27.01.2014 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, поверки или испытаний, или использовать его иным способом, который может быть истолкован 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 "УКМС" Фирсова Н. А.

Дата 27.01.2014 г.

Система добровольной сертификации
«Единый Стандарт»

№ РОСС RU.3609.04ЧЖ00 / ЕС.С.О.02.01.001286-14

СЕРТИФИКАТ СООТВЕТСТВИЯ

выдан Закрытому 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 ISO 9001-2011 (ISO 9001:2008)

Сертификат выдан на основании решения экспертной комиссии
№ ЕС.С.О.02.01.001286-14 от 27.01.2014

Дата регистрации 27.01.2014 Срок действия до 27.01.2017

Руководитель органа Фирсова Н. А. Председатель комиссии Афлемов Д. А.

CERTIFICATES AND DOCUMENTS
OF IZHEVSK ISOLATION PLANT

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

УТВЕРЖДАЮ
Генеральный директор
ООО «РегионИнвест»
О.М.Симонов
2015 г.

ЗАКЛЮЧЕНИЕ ПО РЕЗУЛЬТАТАМ ПЕРИОДИЧЕСКИХ ИСПЫТАНИЙ

N 26/1 от 25 мая 2015 г.

На основании результатов периодических испытаний при температуре плюс 80°С однослойного покрытия внутренней поверхности нефтепроводных труб на основе эпоксидной эмали « Mascoflank 11» производства ООО «Индустриальные покрытия» (г. С-Петербург), сформированного на технологической линии ООО «Ижевский завод изоляции» (Удмуртская Республика, г.Ижевск, ул. Воткинское шоссе, 170), можно сделать следующие выводы:

1. Покрытие по результатам периодических испытаний при температуре до плюс 80°С отвечает требованиям к внутреннему покрытию нефтепроводных труб, приведенным в Приложении к заключению N 26/1 от 25 мая 2015 г.

2. Покрытие может применяться для противокоррозионной защиты внутренней поверхности труб, используемых для строительства нефтепромысловых трубопроводов наземных, надземных, подводных и подземных при температуре эксплуатации до плюс 80°С следующего назначения: нефтесборные коллекторы, напорные нефтепроводы, водоводы высокого и низкого давления, газопроводы высокого и низкого давления, конденсатопроводы.

Срок действия заключения с 26 мая 2015 г. по 25 мая 2018 г.

Заключение выдано:

Заместитель Генерального директора ООО «РегионИнвест» Каштанов Е.И.

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

КОПИЯ ВЕРНА

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

УТВЕРЖДАЮ
Генеральный директор
ООО «РегионИнвест»
О.М.Симонов
2015 г.

ЗАКЛЮЧЕНИЕ ПО РЕЗУЛЬТАТАМ ПЕРИОДИЧЕСКИХ ИСПЫТАНИЙ

N 40/1 от 28 декабря 2015 г.

На основании результатов периодических испытаний при температуре плюс 60°С двухслойного полиэтиленового покрытия усиленного типа наружной поверхности нефтепроводных труб с адгезивом «Этилитен» производства ООО «Новые полимерные технологии» - г.Унеча, Брянская обл. и основным слоем из полиэтилена 15313-003 производства ПАО «Казаньоргсинтез» - г. Казань, Республика Татарстан, сформированного на технологической линии ООО «Ижевский завод изоляции» (Удмуртская Республика, г.Ижевск, ул. Воткинское шоссе, 170), можно сделать следующие выводы:

1. Покрытие по результатам периодических испытаний при температуре до плюс 60°С отвечает требованиям к наружному двухслойному покрытию нефтепроводных труб, приведенным в ТУ 1396-002-30098597-2014».

2. Покрытие может применяться для противокоррозионной защиты наружной поверхности соединительных деталей, предназначенных для строительства наземных, надземных, подводных и подземных нефтепромысловых трубопроводов следующего назначения при температуре эксплуатации до плюс 60°С: нефтесборные коллекторы, напорные нефтепроводы, водоводы высокого и низкого давления, газопроводы высокого и низкого давления, конденсатопроводы.

Срок действия заключения с 28 декабря 2015 г. по 27 декабря 2018 г.

Заключение выдано:

Заместитель Генерального директора ООО «РегионИнвест» Каштанов Е.И.

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

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

УТВЕРЖДАЮ
Генеральный директор
ООО «РегионИнвест»
О.М.Симонов
2016 г.

ЗАКЛЮЧЕНИЕ ПО РЕЗУЛЬТАТАМ ПЕРИОДИЧЕСКИХ ИСПЫТАНИЙ

N 20/1 от 04 мая 2016 г.

На основании результатов периодических испытаний 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), можно сделать следующие выводы:

Покрытие по результатам периодических испытаний при температуре плюс 80°С отвечает требованиям к наружному трехслойному покрытию усиленного типа нефтепроводных труб, приведенным в ТУ 1396-002-30098597-2014».

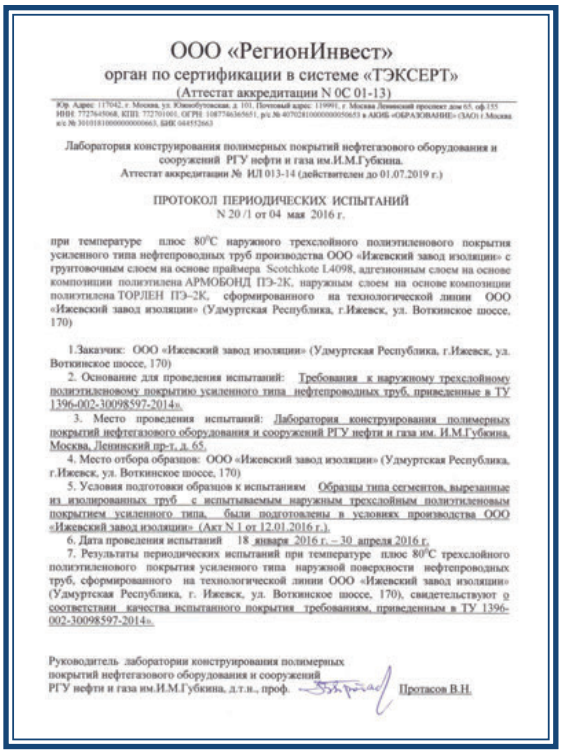
Срок действия заключения с 04 мая 2016 г. по 03 мая 2019 г.

Приложение: Протокол испытаний № 20/1 от 04.05.2016 г.

Заключение выдано:

Заместитель Генерального директора ООО «РегионИнвест» Каштанов Е.И.

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



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

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.

CERTIFICATES AND DOCUMENTS
OF IZHEVSK ISOLATION PLANT

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

№ 08209

СЕРТИФИКАТ СООТВЕТСТВИЯ

Выпуск 2. СМК сертифицирована с октября 2013

Выдан Обществу с ограниченной ответственностью
«Ижевский завод изоляции»
426039, Удмуртская республика, г. Ижевск, ул. Воткинское шоссе, д.13

НАСТОЯЩИЙ СЕРТИФИКАТ УДОСТОВЕРЯЕТ:
система менеджмента качества применительно к нанесению защитного покрытия на внутреннюю и внешнюю поверхность металлических труб

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ
ГОСТ ISO 9001-2011 (ISO 9001:2008)

Разъяснения, касающиеся области сертификации СМК, могут быть получены путем консультаций с ООО «Ижевский завод изоляции»

Регистрационный номер РОСС RU.ФК42.К00087

Дата регистрации 18.10. 2016 Срок действия до 15.09. 2018

Зам. руководителя органа по сертификации интегрированных систем менеджмента Г.Н. Дурнева

Председатель комиссии В.Н. Антонова

Приложение
является неотъемлемой частью
сертификата № РОСС RU.ФК42.К00087

Область сертификации

системы менеджмента качества
ООО «Ижевский завод изоляции»

1. Услуги: нанесение защитного покрытия

2. Процессы жизненного цикла продукции в соответствии с ГОСТ ISO 9001-2011 (ISO 9001:2008):
7.1 Планирование процессов жизненного цикла продукции
7.2 Процессы, связанные с потребителем
7.3 Проектирование и разработка – *не применяется*
7.4 Закупки
7.5 Производство и обслуживание *за исключением валидации процессов производства и обслуживания (7.5.2)*
7.6 Управление оборудованием для мониторинга и измерений

Зам. руководителя органа по сертификации интегрированных систем менеджмента Г.Н. Дурнева

Председатель комиссии В.Н. Антонова

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

УТВЕРЖДАЮ
Генеральный директор
ООО «РегионИнвест»
О.М.Симонов
2015 г.

ЗАКЛЮЧЕНИЕ ПО РЕЗУЛЬТАТАМ ПЕРИОДИЧЕСКИХ ИСПЫТАНИЙ

N 41/1 от 28 декабря 2015 г.

На основании результатов периодических испытаний при температуре плюс 60°С трехслойного полиэтиленового покрытия усиленного типа наружной поверхности нефтепроводных труб с праймером «Scotchkote 1. 4098 производства «3М Россия»-г. Москва, адгезивом «Этилгипи» производства ООО «Новые полимерные технологии» - г.Умача, Брянская обл. и основным слоем из полиэтилена 15313-003 производства ПАО «Казаньоргсинтез» - г. Казань, Республика Татарстан, сформированного на технологической линии ООО «Ижевский завод изоляции» (Удмуртская Республика, г.Ижевск, ул. Воткинское шоссе, 170), можно сделать следующие выводы:

1. Покрытия по результатам периодических испытаний при температуре до плюс 60°С отвечает требованиям к наружному трехслойному покрытию нефтепроводных труб, приведенным в ТУ 1396-002-30098597-2014г.

2. Покрытие может применяться для противокоррозионной защиты наружной поверхности нефтепроводных труб, предназначенных для строительства наземных, надземных, подводных и подземных нефтепромысловых трубопроводов следующего назначения при температуре эксплуатации до плюс 60°С: нефтесборные коллекторы, напорные нефтепроводы, водоводы высокого и низкого давления, газопроводы высокого и низкого давления, конденсатопроводы.

Срок действия заключения с 28 декабря 2015 г. по 27 декабря 2018 г.

Заключение выдано:

Заместитель Генерального директора ООО «РегионИнвест» Каштанов Е.И.

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

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС RU.АГ79.Н08545

Срок действия с 18.05.2015 по 17.05.2018

№ 1417995

ОРГАН ПО СЕРТИФИКАЦИИ рег. № РОСС RU.0001.11АГ79 Орган по сертификации продукции ООО "Ремсервис". 117630, Россия, город Москва, ул. Академика Челомея, дом 3, корп. 1. Телефон 4955048938, факс 4955048938.

ПРОДУКЦИЯ Стальные трубы диаметром 57-530 мм с наружным двухслойным и трехслойным покрытием, диаметром 60-820 мм с внутренним покрытием на основе жидких эпоксидных материалов торговая марка «ИЗИ». ТУ 1396-002-30098597-2014, ТУ 1396-001-30098597-2013. Серийный выпуск.

код ОК 005 (ОКП): 13 9000

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ ТУ 1396-002-30098597-2014, ТУ 1396-001-30098597-2013

код ТН ВЭД России:

ИЗГОТОВИТЕЛЬ ООО «Ижевский завод изоляции» ОГРН 1121840001535. Адрес: 426039, Россия, г. Ижевск, ул. Воткинское шоссе, 170. Телефон +7 (3412) 655-815.

СЕРТИФИКАТ ВЫДАН ООО «Ижевский завод изоляции» ОГРН 1121840001535. Адрес: 426039, Россия, г. Ижевск, ул. Воткинское шоссе, 170. Телефон +7 (3412) 655-815.

НА ОСНОВАНИИ протокола № 5147-252-15/Д от 15.05.2015 года. Испытательной лаборатории Общества с ограниченной ответственностью "Центр стандартизации и подтверждения соответствия", аттестат аккредитации регистрационный № РОСС RU.0001.21АВ68 срок действия с 23.05.2014 по 23.07.2016 года

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Схема сертификации: 3.

Руководитель органа (заместитель руководителя) Т.Ю. Назарова

Эксперт А.Е. Бужацкий

PRODUCT CATALOG

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

SCOPE OF APPLICATION

The following technical documentation covers steel pipes with a diameter of 57 mm - 1220 mm with anticorrosion coating made of extruded two-layer and three-layer polyethylene, which are used for the construction of main oil pipelines and gas pipelines, gas condensate pipelines and process pipelines with the temperature of the transported product up to + 80 °C.

DIAMETER OF PRODUCTS
from 57 mm to 1220 mm

CHARACTERISTICS

The outer polyethylene coating of pipes can be made by one of the types (according to the tables) depending on the design of coatings, purpose, pipeline diameters, permissible temperature conditions of construction and operation.

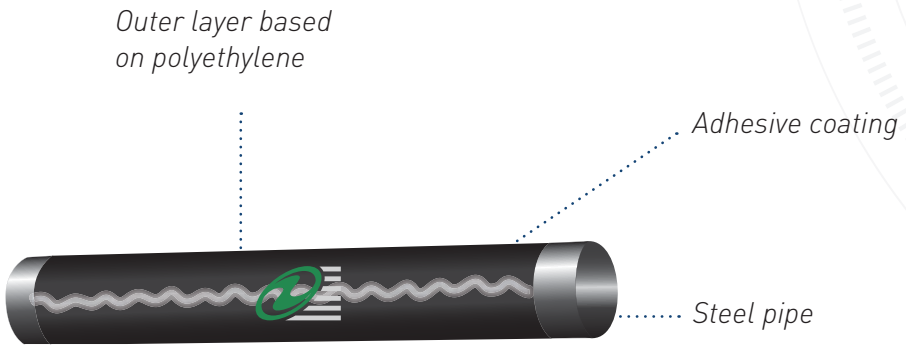
OPERATING CONDITIONS

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 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 and installation works, as well as placement operations - 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);
- during the operation of pipelines - from minus 50 °C to plus 60 °C (from minus 50 °C to plus 80 °C with the use of heat-resistant coating (H-2)).

Pipe with two-layer outer insulation (TS 1390-008-74747996-2012)

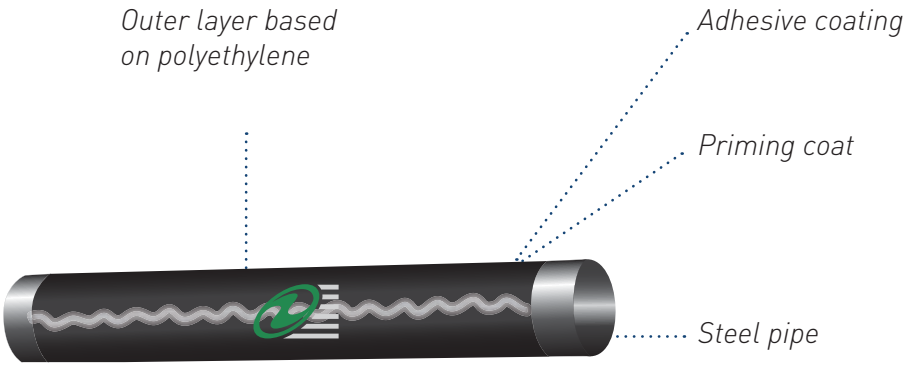


SPECIFICATIONS

Table

Pipe diameter, (mm)	Coating type	Coating thickness, (mm)	Operating temperature, (°C)
108	Standard design Type 1	2,2	Up to +60
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 outer insulation (TS 1390-008-74747996-2012)



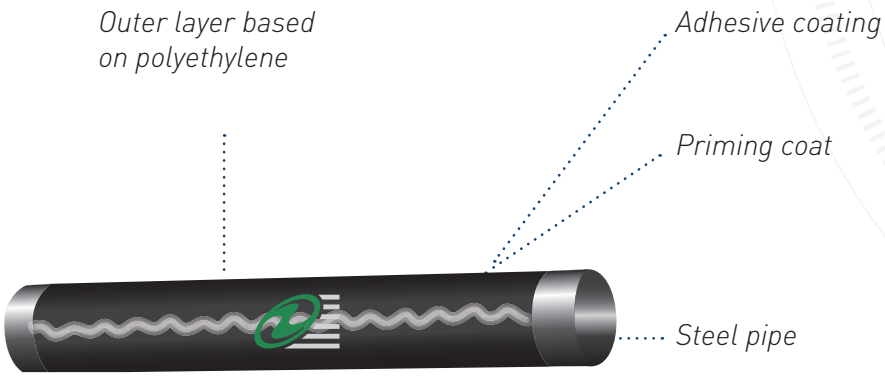
SPECIFICATIONS

Table

Pipe diameter, (mm)	Coating type	Coating thickness, (mm)		Operating temperature, (°C)
		Standard design	Special design	
108	Standard design Type 1, Standard design Type 2 (heat-resistant), Standard design Type 3 (frost-resistant); Special design	2,2	2,5	Up to +60 (Heat-resistant design up to +80)
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 AN EXTERNAL EXTRUDED TWO-LAYER AND THREE-LAYER POLYETHYLENE CORROSIVE-RESISTANT COATING.

Pipe with three-layer outer insulation (TS 1396-002-30098597-2014



SPECIFICATIONS

Table

Pipe diameter, (mm)	Coating type	Coating thickness, (mm)		Coating material	Operating temperature, (°C)
		Standart design	Special design		
57	Reinforced / Highly reinforced	2,0	2,2	Polyethylene	Up to +80
76		2,0	2,2		
89		2,0	2,2		
108		2,0	2,5		
114		2,0	2,5		
133		2,0	2,5		
159		2,0	2,5		
219		2,0	2,5		
273		2,0	3,0		
325		2,2	3,0		
426		2,2	3,0		

/CATALOG/

Steel joint couplings with an external corrosion-resistant thermosetting coating

SCOPE OF APPLICATION

The following technical documentation covers shaped objects with a diameter of 57 mm - 530 mm with anticorrosion coating made of extruded two-layer and three-layer polyethylene, which are used for the construction of main oil pipelines and gas pipelines, gas condensate pipelines and process pipelines with the temperature of the transported product up to + 80 °C.

DIAMETER OF PRODUCTS
from 57 to 530 mm

CHARACTERISTIC

The outer polyethylene coating of pipes can be made by one of the types (according to the tables) depending on the design of coatings, purpose, pipeline diameters, permissible temperature conditions of construction and operation.

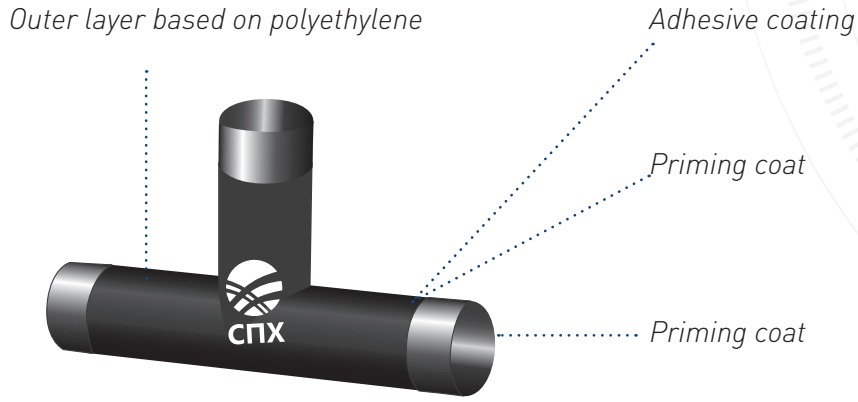
OPERATING CONDITIONS

Two-layer polyethylene coating can only be used as a protective coating for pipes with the diameter up to 530 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 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 and installation works, as well as placement operations - 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);
- during the operation of pipelines - from minus 50 °C to plus 80 °C.

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

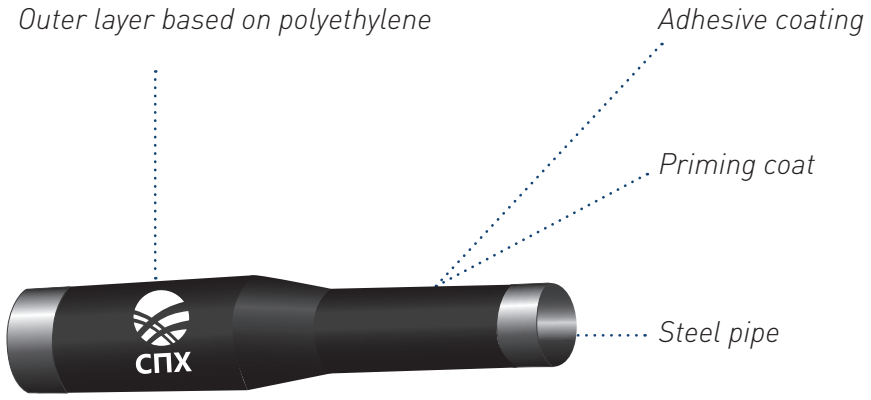


SPECIFICATIONS

Table 1

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 Three-layer coating - up to +80
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)

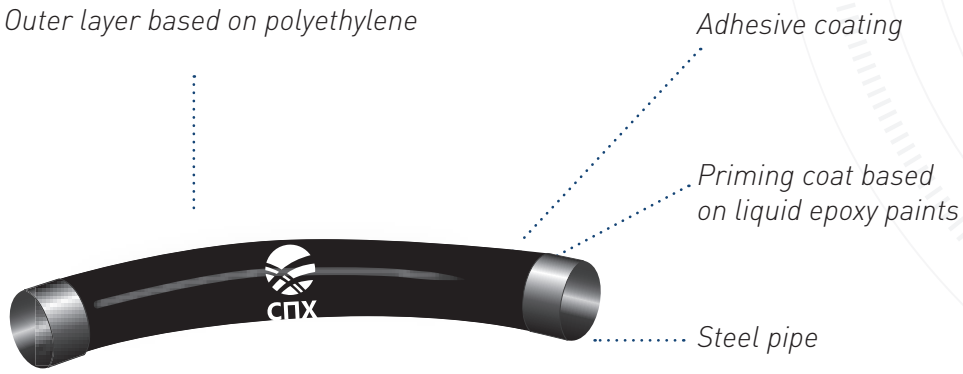


SPECIFICATIONS

Table 2

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 Three-layer coating - up to +80
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

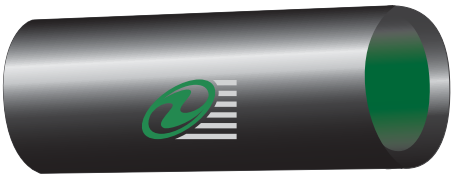
Table 3

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 Three-layer coating - up to +80
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 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 use for the intended purpose for a period of at least 10 years from the date of commissioning.



DIAMETER OF PRODUCTS
from 57 mm to 530 mm

CHARACTERISTICS

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 minus 40 °C to plus 50 °C;

• heating of the external tube area to a temperature not higher than plus 120 °C (during welding) is allowed when applying external film insulation of pipes;

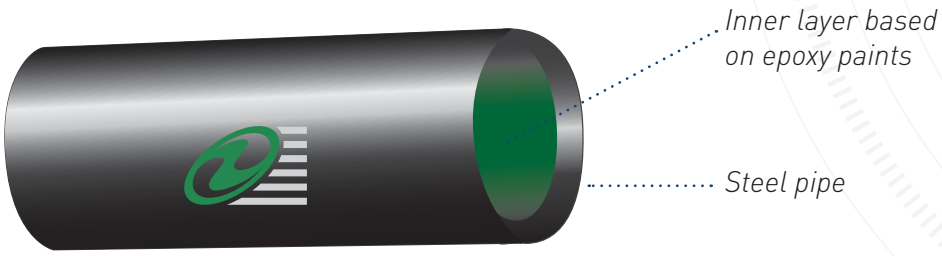
• during storage - from minus 60 °C to plus 60 °C;

with a rapid change of temperature - from minus 40 °C to plus 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 minus 60 °C to plus 80 °C.

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



SPECIFICATIONS

Table 1

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

Steel pipes with polyurethane thermal insulation for above-ground and underground laying (trenched and trenchless laying)

SCOPE OF APPLICATION

The following technical documentation covers steel pipes with polyurethane thermal insulation in a polyethylene jacket or with a steel protective coating intended for underground laying of heating networks (by the trenchless method for pipes in a polyethylene sheath and in passageways and tunnels for pipes with a steel protective sheath) and above-ground laying of heating networks (for pipes with steel protective coating) with the following design parameters of heat transfer agent: working pressure of not more than 1.6 mPa and temperature of not more than 140 °C (an increase in temperature of not more than 150 °C is allowed within the limits of the schedule of quality heat supply control 150 °C ÷ 70 °C). The use of insulated pipes in a polyethylene sheath in crawlways is allowed with the approval of the design organization. It is also possible to use insulated pipes for pipelines transporting other substances (oil, gas, etc.).

DIAMETER OF PRODUCTS
from 57 mm to 1220 mm

CHARACTERISTICS

Pipes in a polyethylene jacket can be of two types: standard type (type 1) and reinforced type (type 2). Polyethylene mantle pipes and casings made of thin sheet galvanized steel with a canted pressure-tight seam (outer and inner) are used as a protective sheath for the thermal insulation of pipes. Application of additional coating (paint, polymer, etc.) on the outer surface of the sheath of galvanized steel is allowed in order to increase its durability. Such coating can be periodically renewed during operation.

In accordance with the requirements of GOST 30732-2006, thermally insulated pipes should be made with conductors-indicators of rapid remote control system (RRC); however, it is possible to make pipes without them in the presence of justifications of design choices or at the customer's request.

The RRC system is designed to monitor the condition of the thermal insulating polyurethane foam (PU foam) layer of pre-insulated pipelines and to detect areas with high humidity of insulation.
The thickness of the thermal insulation layer, as well as the diameter and thickness of the sheath, given in the tables, are reference data and can be defined through calculation depending on the specific design conditions and feasibility study.

Steel pipes with polyurethane thermal insulation for above-ground and underground laying (trenched and trenchless laying)

OPERATING CONDITIONS

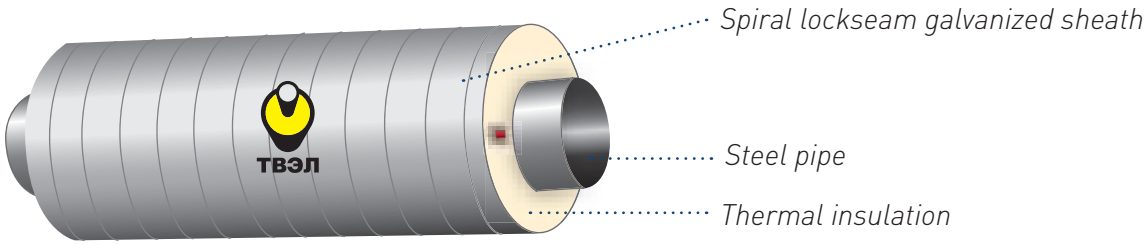
The permissible operating temperature of the thermal insulation coating is determined by the polyurethane foam grade and can range from plus 80 °C to plus 130 °C.

Loading and unloading operations are carried out in 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 a steel protective sheath.

Work at lower temperatures is allowed by agreement with the customer when using special grades of polyethylene sheaths and ensuring the safety of insulated pipes.

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.

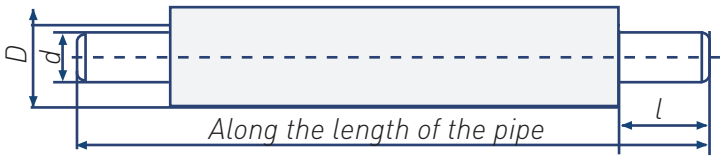
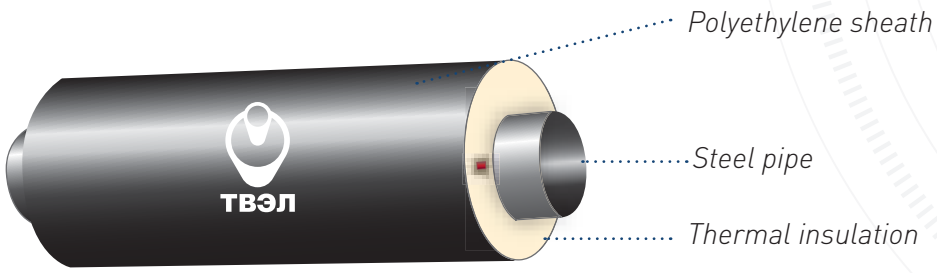


Table 1

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 with 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.

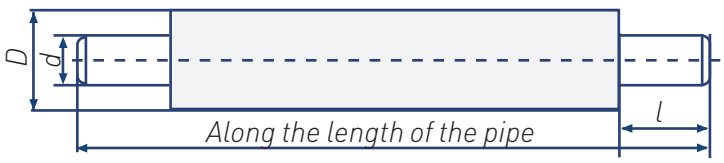
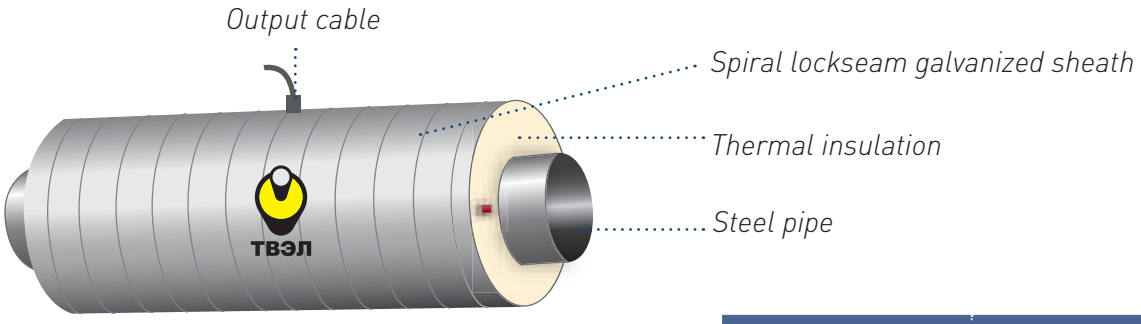


Table 2

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	-

/CATALOG/

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



SPECIFICATIONS

Five-core cable 5 × 1.5 (length of 5 m);
m of insulation - indicated for 1 pc at a set value of L.

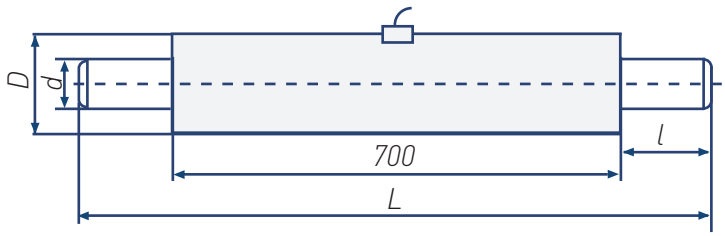
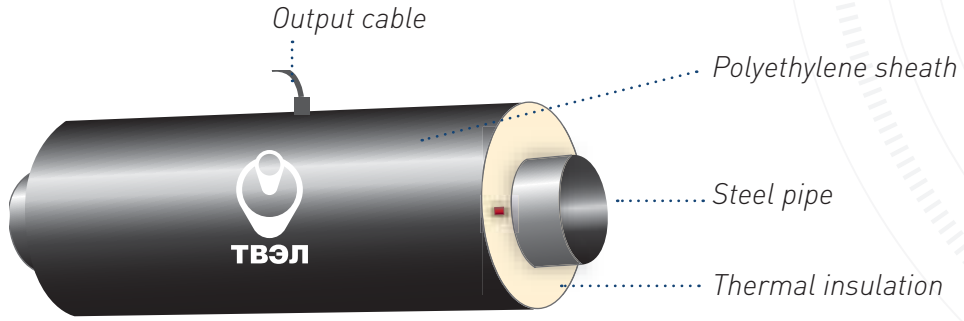


Table 3

d, (mm)	GVL.
	D, (мм)
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 with polyurethane thermal insulation in polyethylene sheath with output cable (GOST 30732-2006)



SPECIFICATIONS

Five-core cable 5 × 1.5 (length of 5 m);

m of insulation - indicated for 1 pc at a set value of L.

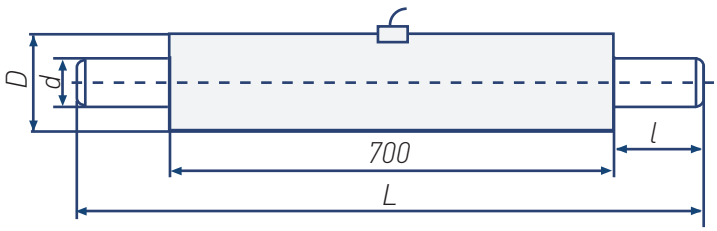
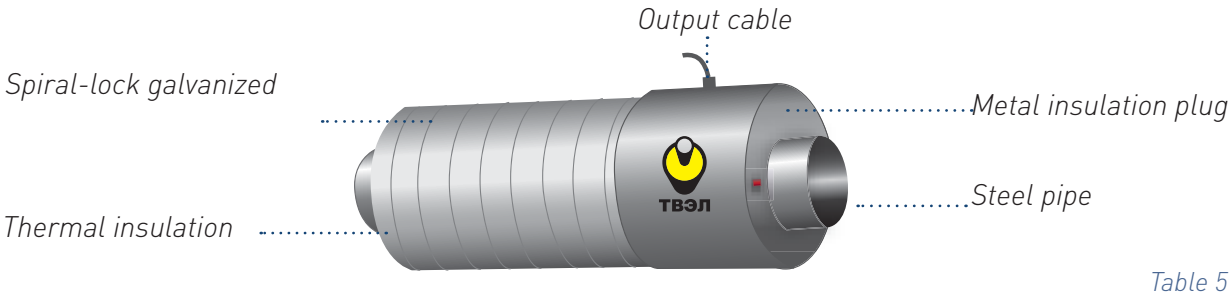


Table 4

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 laying| (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.

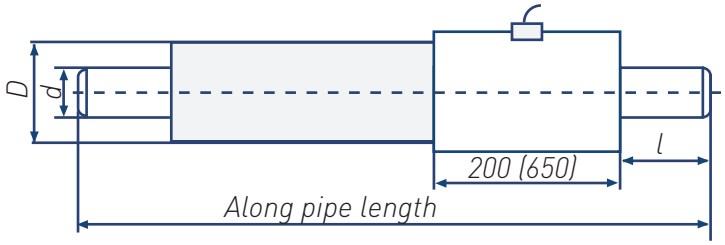
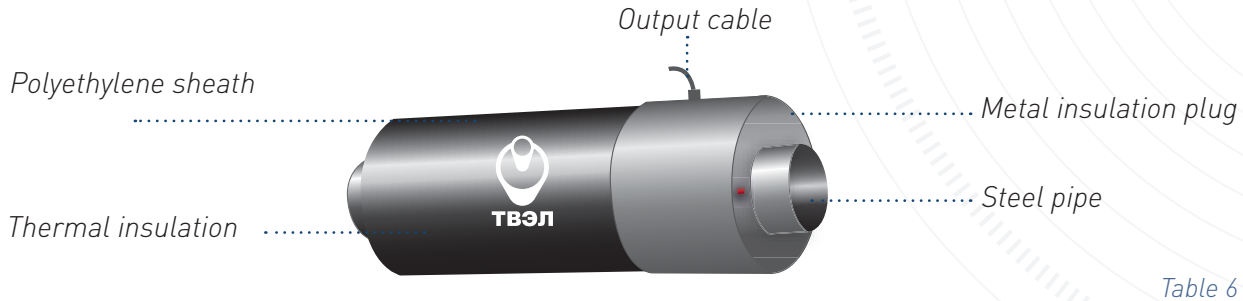


Table 5

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

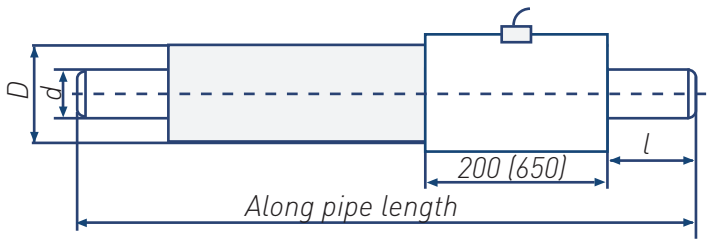
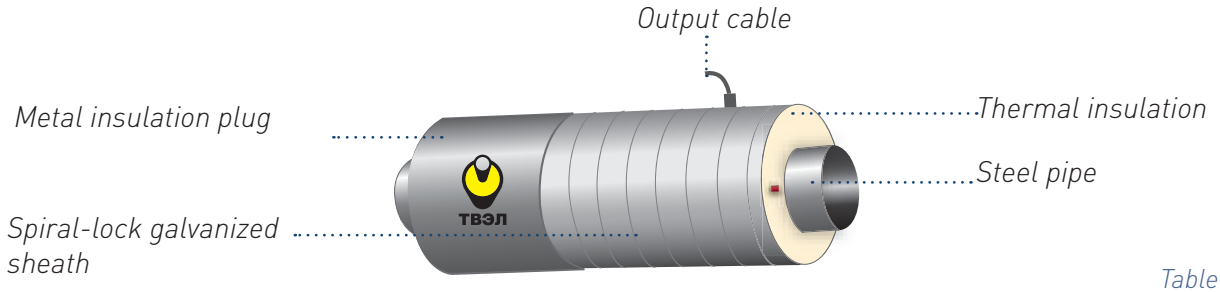


Table 6

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.

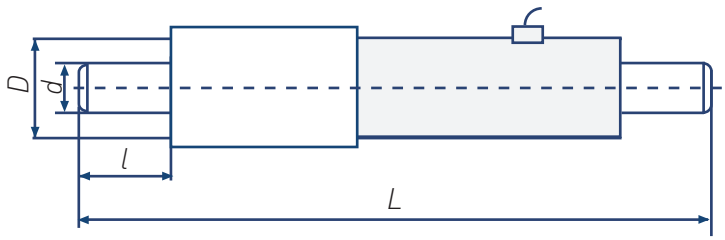
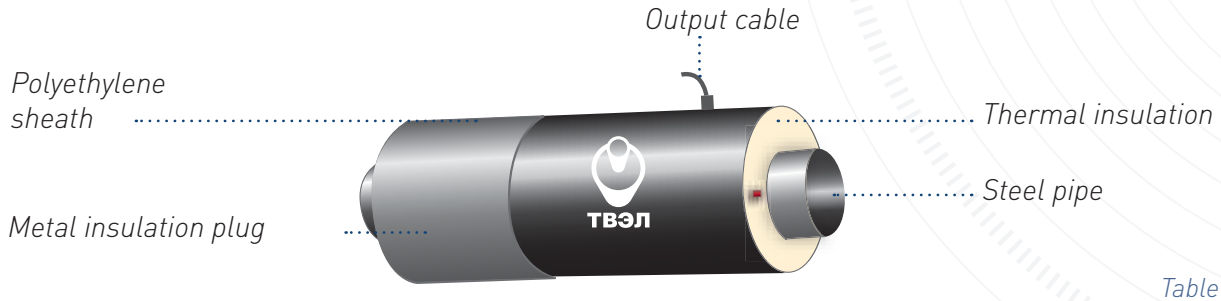


Table 6

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)

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.

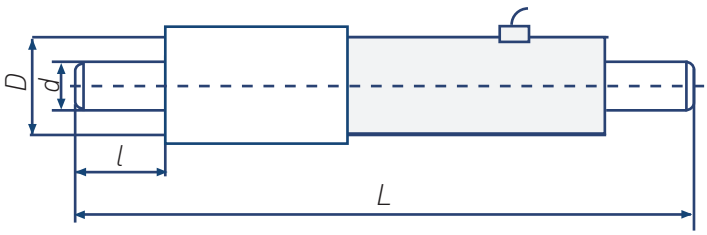
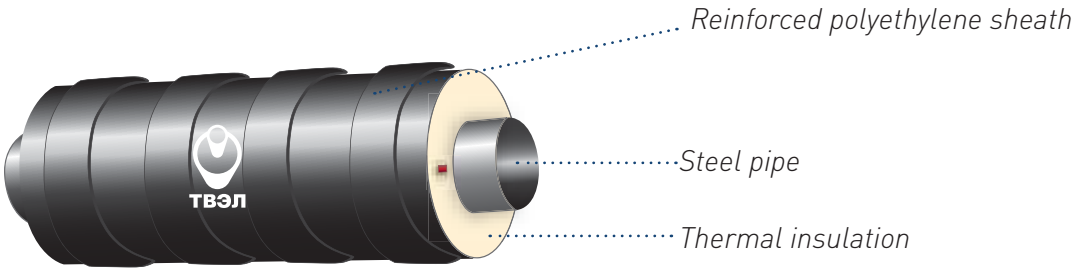


Table 8

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.

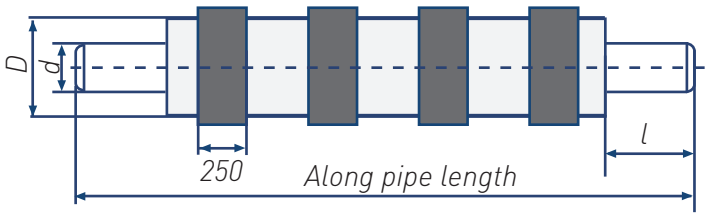


Table 9

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

SCOPE OF APPLICATION

The following technical documents apply to shaped products 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.

PRODUCTS DIAMETER
from 57 to 1220 mm

CHARACTERISTICS

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

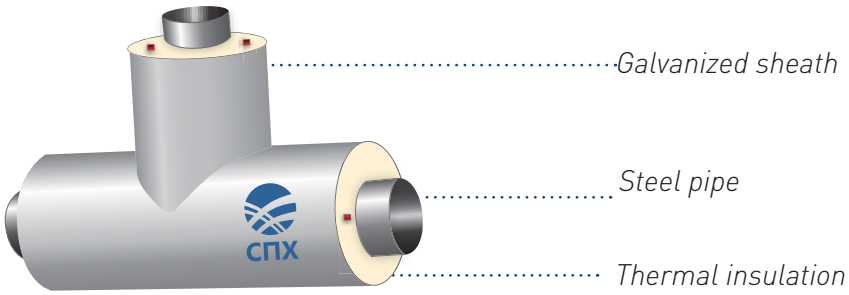
Allowable operating temperature of thermal insulation coating is determined by polyurethane grade used and can range from plus 80 °C to plus 130 °C.

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)



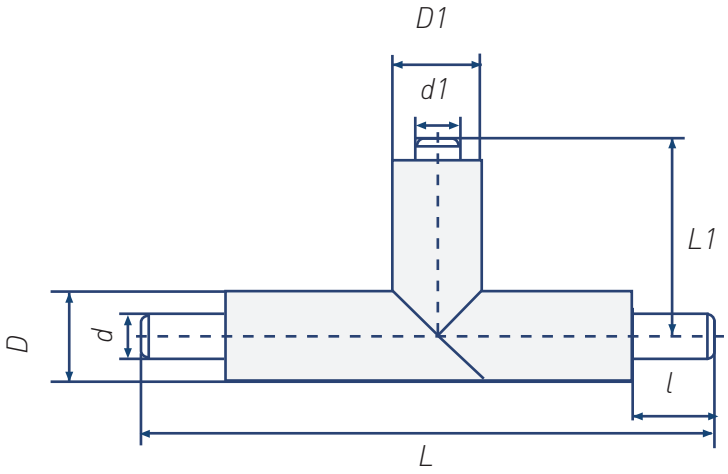
SPECIFICATIONS

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.

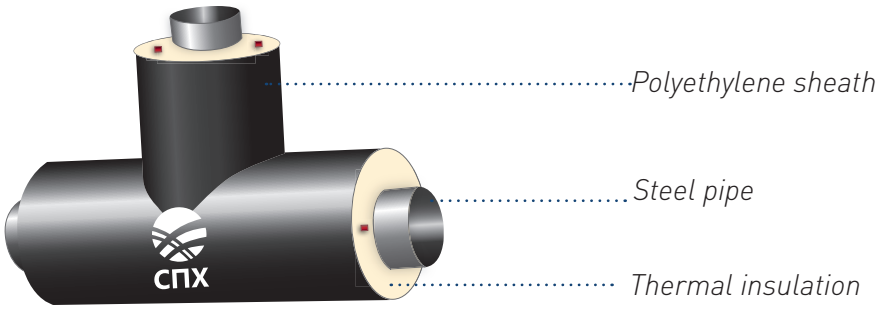


T-connector with polyurethane thermal insulation with protective hydro insulation coating in the form of galvanized sheath for above-ground laying (GOST 30732-2006)

Table 1

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)



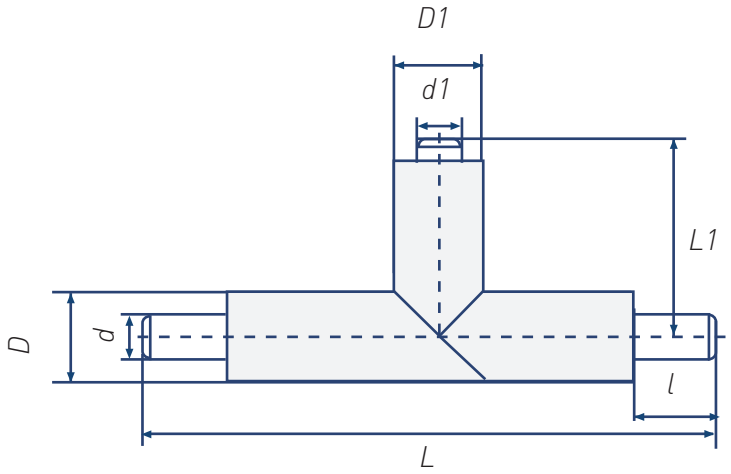
SPECIFICATIONS

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.

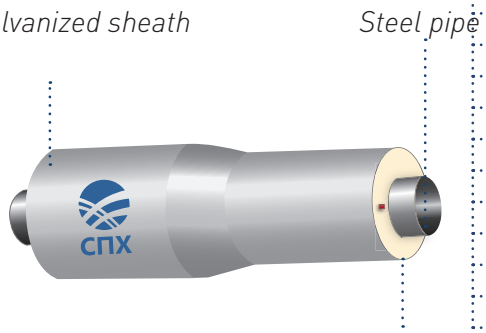


Polyurethane thermal waterproofed T-connector in polyethylene sheath (GOST 30732-2006)

Table 2

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.

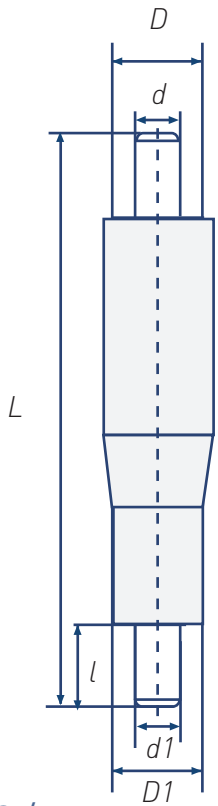
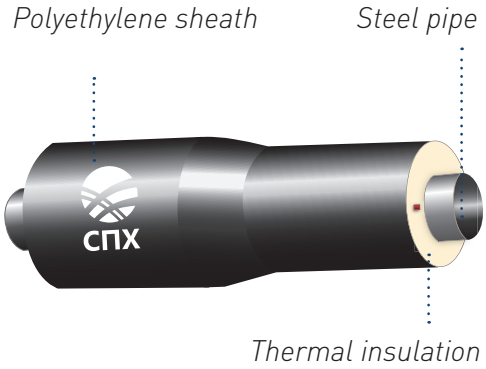


Table 3

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.

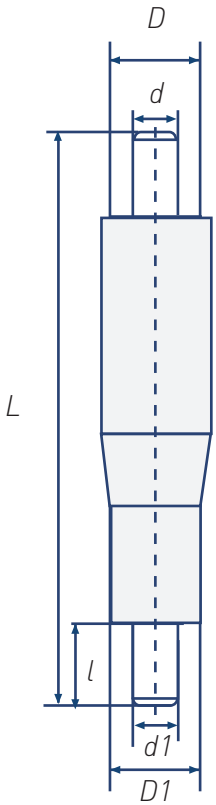
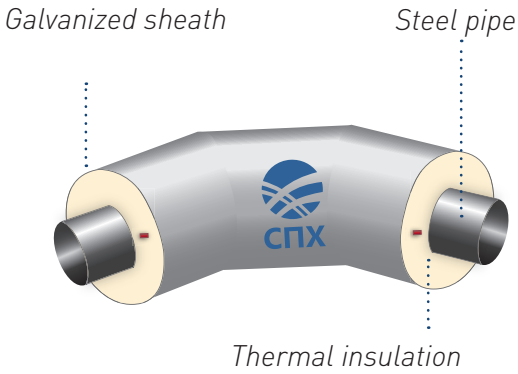


Table 4

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	-	-	-	-	-	-

/CATALOG/

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.

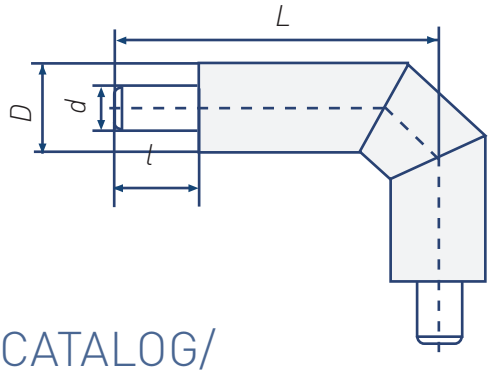
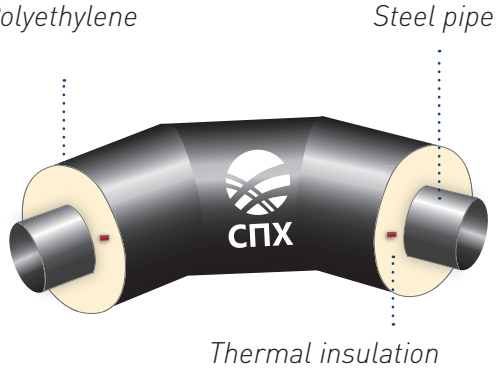


Table 5

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)

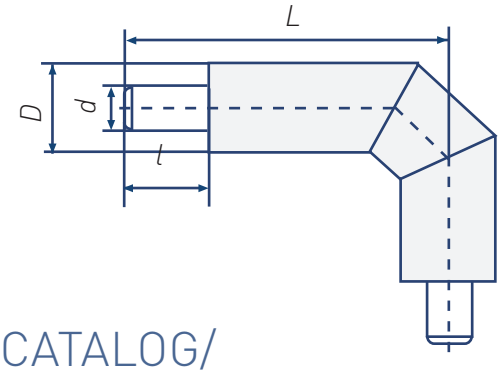


SPECIFICATIONS

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.

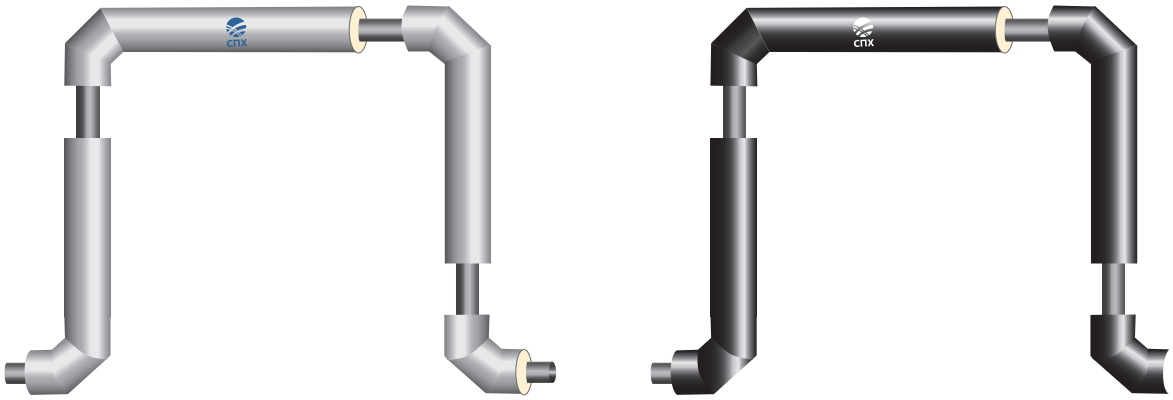


/CATALOG/

Table 6

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	-	-	-

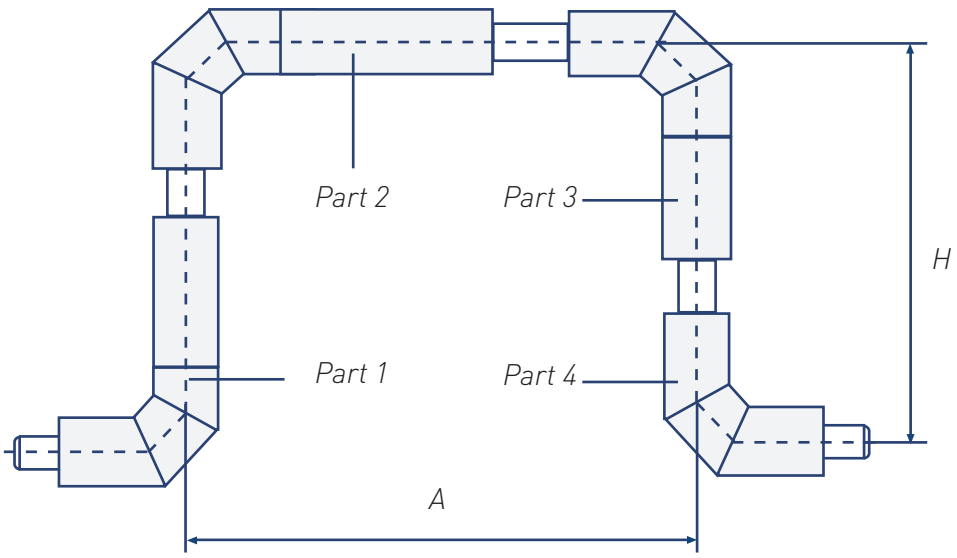
U-shaped polyurethane thermal waterproofed expansion bend (GOST 30732-2006)



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 PIPES AND JOINT COUPLINGS WITH EXTERNAL CORROSION-RESISTANT COATING AND POLYURETHANE HYDRO THERMAL INSULATION FOR OIL AND GAS PIPELINES

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 shaped products with a diameter of 57 mm - 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). By agreement with design organization, it is allowed to use connecting parts in polyethylene sheath in crawlways.

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.

PRODUCTS DIAMETER
from 57 to 1220 mm

CHARACTERISTICS

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:

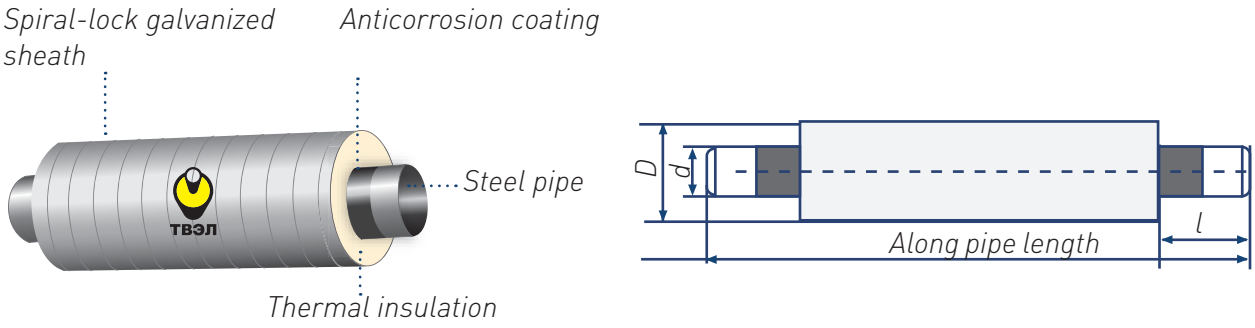
• during insulated pipes storage - within the temperature range from minus 50 °C to plus 60 °C (from minus 60 °C to plus 60 °C - for Extreme North and Eastern Siberia conditions);

• 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 (TS 5768-017-74747996-2010)



CHARACTERISTICS

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 temperature.

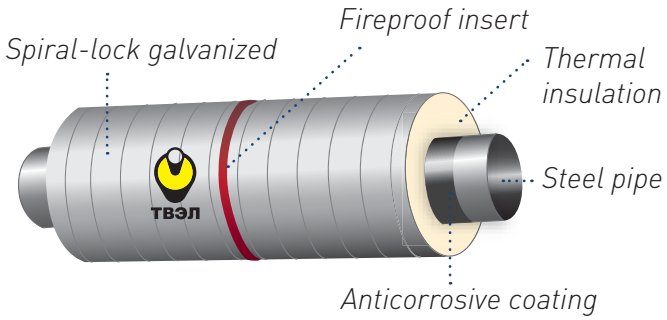
Diameter of mantle pipes made of galvanized steel is determined after calculating the thermal insulation thickness.

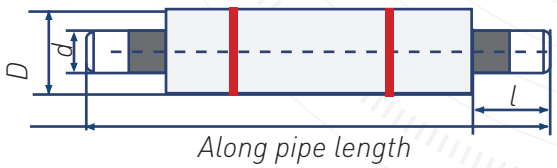
Table 1

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

STEEL PIPES AND JOINT COUPLINGS WITH EXTERNAL CORROSION-RESISTANT COATING AND POLYURETHANE HYDRO THERMAL INSULATION FOR OIL AND GAS PIPELINES

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 (TS 5768-017-74747996-2010)





SPECIFICATIONS

Table 2

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,	
57	(mm)	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.

/CATALOG/

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” (TS 5768-017-74747996-2010)

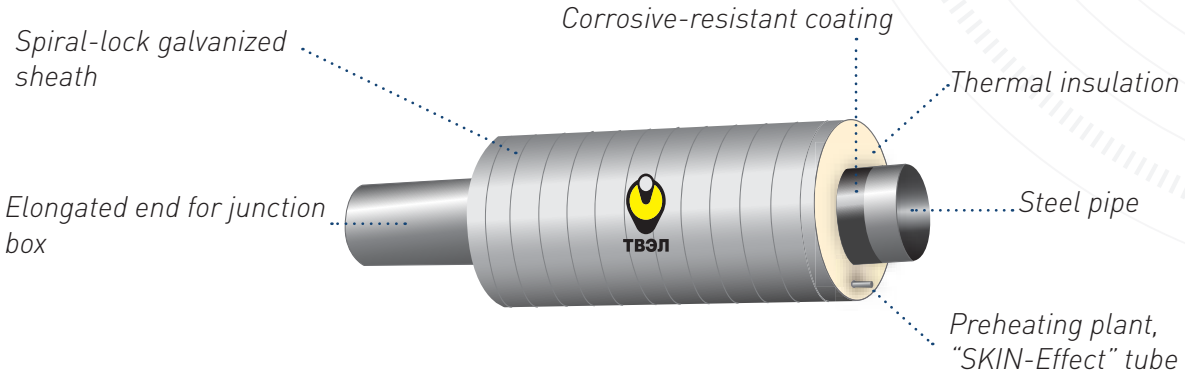
SPECIFICATIONS

Table 3

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,	
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) (TS 5768-017-74747996-2010)

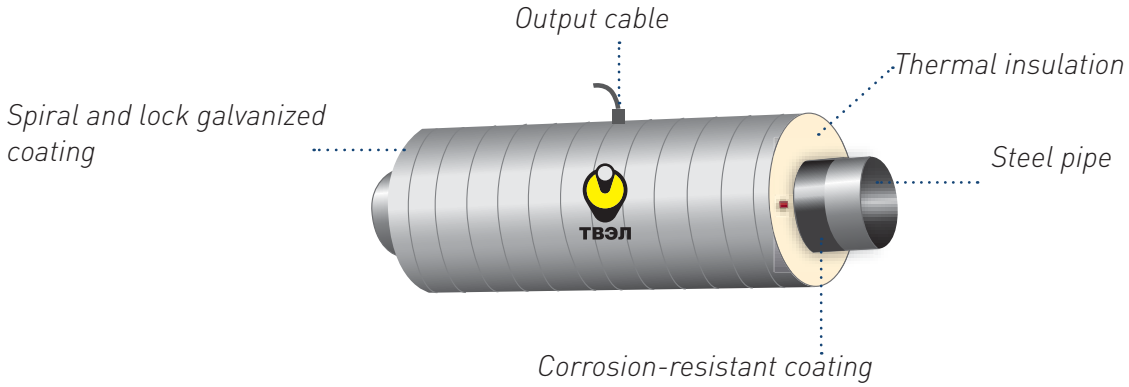


SPECIFICATIONS

Table 4

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 (TS 5768-017-74747996-2010)



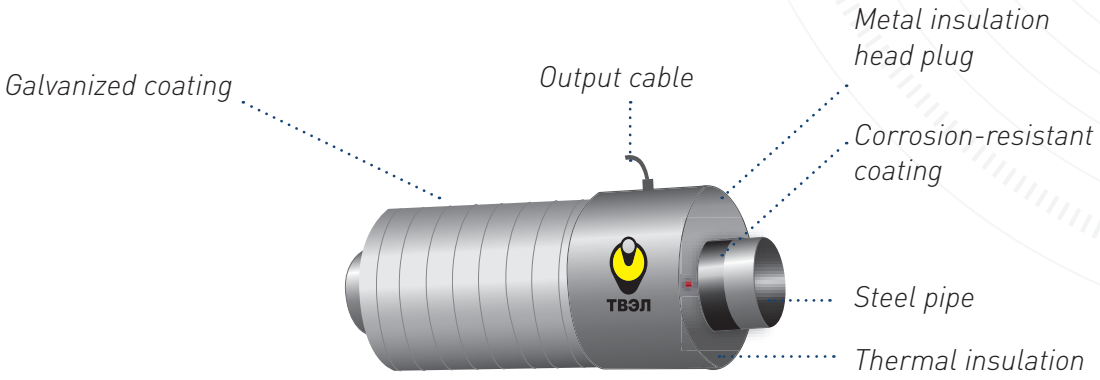
SPECIFICATIONS

Table 5

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,	
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

STEEL PIPES AND JOINT COUPLINGS WITH EXTERNAL CORROSION-RESISTANT COATING AND POLYURETHANE HYDRO THERMAL INSULATION FOR OIL AND GAS PIPELINES

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 (TS 5768-017-74747996-2010)



SPECIFICATIONS

Table 6

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 (TS 5768-017-74747996-2010)

SPECIFICATIONS

Table 7

Outside diameter of steel pipe, (mm)	Dimensions of sheath made of stell or zinc		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

STEEL PIPES AND JOINT COUPLINGS WITH EXTERNAL CORROSION-RESISTANT COATING AND POLYURETHANE HYDRO THERMAL INSULATION FOR OIL AND GAS PIPELINES

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

SPECIFICATIONS

Table 8

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.

/CATALOG/

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

DESIGNATED AREA

Technical documentation given below covers shaped objects with the diameter of 57 mm – 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

CHARACTERISTICS

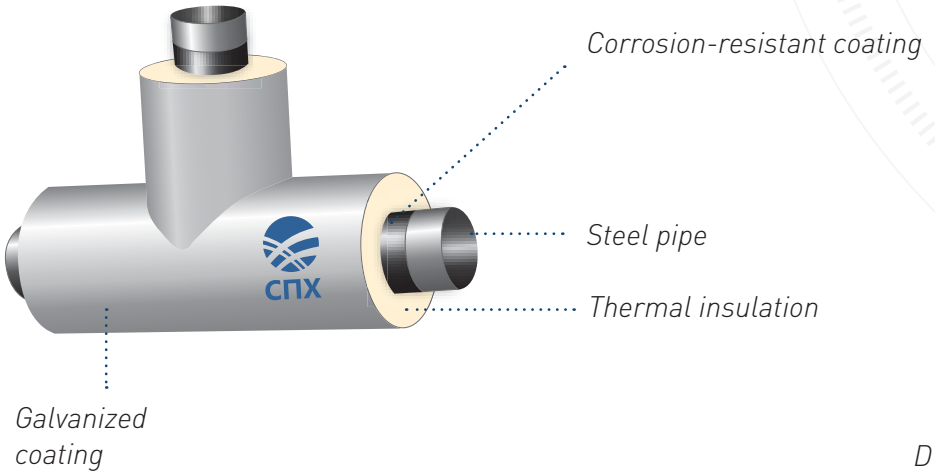
The thermal insulation layer in the protective coating shall be applied on items with the diameter from 57 to 1220 mm with corrosion-resistant coating. In order to prevent the decrease of the temperature of medium transported via the pipeline below the permissible level, at the pipeline operation stops, 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:

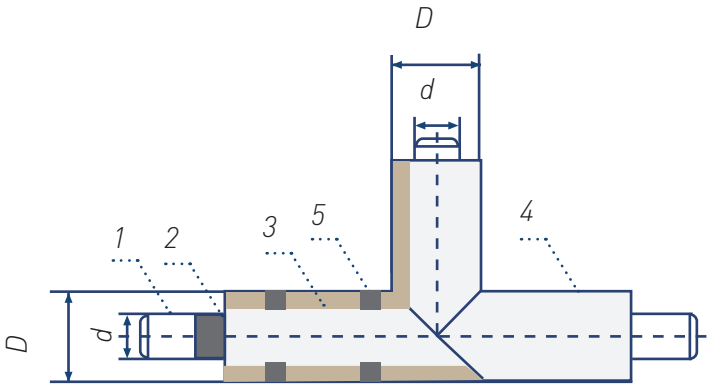
- at the storage of isolated pipes - within the temperature range from -50°C to +60°C (from -60°C to +60°C - for conditions of the Extreme North and Eastern Siberia);
- at the transportation of isolated pipes - within the temperature range from -45°C to +50°C (from -50°C to +50°C - for conditions of 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 (TS 5768-017-74747996-2010)



SPECIFICATIONS

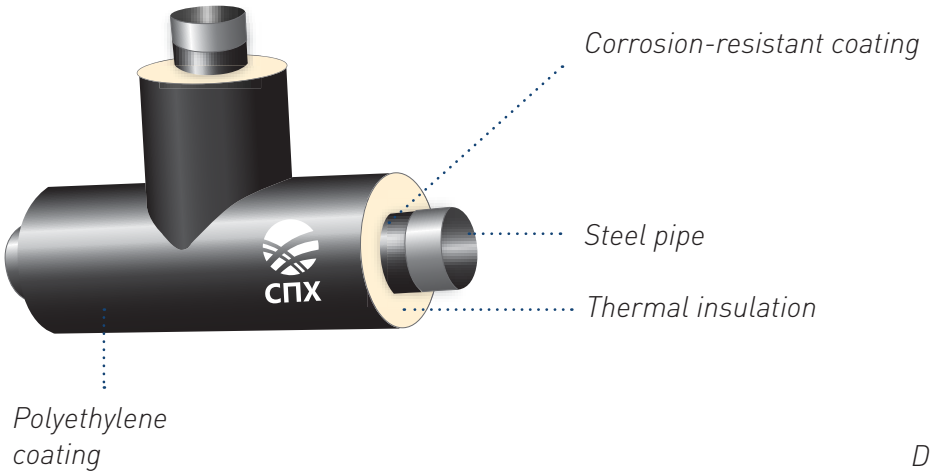
d – steel pipe outer diameter
Dg – galvanized steel mantle pipe outer diameter
1 – steel pipe;
2 – corrosion-resistant coating;
3 – polyurethane thermal insulation;
4 – galvanized steel protective coating;
5 – centralizers.



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.

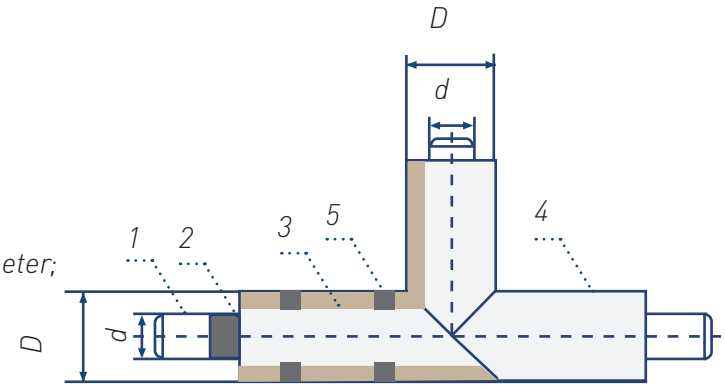
Diameters of galvanized steel mantle pipes shall be defined after thermal insulation thickness calculation.

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



SPECIFICATIONS

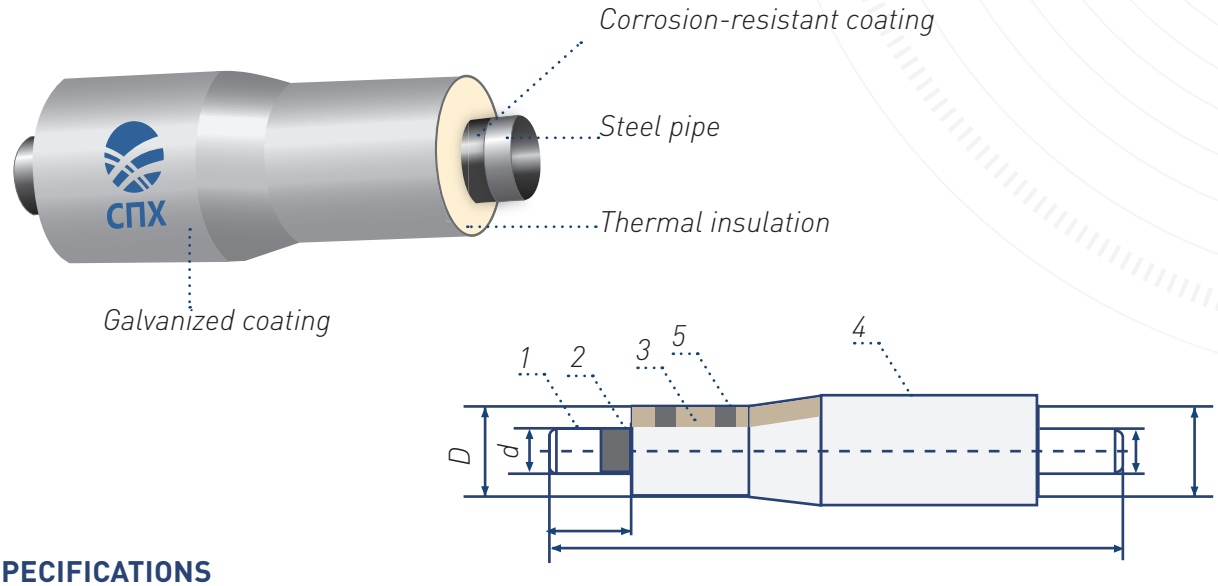
d – steel pipe outer diameter
Dpe - polyethylene mantle pipe outer diameter;
1 - steel pipe;
2 - corrosion-resistant coating;
3 - polyurethane thermal insulation;
4 – protective polyethylene coating;
5 – centralizers.



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, use 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 (TS 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;

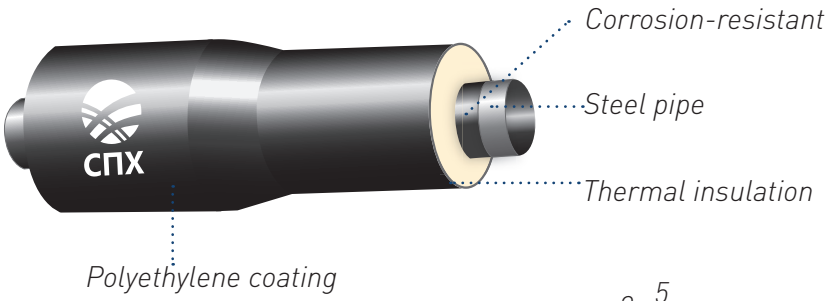
4 – galvanized steel protective coating;

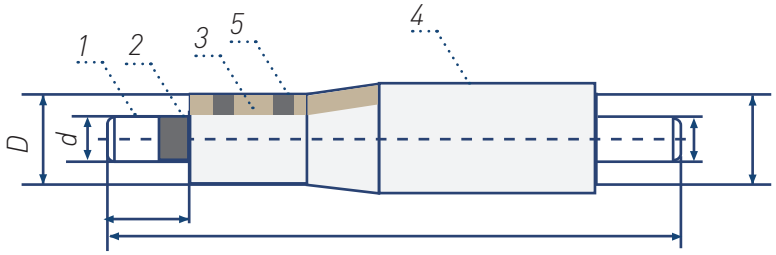
5 – centralizers.

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.

Increaser with corrosion-resistant coating and with polyurethane thermal insulation with protective water-proof coating in the form of polyethylene coating (TS 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;

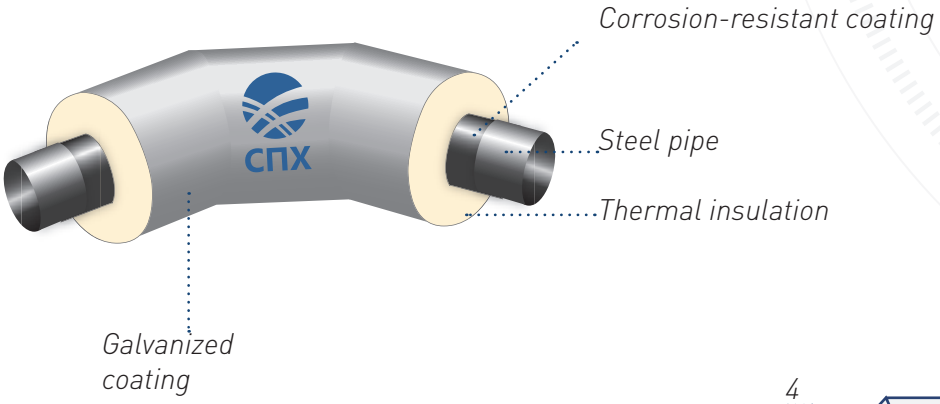
4 – polyethylene protective coating;

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, use and operating temperature.

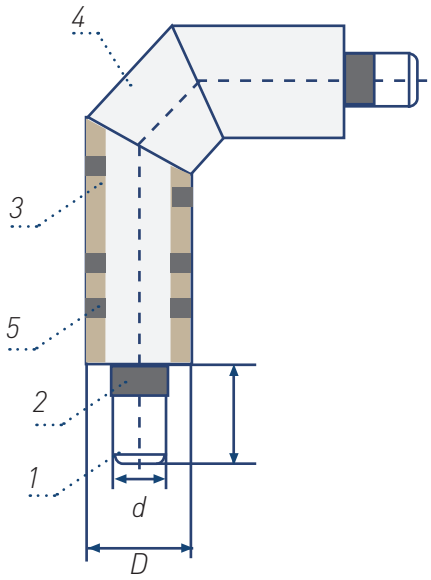
Diameters of polyethylene mantle pipes shall be defined after thermal insulation thickness calculation.

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



SPECIFICATIONS

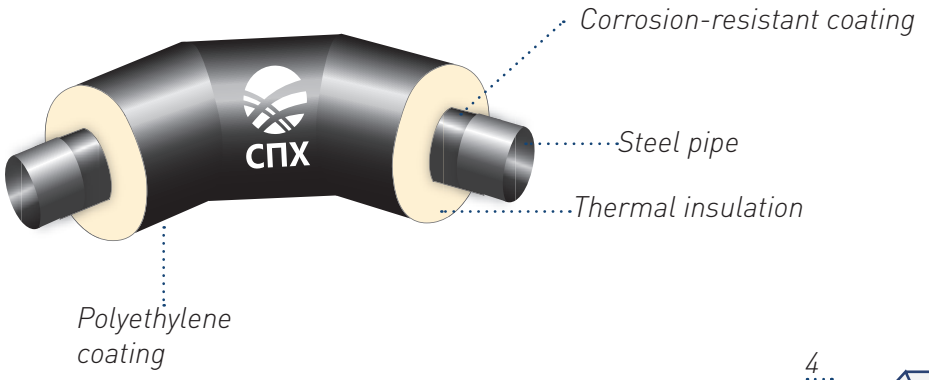
d – steel pipe outer diameter
Dg – galvanized steel mantle pipe outer diameter
1 – steel pipe;
2 – corrosion-resistant coating;
3 – polyurethane thermal insulation;
4 – galvanized steel protective coating;
5 – centralizers.

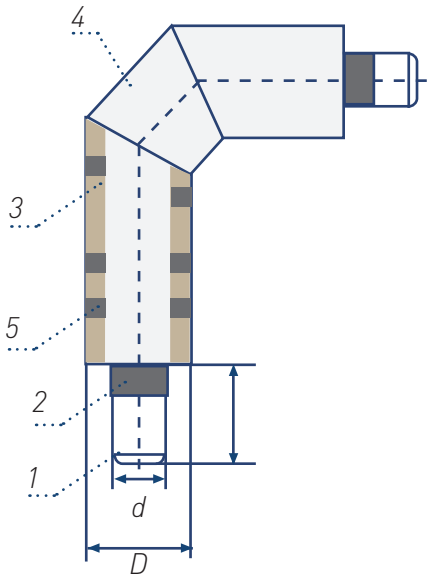


Thermal insulation thickness shall be calculated in accordance with regulations of SNiP 41-03-2003 ''Thermal insulation of equipment and pipe lines' and SP 41-103-2000 'Designing of thermal insulation of equipment and pipe lines' for the specific conditions of the oil pipeline construction, use and operating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

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

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





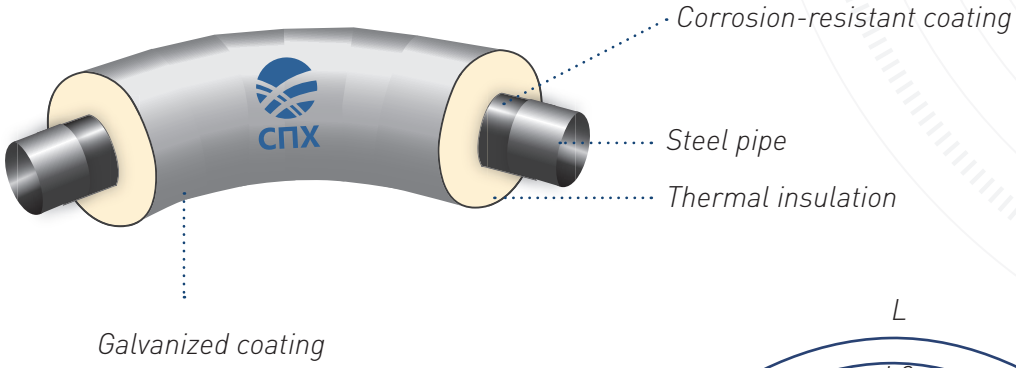
SPECIFICATIONS

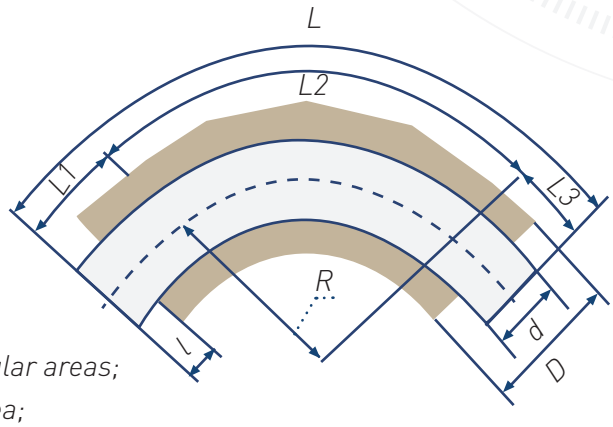
d – steel pipe outer diameter
Dpe - polyethylene mantle pipe outer diameter;
1 - steel pipe;
2 –corrosion-resistant coating;
3 – polyurethane thermal insulation;
4 –polyethylene protective coating;
5 – centralizers.

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, use 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 (TS 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;

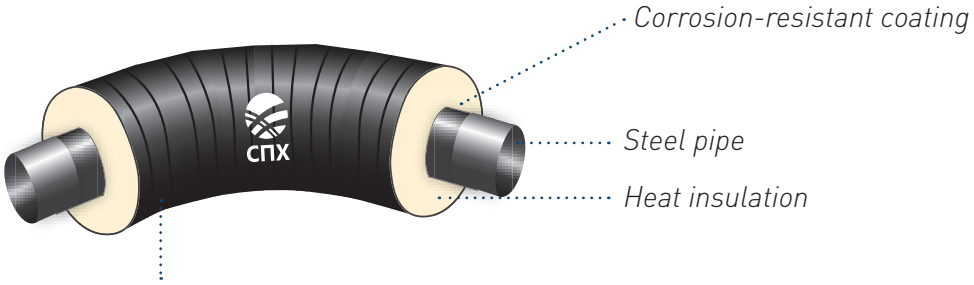
R – branch radius (not more than 5Du);

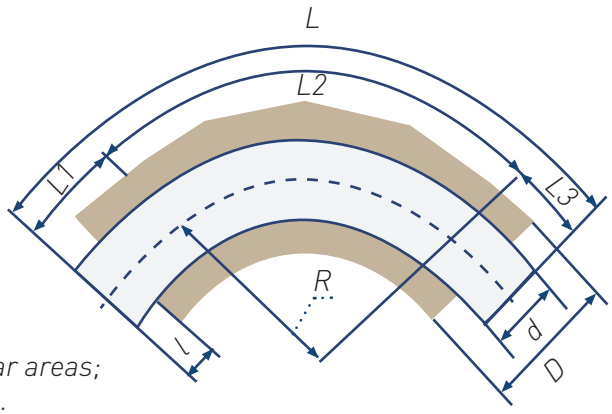
l – length of the non-insulated area

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, use 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 (TS 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, use 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.

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

CHARACTERISTICS

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').

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 OHs are manufactured with thermal insulation. The OHs 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 OHS 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.

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.

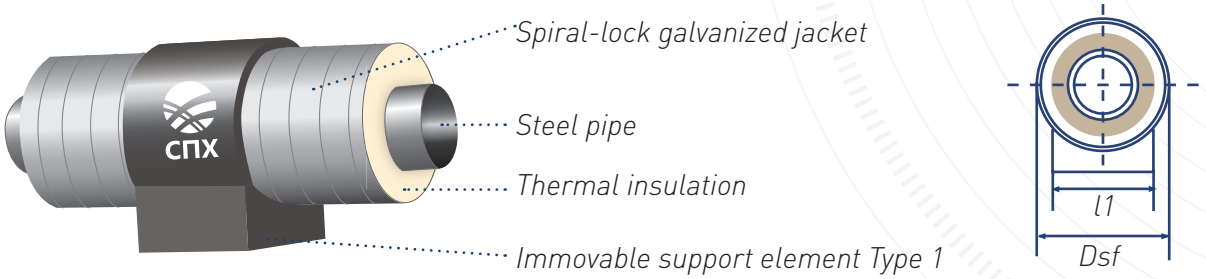
The FMS consists of movable and immovable parts. The movable part is a foot-saddle with a joint, connected with a sole. The pipeline in thermal insulation is mounted and fixed on the saddle with pipeline clamps.

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

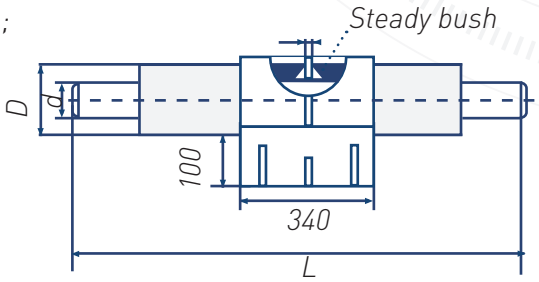
At transportation, storage, assembly and operation supports resist the ambient temperature variations for 8 h of no less than 40°C.

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 NPO LLC;

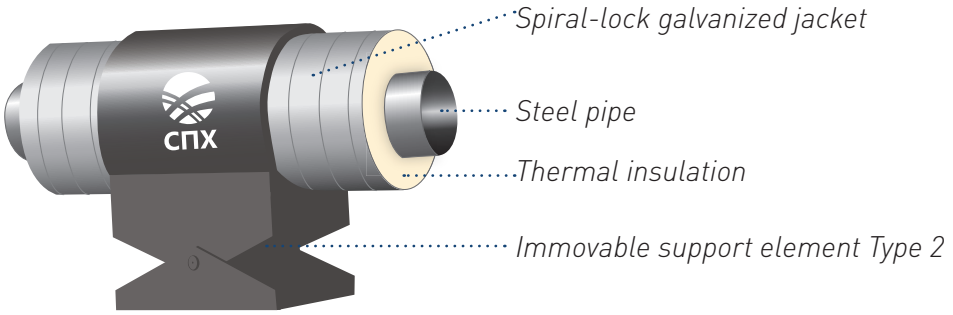


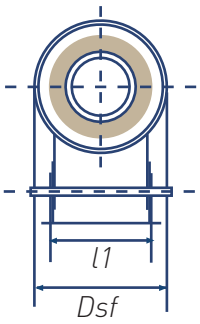
SPECIFICATIONS

Table 1

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

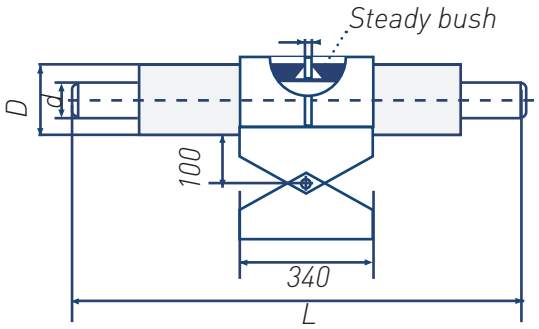
Element of immovable support for oil and gas pipelines type 2 with thermal hydro polyurethane insulation for above-ground laying with a slope up to 16° (GOST 36-146-88)





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;

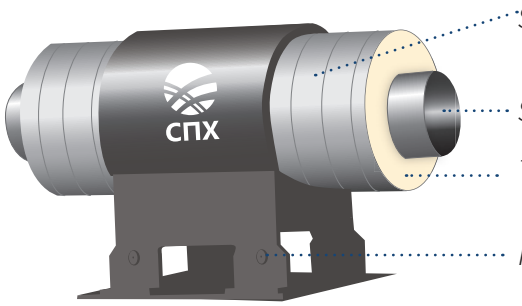


SPECIFICATIONS

Table 2

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)

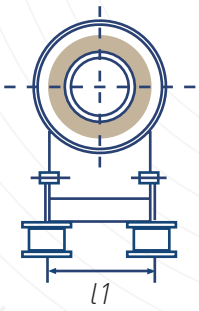


Spiral-lock galvanized sheath

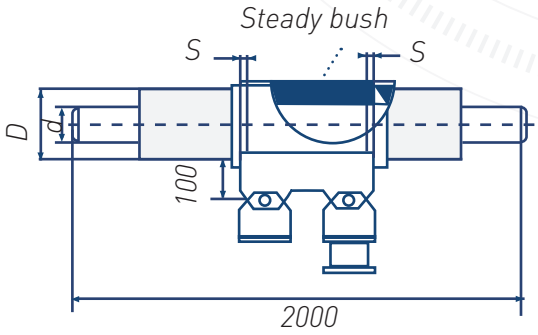
Steel pipe

Thermal insulation

Immovable support element Type 2-A



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;

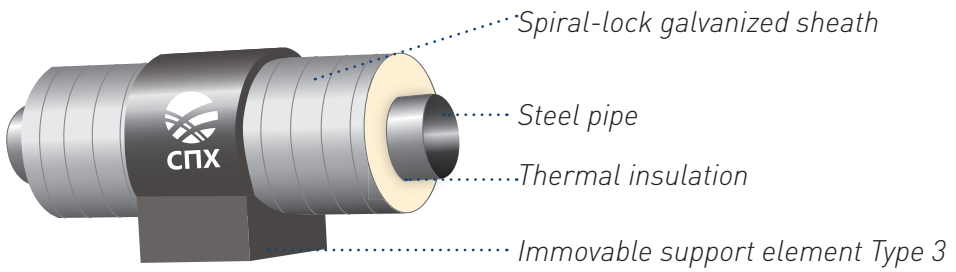


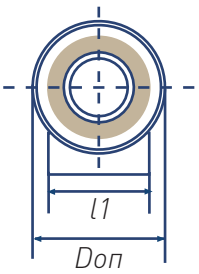
SPECIFICATIONS

Table 3

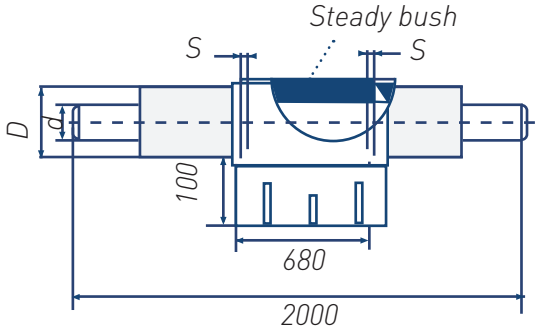
d, (mm)	D, (mm)	PU foam thickness, (mm)	Dsf, (mm)	l1, (mm)	S, (mm)	Pmax, (t)	m, (kg)
530	675	71,5	720	550	25	47	743,44
530	732	100,2	820	550	25	47	818,0
630	775	71,5	820	650	25	53	893,4
630	832	100,0	920	650	25	53	974,7
720	875	76,5	920	720	25	71	1043,6
720	922	100,0	1020	720	25	71	1129,4
820	975	76,5	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;

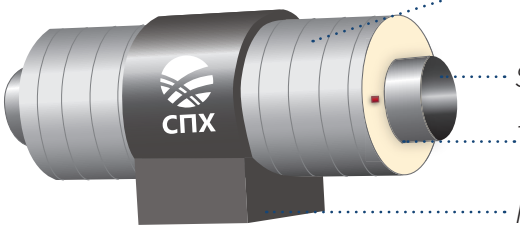


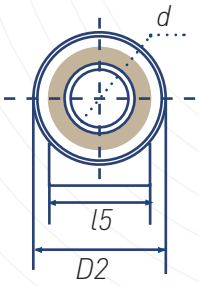
SPECIFICATIONS

Table 4

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)

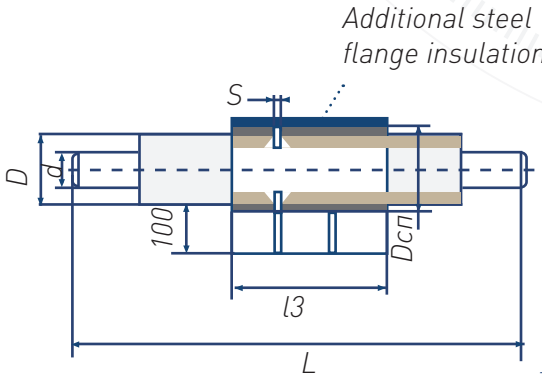




Pmax — max. load on the element;

«A» in the name of the immovable support type means an additional insulation of steel flange;

Weight is calculated without considering steel pipe.

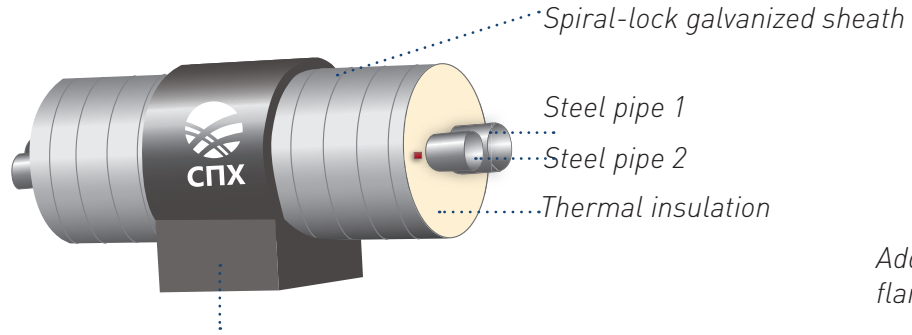


SPECIFICATIONS

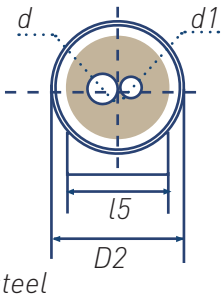
Table 5

d, (mm)	D, (mm)	L, (mm)	l3, (mm)	l5, (mm)	S, (mm)	Pmax, (t)	Dsf, (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)

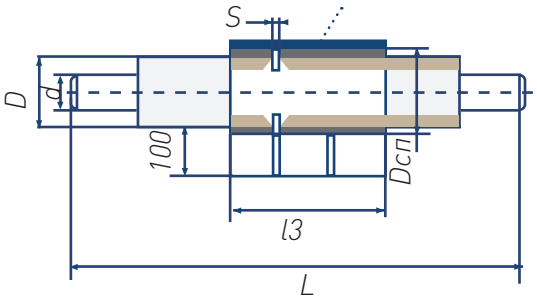


Immovable support element Type 4



Additional steel flange insulation

Pmax — max. load on the element;



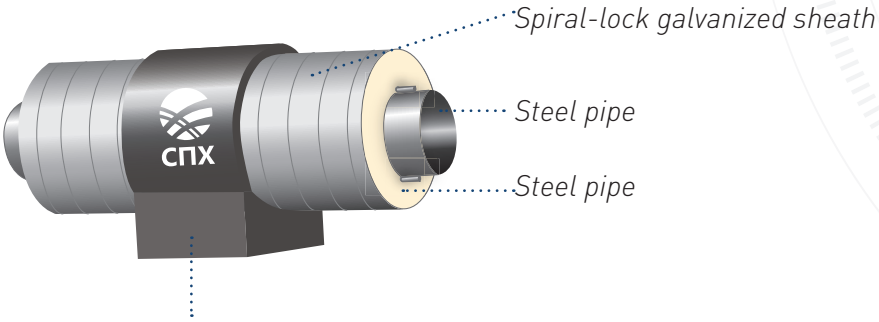
SPECIFICATIONS

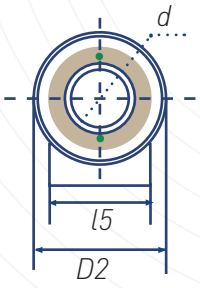
Table 6

D, (mm)	d/d1, (mm)	L, (mm)	l3, (mm)	S, (mm)	Pmax, (t)	Dsf, (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 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	

/CATALOG/

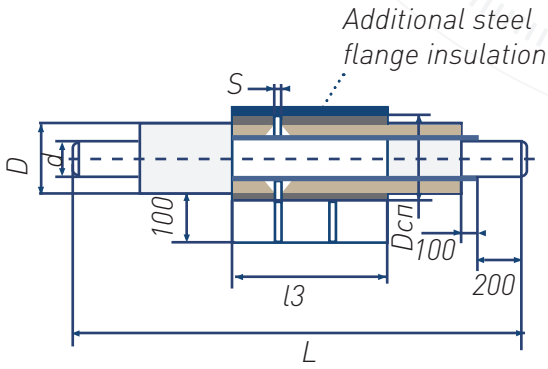
The element of the immovable support Type 5 with thermal hydro polyurethane insulation for the above-ground and canal laying with an electric heating device (GOST 36-146-88)





Element of immovable support Type 5

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

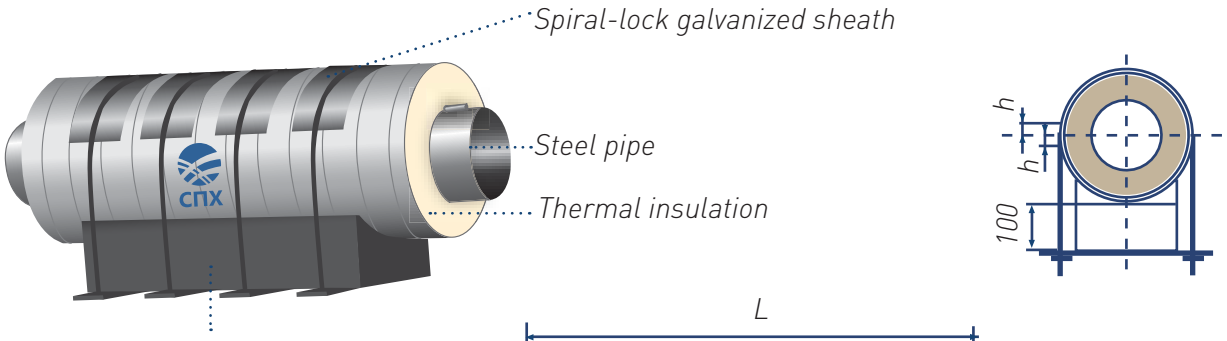


SPECIFICATIONS

Table 7

d, (mm)	D, (mm)	L, (mm)	l3, (mm)	l5, (mm)	S, (mm)	Pmax, (т)	Dsf, (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

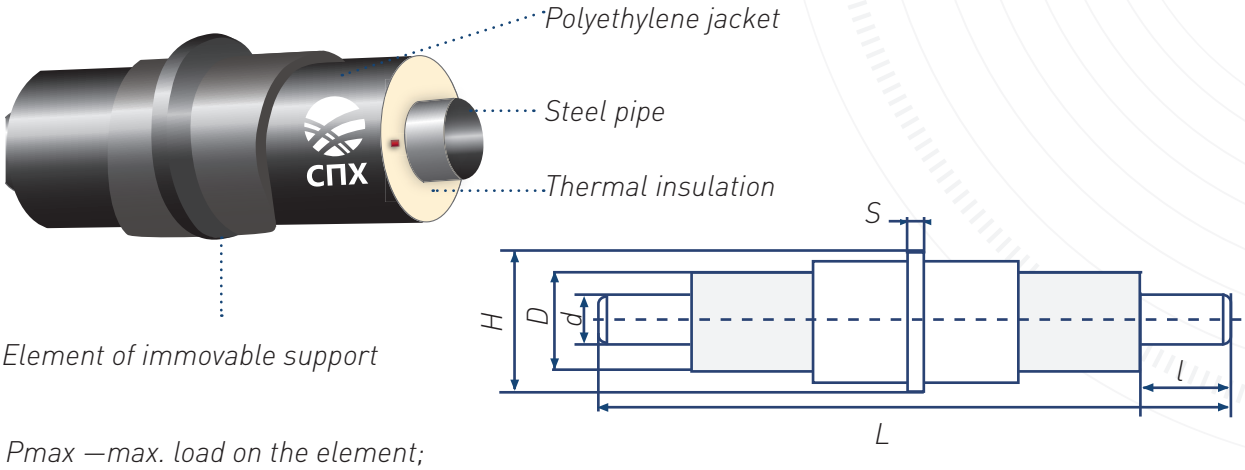
The support is designed for pipelines that are not subject to vibrations and hydraulic loads.

SPECIFICATIONS

Table 8

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;

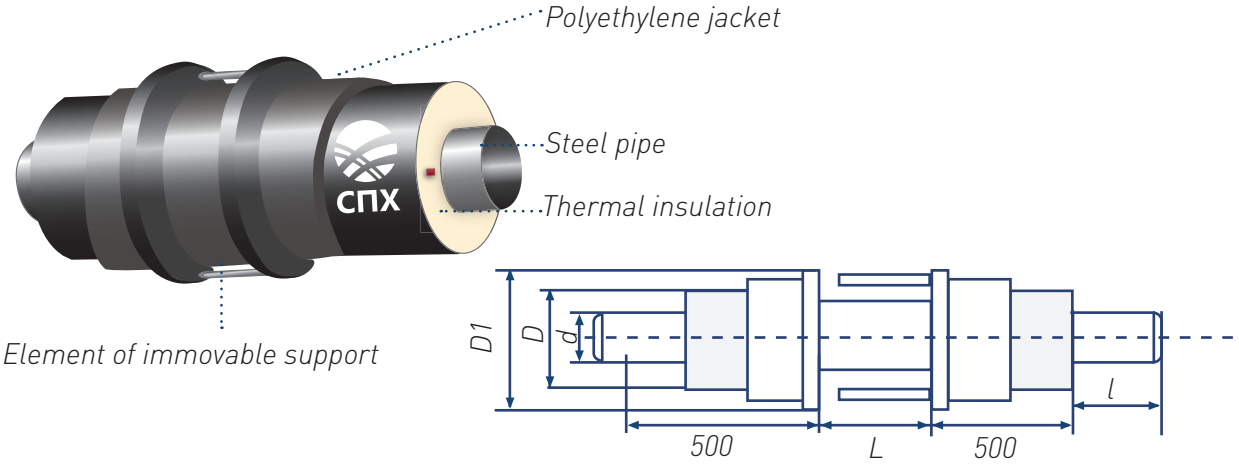
Size L can be changed according to the customer's request.

SPECIFICATIONS

Table 9

d, (mm)	Type 1		Type 2		L, (mm)		H, (мм)	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)



Pmax — max. load on the element; Manufacturing Weight of this element is possible with any size A; Weight is calculated without considering steel pipe;

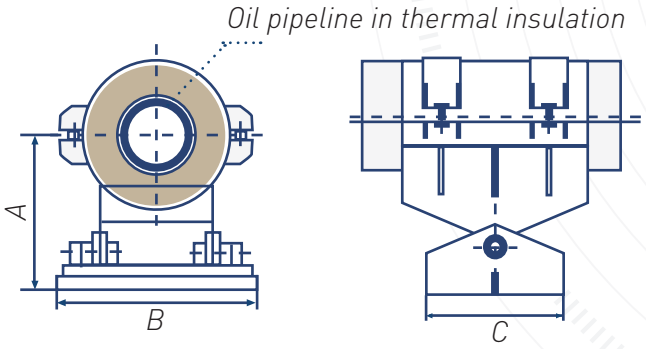
It is possible to manufacture the product in a galvanized jacket.

SPECIFICATIONS

Table 10

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)

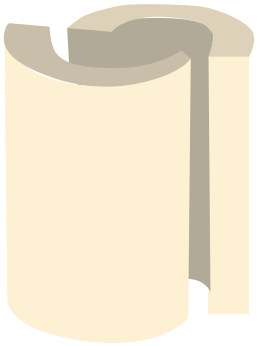


SPECIFICATIONS

Table 11

Shell diameter, (mm)	A, (mm)	B, (mm)	C, (m)	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 insulating shells made of polyurethane foam (TS 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

Table 12

d, (mm)	Type1		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

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 °. It is allowed to stack couplings in three tiers sorted by diameters.

PRODUCTS DIAMETER
from 125 to 900 mm

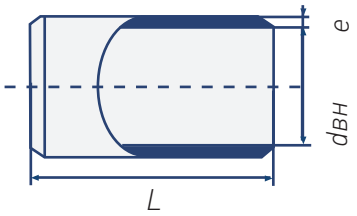


Table 13

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	от -5 до +4	500+20
140	156	7,5	2,5	от -5 до +4	500+20
160	177	7,5	2,5	от -5 до +4	500+20
180	197	6,5	2,5	от -5 до +4	500+20
200	218	6,5	2,8	от -5 до +4	500+20
225	244	6,0	3,0	от -5 до +4	500+20
250	269	5,5	3,7	от -5 до +5	500+20
315	336	5,0	4,7	от -5 до +5	700+20
400	425	5,0	6,1	от -5 до +5	700+20
450	476	4,5	6,8	от -5 до +5	700+20
560	591	4,5	8,6	от -5 до +5	700+20
630	663	4,0	9,6	от -5 до +5	700+20
710	746	4,0	10,9	от -5 до +5	700+20
800	839	4,0	12,3	от -5 до +5	700+20
900	943	4,0	13,8	от -5 до +6	700+20

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

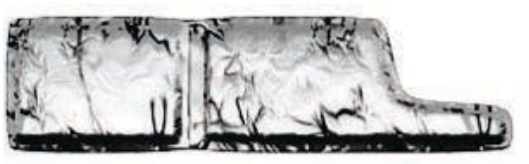


Table 14

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

Table 15

d, (mm)	Joint lenght, (мм)	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 jacket 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 including;
- 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.

Galvanized shell for above-ground pipe laying in galvanized jacket

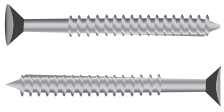
The shell is made of light-gage sheet galvanized steel with zinc coating of the first class according to the GOST 14918 or with a zinc coating not lower than class 450 according to the GOST R52246.

Толщина обечайки:

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

SETS OF HEAT SHRINK SLEEVES

Heat shrinkable tape

HEAT SHRINKABLE MATERIALS DIMENSIONS:

Table 16

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 including	Не менее 1,5	Not less than 450	up to 168 including	1,4±0,2	80±5	450±5
			up to 426 including		100±5	
above 530 up to 1420	Не менее 2,0		up to 920 including		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 including	1,2±0,2	Not less than 450	up to 530 including	1,4±0,2	100±5	455±2
up to 530 including	1,8±0,2					
up to 820 including	2,0±0,2		up to 820 including		125±5	
over 820 including	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

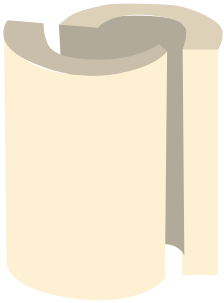
1. Set of heat shrinking coupling for the pipe

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 jacket

3.1 Two part epoxy

3.2 Heat shrinkable tape

3.3. Locking plate

SETS OF MATERIALS FOR INSULATION OF WELDED JOINTS OF OIL PIPES

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

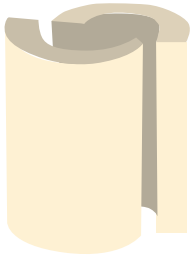
1. Set of heat shrinking coupling for the pipe

1.1 Two part epoxy

1.2 Heat shrinkable tape

1.3. Locking plate

2. PU foam shells



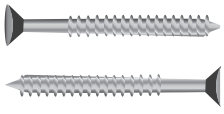
3. Set of heat shrinking coupling for jacket

3.1 Two part epoxy

3.2 Heat shrinkable tape

3.3. Locking plate

4. Shell



Self-tapping screws

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