



ГОСТ 17378-2001 (ИСО 3419-81)

**МЕЖГОСУДАРСТВЕННЫЙ СТАНДАРТ**

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**Детали трубопроводов бесшовные приварные  
из углеродистой и низколегированной стали**

**ПЕРЕХОДЫ**

**Конструкция**

**МЕЖГОСУДАРСТВЕННЫЙ СОВЕТ  
ПО СТАНДАРТИЗАЦИИ, МЕТРОЛОГИИ И СЕРТИФИКАЦИИ**

**Минск**

Предисловие

1. РАЗРАБОТАН ОАО «Корпорация МОНТАЖСПЕЦСТРОЙ»

ВНЕСЕН Государственным комитетом Российской Федерации по стандартизации и метрологии

2. ПРИНЯТ Межгосударственным Советом по стандартизации, метрологии и сертификации (протокол № 20 от 1 ноября 2001 г.).

За принятие проголосовали:

| <b>Наименование государства</b> | <b>Наименование</b> |
|---------------------------------|---------------------|
| Азербайджанская Республика      | Азгосстандарт       |
| Республика Армения              | Армгосстандарт      |

|                        |                                     |
|------------------------|-------------------------------------|
| Республика Беларусь    | Госстандарт Республики Беларусь     |
| Грузия                 | Грузстандарт                        |
| Республика Казахстан   | Госстандарт Республики Казахстан    |
| Кыргызская Республика  | Кыргызстандарт                      |
| Республика Молдова     | Молдовастандарт                     |
| Российская Федерация   | Госстандарт России                  |
| Республика Таджикистан | Таджикстандарт                      |
| Туркменистан           | Главгосслужба «Туркменстандартлары» |
| Республика Узбекистан  | Узгосстандарт                       |
| Украина                | Госстандарт Украины                 |

3. Стандарт соответствует ИСО 3419-81 «Фитинги из легированной и нелегированной стали приварные встык» в части конструкции переходов

4. Постановлением Государственного комитета Российской Федерации по стандартизации и метрологии от 27 мая 2002 г. № 205-ст межгосударственный стандарт ГОСТ 17378-2001 (ИСО 3419-81) введен в действие непосредственно в качестве государственного стандарта Российской Федерации с 1 января 2003 г.

5. ВЗАМЕН ГОСТ 17378-83

## МЕЖГОСУДАРСТВЕННЫЙ СТАНДАРТ

Детали трубопроводов бесшовные приварные из углеродистой и низколегированной стали

## ПЕРЕХОДЫ

### Конструкция

Carbon and low-alloy steel butt-welding fittings. Reducers. Design

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Дата введения **2003-01-01**

## 1. Область применения

Настоящий стандарт распространяется на бесшовные приварные концентрические и эксцентрические переходы из углеродистой и низколегированной стали.

Область применения переходов - в соответствии с разделом 1 [ГОСТ 17380](#).

Требования пункта [4.1](#) - [4.3](#) и [раздела 5](#) являются обязательными, остальные требования - рекомендуемыми.

## 2. Нормативные ссылки

В настоящем стандарте использована ссылка на [ГОСТ 17380-2001](#) ИСО (3419-81). Детали трубопроводов бесшовные приварные из углеродистой и низколегированной стали. Общие технические условия.

Измененная редакция. [Изм. № 1](#))

### 3. Определения, обозначения и сокращения

Термины, их определения, обозначения и сокращения - по [ГОСТ 17380](http://ГОСТ 17380).

### 4. Конструкция и размеры

4.1. Конструкция и размеры переходов должны соответствовать указанным на [рисунке 1](#) и в [таблицах 1](#) и [2](#).

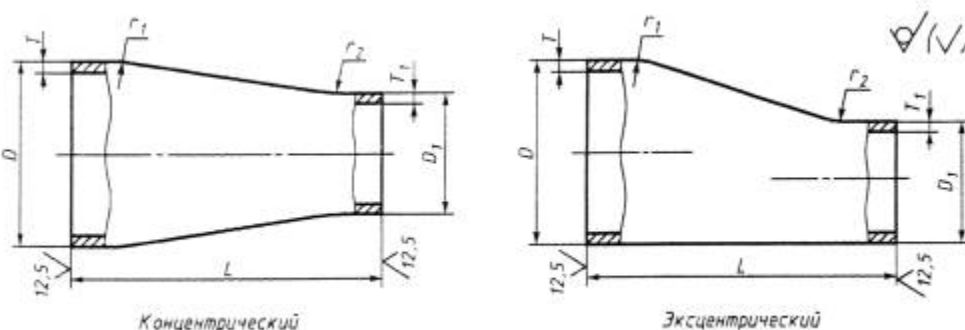


Рисунок 1

Таблица 1 - Переходы исполнения 1

Размеры в миллиметрах

| DN | D    | T   | D <sub>1</sub> | T <sub>1</sub> | L  | Масса, кг |
|----|------|-----|----------------|----------------|----|-----------|
| 20 | 26,9 | 2,0 | 21,3           | 2,0            | 38 | 0,05      |
|    |      | 3,2 |                | 3,2            |    | 0,07      |
|    |      | 4,0 |                | 4,0            |    | 0,09      |
|    | 2,3  | 2,0 |                | 0,09           |    |           |

|    |      |     |      |     |    |      |
|----|------|-----|------|-----|----|------|
| 25 | 33,7 | 3,2 |      | 3,2 | 51 | 0,12 |
|    |      | 4,5 |      | 4,0 |    | 0,16 |
|    |      | 2,3 |      | 2,0 |    | 0,09 |
|    |      | 3,2 | 26,9 | 3,2 |    | 0,12 |
|    |      | 4,5 |      | 4,0 |    | 0,16 |
| 32 | 42,4 | 2,6 |      | 2,0 |    | 0,13 |
|    |      | 3,6 | 21,3 | 3,2 |    | 0,17 |
|    |      | 5,0 |      | 4,0 |    | 0,23 |
|    |      | 2,6 |      | 2,0 |    | 0,13 |
|    |      | 3,6 | 26,9 | 3,2 |    | 0,17 |
|    |      | 5,0 |      | 4,0 |    | 0,23 |
|    |      | 2,6 |      | 2,3 |    | 0,13 |
|    |      | 3,6 | 33,7 | 3,2 |    | 0,17 |
|    |      | 5,0 |      | 4,5 |    | 0,23 |
|    |      | 2,6 |      | 2,0 |    | 0,19 |

|    |      |     |      |     |    |      |
|----|------|-----|------|-----|----|------|
| 40 | 48,3 | 3,6 | 26,9 | 3,2 | 64 | 0,25 |
|    |      | 5,0 |      | 4,0 |    | 0,34 |
|    |      | 2,6 |      | 2,3 |    | 0,19 |
|    |      | 3,6 | 33,7 | 3,2 |    | 0,25 |
|    |      | 5,0 |      | 4,5 |    | 0,34 |
|    |      | 2,6 |      | 2,6 |    | 0,19 |
|    |      | 3,6 | 42,4 | 3,6 |    | 0,25 |
|    |      | 5,0 |      | 5,0 |    | 0,34 |
|    |      | 2,9 |      | 2,3 |    | 0,31 |
|    |      | 4,0 | 33,7 | 3,2 |    | 0,42 |
| 50 | 60,3 | 5,6 |      | 4,5 | 76 | 0,58 |
|    |      | 2,9 |      | 2,6 |    | 0,31 |
|    |      | 4,0 | 42,4 | 3,6 |    | 0,42 |
|    |      | 5,6 |      | 5,0 |    | 0,58 |
|    |      | 2,9 |      | 2,6 |    | 0,31 |

|     |      |     |      |     |      |      |
|-----|------|-----|------|-----|------|------|
|     |      | 4,0 | 48,3 | 3,6 |      | 0,42 |
|     |      | 5,6 |      | 5,0 |      | 0,58 |
| 65  | 76,1 | 2,9 |      | 2,6 | 89   | 0,47 |
|     |      | 5,0 | 42,4 | 3,6 |      | 0,78 |
|     |      | 7,1 |      | 5,0 |      | 1,10 |
|     |      | 2,9 |      | 2,6 |      | 0,47 |
|     |      | 5,0 | 48,3 | 3,6 |      | 0,78 |
|     |      | 7,1 |      | 5,0 |      | 1,10 |
|     |      | 2,9 |      | 2,9 |      | 0,47 |
|     |      | 5,0 | 60,3 | 4,0 |      | 0,78 |
|     |      | 7,1 |      | 5,6 |      | 1,10 |
|     |      |     |      | 3,2 |      |      |
| 5,6 | 48,3 |     |      | 3,6 | 1,00 |      |
| 8,0 |      |     |      | 5,0 | 1,40 |      |
| 3,2 |      |     |      | 2,9 | 0,60 |      |

|     |       |     |      |     |     |      |
|-----|-------|-----|------|-----|-----|------|
| 80  | 88,9  | 5,6 | 60,3 | 4,0 |     | 1,00 |
|     |       | 8,0 |      | 5,6 |     | 1,40 |
|     |       | 3,2 | 76,1 | 2,9 |     | 0,60 |
|     |       | 5,6 |      | 5,0 |     | 1,00 |
|     |       | 8,0 |      | 7,1 |     | 1,40 |
| 100 | 114,3 | 3,6 | 60,3 | 2,9 | 102 | 1,00 |
|     |       | 6,3 |      | 4,0 |     | 1,70 |
|     |       | 8,8 |      | 5,6 |     | 2,30 |
|     |       | 3,6 | 76,1 | 2,9 |     | 1,00 |
|     |       | 6,3 |      | 5,0 |     | 1,70 |
|     |       | 8,8 |      | 7,1 |     | 2,30 |
|     |       | 3,6 | 88,9 | 3,2 |     | 1,00 |
|     |       | 6,3 |      | 5,6 |     | 1,70 |
|     |       | 8,8 |      | 8,0 |     | 2,30 |
|     |       |     |      | 4,0 |     |      |



|      |       |      |       |     |      |      |     |     |      |
|------|-------|------|-------|-----|------|------|-----|-----|------|
| 125  | 139,7 | 6,3  | 76,1  | 5,0 | 127  | 2,60 |     |     |      |
|      |       | 10,0 |       | 7,1 |      | 4,10 |     |     |      |
|      |       | 4,0  |       | 3,2 |      | 1,70 |     |     |      |
|      |       | 6,3  | 88,9  | 5,6 |      | 2,60 |     |     |      |
|      |       | 10,0 |       | 8,0 |      | 4,10 |     |     |      |
|      |       | 4,0  |       | 3,6 |      | 1,70 |     |     |      |
|      |       | 6,3  | 114,3 | 6,3 |      | 2,60 |     |     |      |
|      |       | 10,0 |       | 8,8 |      | 4,10 |     |     |      |
|      |       | 150  | 168,3 | 4,5 |      |      | 3,2 | 140 | 2,50 |
|      |       |      |       | 7,1 |      | 88,9 | 5,6 |     | 3,90 |
| 11,0 |       |      |       | 8,8 | 6,00 |      |     |     |      |
| 4,5  |       |      |       | 3,6 | 2,50 |      |     |     |      |
| 7,1  | 114,3 |      |       | 6,3 | 3,90 |      |     |     |      |
| 11,0 |       |      |       | 8,8 | 6,00 |      |     |     |      |
| 4,5  |       |      |       | 4,0 | 2,50 |      |     |     |      |

|      |       |      |       |      |       |       |     |     |       |
|------|-------|------|-------|------|-------|-------|-----|-----|-------|
|      |       | 7,1  | 139,7 | 6,3  |       | 3,90  |     |     |       |
|      |       | 11,0 |       | 10,0 |       | 6,00  |     |     |       |
| 200  | 219,1 | 6,3  |       | 3,6  | 152   | 5,10  |     |     |       |
|      |       | 8,0  | 114,3 | 6,3  |       | 6,30  |     |     |       |
|      |       | 12,5 |       | 8,8  |       | 9,70  |     |     |       |
|      |       | 6,3  |       | 4,0  |       | 5,10  |     |     |       |
|      |       | 8,0  | 139,7 | 6,3  |       | 6,30  |     |     |       |
|      |       | 12,5 |       | 10,0 |       | 9,70  |     |     |       |
|      |       | 6,3  |       | 4,5  |       | 5,10  |     |     |       |
|      |       | 8,0  | 168,3 | 7,1  |       | 6,30  |     |     |       |
|      |       | 12,5 |       | 11,0 |       | 9,70  |     |     |       |
|      |       | 250  | 273,0 | 6,3  |       | 139,7 | 4,0 | 178 | 7,40  |
|      |       |      |       | 10,0 |       |       | 6,3 |     | 12,00 |
|      |       |      |       | 6,3  |       | 168,3 | 4,5 |     | 7,40  |
| 10,0 |       |      |       | 7,1  | 12,00 |       |     |     |       |

|     |       |      |       |      |     |       |
|-----|-------|------|-------|------|-----|-------|
|     |       | 6,3  | 219,1 | 6,3  |     | 7,40  |
|     |       | 10,0 |       | 8,0  |     | 12,00 |
| 300 | 323,9 | 7,1  | 168,3 | 4,5  | 203 | 11,00 |
|     |       | 10,0 |       | 7,1  |     | 16,00 |
|     |       | 7,1  | 219,1 | 6,3  |     | 11,00 |
|     |       | 10,0 |       | 8,0  |     | 16,00 |
|     |       | 7,1  | 273,0 | 6,3  |     | 11,00 |
|     |       | 10,0 |       | 10,0 |     | 16,00 |
| 350 | 355,6 | 8,0  | 219,1 | 6,3  | 330 | 23,00 |
|     |       | 11,0 |       | 8,0  |     | 31,00 |
|     |       | 8,0  | 273,0 | 6,3  |     | 23,00 |
|     |       | 11,0 |       | 10,0 |     | 31,00 |
|     |       | 8,0  | 323,9 | 7,1  |     | 23,00 |
|     |       | 11,0 |       | 10,0 |     | 31,00 |
|     |       | 8,8  | 273,0 | 6,3  |     | 31,00 |

|     |       |      |       |      |     |       |
|-----|-------|------|-------|------|-----|-------|
| 400 | 406,4 | 12,5 |       | 10,0 | 356 | 43,00 |
|     |       | 8,8  | 323,9 | 7,1  |     | 31,00 |
|     |       | 12,5 |       | 10,0 |     | 43,00 |
|     |       | 8,8  | 355,6 | 8,0  |     | 31,00 |
|     |       | 12,5 |       | 11,0 |     | 43,00 |
| 450 | 457,0 | 10,0 | 323,9 | 7,1  | 381 | 42,00 |
|     |       |      | 355,6 | 8,0  |     |       |
|     |       |      | 406,4 | 8,8  |     |       |
| 500 | 508,0 | 11,0 | 355,6 | 8,0  | 508 | 65,00 |
|     |       |      | 406,4 | 8,8  |     |       |
|     |       |      | 457,0 | 10,0 |     |       |
| 600 | 610,0 | 12,5 | 406,4 | 8,8  | 508 | 94,0  |
|     |       |      | 457,0 | 10,0 |     |       |
|     |       |      | 508,0 | 11,0 |     |       |
|     |       |      | 457,0 | 10,0 |     |       |

|   |        |       |       |      |     |   |
|---|--------|-------|-------|------|-----|---|
| 700   | 711,0  | -     | 508,0 | 11,0 | 610 | - |
|   |        |       | 610,0 | 12,5 |     |   |
| 800   | 813,0  |       | 508,0 | 11,0 |     |   |
|   |        |       | 610,0 | 12,5 |     |   |
|   |        |       | 711,0 | -    |     |   |
| 900   | 914,0  |       | 610,0 | 12,5 |     |   |
|   |        |       | 711,0 | -    |     |   |
|   |        |       | 813,0 | -    |     |   |
| 1000  | 1016,0 | 711,0 | -     |      |     |   |
|   |        | 813,0 | -     |      |     |   |
|   |        | 914,0 | -     |      |     |   |
| <b>Примечание - Масса приведена для справок</b> |        |       |       |      |     |   |

Таблица 2 - Переходы исполнения 2

Размеры в миллиметрах

| DN | D | T | D <sub>1</sub> | T <sub>1</sub> | L | Масса, кг |
|----|---|---|----------------|----------------|---|-----------|
|----|---|---|----------------|----------------|---|-----------|

|    |    |     |    |     |    |     |
|----|----|-----|----|-----|----|-----|
| 32 | 38 | 2,0 | 32 | 2,0 | 30 | 0,1 |
|    |    | 3,0 |    | 3,0 |    | 0,2 |
|    |    | 4,0 |    | 4,0 |    | 0,2 |
|    |    | 2,0 | 25 | 1,6 |    | 0,1 |
|    |    | 3,0 |    | 3,0 |    | 0,2 |
|    |    | 4,0 |    | 3,0 |    | 0,2 |
| 40 | 45 | 2,5 | 32 | 1,6 | 30 | 0,1 |
|    |    | 4,0 |    | 3,0 |    | 0,2 |
|    |    | 5,0 |    | 3,0 |    | 0,3 |
|    |    | 2,5 | 38 | 2,0 |    | 0,1 |
|    |    | 4,0 |    | 4,0 |    | 0,2 |
|    |    | 5,0 |    | 5,0 |    | 0,3 |
|    |    | 2,5 | 38 | 2,0 | 30 | 0,1 |
|    |    | 4,0 |    | 4,0 |    | 0,2 |
|    |    | 5,0 |    | 5,0 |    | 0,3 |

|    |     |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|-----|
| 50 | 57  | 3,0 | 25  | 1,6 | 45  | 0,2 |
|    |     | 4,0 |     | 1,6 |     | 0,3 |
|    |     | 5,0 |     | 3,0 |     | 0,3 |
|    |     | 6,0 |     | 3,0 |     | 0,4 |
|    |     | 3,0 | 32  | 2,0 |     | 0,2 |
|    |     | 4,0 |     | 2,0 |     | 0,3 |
|    |     | 5,0 |     | 3,0 |     | 0,3 |
|    |     | 6,0 |     | 4,0 |     | 0,4 |
|    | 3,0 | 38  | 2,0 | 0,2 |     |     |
|    | 4,0 |     | 4,0 | 0,3 |     |     |
|    | 5,0 |     | 4,0 | 0,3 |     |     |
|    | 6,0 |     | 4,0 | 0,4 |     |     |
|    | 3,0 | 45  | 2,5 | 60  | 0,2 |     |
|    | 4,0 |     | 2,5 |     | 0,3 |     |
|    | 5,0 |     | 4,0 |     | 0,3 |     |

|    |    |     |     |     |     |     |     |
|----|----|-----|-----|-----|-----|-----|-----|
|    |    | 6,0 |     | 5,0 |     | 0,4 |     |
| 65 | 76 | 3,0 |     | 2,0 |     | 0,3 |     |
|    |    | 3,5 |     | 2,5 |     | 0,4 |     |
|    |    | 5,0 | 38  | 3,0 | 55  | 0,6 |     |
|    |    | 6,0 |     | 3,0 |     | 0,6 |     |
|    |    | 7,0 |     | 4,0 |     | 0,7 |     |
|    |    |     | 3,0 |     | 2,5 |     | 0,4 |
|    |    |     | 3,5 |     | 2,5 |     | 0,5 |
|    |    |     | 5,0 | 45  | 4,0 |     | 0,6 |
|    |    |     | 6,0 |     | 4,0 |     | 0,7 |
|    |    |     | 7,0 |     | 5,0 |     | 0,8 |
|    |    |     | 3,0 |     | 3,0 | 70  | 0,3 |
|    |    |     | 3,5 |     | 3,0 |     | 0,4 |
|    |    |     | 5,0 | 57  | 4,0 |     | 0,6 |
|    |    |     | 6,0 |     | 5,0 |     | 0,7 |



|     |     |     |     |     |    |     |
|-----|-----|-----|-----|-----|----|-----|
|     |     | 7,0 |     | 6,0 |    | 0,8 |
| 80  | 89  | 3,5 | 45  | 2,5 | 75 | 0,6 |
|     |     | 6,0 |     | 4,0 |    | 0,9 |
|     |     | 8,0 |     | 5,0 |    | 1,2 |
|     |     | 3,5 |     | 3,0 |    | 0,6 |
|     |     | 6,0 | 57  | 4,0 |    | 0,9 |
|     |     | 8,0 | 5,0 | 1,2 |    |     |
|     |     | 3,5 | 76  | 3,5 |    | 0,6 |
|     |     | 6,0 |     | 5,0 |    | 0,9 |
|     |     | 8,0 |     | 6,0 |    | 1,2 |
|     |     | 4,0 |     | 3,0 |    | 0,9 |
| 100 | 108 | 6,0 | 57  | 4,0 | 80 | 1,2 |
|     |     | 8,0 |     | 5,0 |    | 1,6 |
|     |     | 9,0 |     | 6,0 |    | 1,8 |
|     |     | 4,0 |     | 3,5 |    | 0,9 |

|     |     |     |     |     |
|-----|-----|-----|-----|-----|
| 100 | 76  | 6,0 | 5,0 | 1,2 |
|     |     | 8,0 | 6,0 | 1,6 |
|     |     | 9,0 | 7,0 | 1,8 |
|     |     | 4,0 | 3,5 | 0,9 |
|     |     | 6,0 | 6,0 | 1,2 |
|     |     | 8,0 | 8,0 | 1,6 |
|     | 89  | 9,0 | 8,0 | 1,8 |
|     |     | 4,0 | 3,0 | 1,0 |
|     |     | 6,0 | 4,0 | 1,3 |
|     |     | 8,0 | 5,0 | 1,7 |
|     | 57  | 9,0 | 6,0 | 1,9 |
|     |     | 4,0 | 3,5 | 1,0 |
|     |     | 6,0 | 5,0 | 1,3 |
|     |     | 8,0 | 6,0 | 1,7 |
|     |     | 9,0 | 7,0 | 1,9 |
| 76  | 4,0 | 3,5 | 1,0 |     |
|     | 6,0 | 5,0 | 1,3 |     |
|     | 8,0 | 6,0 | 1,7 |     |
|     | 9,0 | 7,0 | 1,9 |     |
|     | 8,0 | 6,0 | 1,7 |     |
| 80  | 9,0 | 7,0 | 1,9 |     |
|     | 4,0 | 3,5 | 1,0 |     |
|     | 6,0 | 5,0 | 1,3 |     |
|     | 8,0 | 6,0 | 1,7 |     |
|     | 9,0 | 7,0 | 1,9 |     |

|     |     |      |     |     |     |     |
|-----|-----|------|-----|-----|-----|-----|
|     |     | 4,0  |     | 3,5 |     | 1,0 |
|     |     | 6,0  | 89  | 6,0 |     | 1,3 |
|     |     | 8,0  |     | 8,0 |     | 1,7 |
|     |     | 9,0  |     | 8,0 |     | 1,9 |
|     |     | 4,0  |     | 3,0 |     | 1,3 |
|     |     | 8,0  | 57  | 4,0 |     | 2,5 |
|     |     | 10,0 |     | 5,0 |     | 3,1 |
|     |     | 5,0  |     | 3,5 |     | 1,6 |
|     |     | 8,0  | 76  | 5,0 |     | 2,5 |
|     |     | 10,0 |     | 6,0 |     | 3,1 |
| 125 | 133 | 4,0  |     | 3,5 |     | 1,3 |
|     |     | 6,0  | 89  | 5,0 | 100 | 1,9 |
|     |     | 8,0  |     | 6,0 |     | 2,5 |
|     |     | 5,0  |     | 4,0 |     | 1,6 |
|     |     | 8,0  | 108 | 6,0 |     | 2,5 |

|  |  |      |     |     |    |     |
|--|--|------|-----|-----|----|-----|
|  |  | 8,0  |     | 8,0 |    | 2,5 |
|  |  | 10,0 |     | 9,0 |    | 3,1 |
|  |  | 5,0  |     | 4,0 |    | 1,6 |
|  |  | 8,0  | 114 | 6,0 |    | 2,5 |
|  |  | 8,0  |     | 8,0 |    | 2,5 |
|  |  | 10,0 |     | 9,0 |    | 3,1 |
|  |  | 4,5  |     | 3,0 |    | 1,5 |
|  |  | 8,0  | 57  | 4,0 |    | 2,6 |
|  |  | 10,0 |     | 5,0 |    | 3,2 |
|  |  | 12,0 |     | 6,0 |    | 3,9 |
|  |  | 4,5  |     | 3,5 | 75 | 1,5 |
|  |  | 8,0  | 76  | 5,0 |    | 2,6 |
|  |  | 10,0 |     | 6,0 |    | 3,2 |
|  |  | 12,0 |     | 7,0 |    | 3,9 |
|  |  | 4,5  |     | 3,5 |    | 2,3 |

|     |      |      |     |     |     |     |
|-----|------|------|-----|-----|-----|-----|
| 150 | 159  | 8,0  | 89  | 6,0 | 130 | 3,9 |
|     |      | 10,0 |     | 8,0 |     | 4,8 |
|     |      | 12,0 |     | 8,0 |     | 5,9 |
|     |      | 4,5  | 108 | 4,0 |     | 2,3 |
|     |      | 8,0  |     | 6,0 |     | 3,9 |
|     |      | 10,0 |     | 8,0 |     | 4,8 |
|     |      | 12,0 |     | 9,0 |     | 5,9 |
|     |      | 4,5  | 114 | 4,0 |     | 2,3 |
|     |      | 8,0  |     | 6,0 |     | 3,9 |
|     |      | 10,0 |     | 8,0 |     | 4,8 |
|     |      | 12,0 |     | 9,0 |     | 5,9 |
|     |      | 4,5  | 133 | 4,0 |     | 2,3 |
|     | 8,0  | 8,0  |     | 3,9 |     |     |
|     | 10,0 | 10,0 |     | 4,8 |     |     |
|     | 12,0 | 10,0 |     | 5,9 |     |     |

|     |  |      |     |     |    |     |
|-----|--|------|-----|-----|----|-----|
| 150 |  | 4,5  | 57  | 3,0 | 75 | 1,6 |
|     |  | 8,0  |     | 4,0 |    | 2,7 |
|     |  | 10,0 |     | 5,0 |    | 3,3 |
|     |  | 12,0 |     | 6,0 |    | 4,0 |
|     |  | 4,5  | 76  | 3,5 | 75 | 1,6 |
|     |  | 8,0  |     | 5,0 |    | 2,7 |
|     |  | 10,0 |     | 6,0 |    | 3,3 |
|     |  | 12,0 |     | 7,0 |    | 4,0 |
|     |  | 4,5  | 89  | 3,5 | 75 | 2,6 |
|     |  | 8,0  |     | 6,0 |    | 4,1 |
|     |  | 10,0 |     | 8,0 |    | 5,1 |
|     |  | 12,0 |     | 8,0 |    | 6,2 |
|     |  | 4,5  | 108 | 4,0 | 75 | 2,6 |
|     |  | 8,0  |     | 6,0 |    | 4,1 |
|     |  | 10,0 |     | 8,0 |    | 5,1 |

|  |  |      |     |      |     |     |
|--|--|------|-----|------|-----|-----|
|  |  | 12,0 |     | 9,0  |     | 6,2 |
|  |  | 4,5  |     | 4,0  | 130 | 2,6 |
|  |  | 8,0  | 114 | 6,0  |     | 4,1 |
|  |  | 10,0 |     | 8,0  |     | 5,1 |
|  |  | 12,0 |     | 9,0  |     | 6,2 |
|  |  | 4,5  |     | 4,0  |     | 2,6 |
|  |  | 8,0  | 133 | 8,0  |     | 4,1 |
|  |  | 10,0 |     | 10,0 |     | 5,1 |
|  |  | 12,0 |     | 10,0 |     | 6,2 |
|  |  | 6,0  |     | 3,0  |     | 2,9 |
|  |  | 10,0 |     | 4,0  |     | 4,6 |
|  |  | 12,0 | 57  | 4,0  |     | 5,5 |
|  |  | 14,0 |     | 5,0  |     | 6,4 |
|  |  | 16,0 |     | 6,0  |     | 7,3 |
|  |  | 6,0  |     | 3,5  | 95  | 2,9 |

|     |      |      |     |     |     |     |
|-----|------|------|-----|-----|-----|-----|
| 200 | 219  | 10,0 | 76  | 5,0 | 95  | 4,6 |
|     |      | 12,0 |     | 5,0 |     | 5,5 |
|     |      | 14,0 |     | 6,0 |     | 6,4 |
|     |      | 16,0 |     | 7,0 |     | 7,3 |
|     | 6,0  | 89   | 3,5 | 95  | 2,9 |     |
|     | 10,0 |      | 5,0 |     | 4,6 |     |
|     | 12,0 |      | 5,0 |     | 5,5 |     |
|     | 14,0 |      | 6,0 |     | 6,4 |     |
|     | 16,0 | 8,0  | 7,3 |     |     |     |
|     | 6,0  | 108  | 4,0 | 95  | 2,9 |     |
|     | 10,0 |      | 6,0 |     | 4,6 |     |
|     | 12,0 |      | 8,0 |     | 5,5 |     |
|     | 14,0 |      | 8,0 |     | 6,4 |     |
|     | 16,0 | 9,0  | 7,3 |     |     |     |
|     | 6,0  |      | 4,0 |     | 2,9 |     |



|     |     |      |     |      |     |      |     |
|-----|-----|------|-----|------|-----|------|-----|
| 200 | 219 | 10,0 |     | 6,0  |     | 4,6  |     |
|     |     | 12,0 | 114 | 8,0  |     | 5,5  |     |
|     |     | 14,0 |     | 8,0  |     | 6,4  |     |
|     |     | 16,0 |     | 9,0  |     | 7,3  |     |
|     | 219 | 6,0  |     | 4,0  |     | 4,4  |     |
|     |     | 10,0 |     | 8,0  |     | 7,2  |     |
|     |     | 12,0 | 133 | 8,0  |     | 8,8  |     |
|     |     | 14,0 |     | 10,0 |     | 10,0 |     |
|     |     | 16,0 |     | 10,0 |     | 12,0 |     |
|     | 219 | 6,0  |     | 4,5  |     | 4,4  |     |
|     |     | 10,0 |     | 8,0  |     | 7,2  |     |
|     |     | 12,0 | 159 | 10,0 |     | 8,8  |     |
|     |     | 14,0 |     | 12,0 |     | 10,0 |     |
|     |     | 16,0 |     | 12,0 |     | 12,0 |     |
|     |     |      | 6,0 |      | 4,5 |      | 4,4 |

|     |     |      |     |      |     |      |
|-----|-----|------|-----|------|-----|------|
|     |     | 10,0 |     | 8,0  |     | 7,2  |
|     |     | 12,0 | 168 | 10,0 |     | 8,8  |
|     |     | 14,0 |     | 12,0 |     | 10,0 |
|     |     | 16,0 |     | 12,0 |     | 12,0 |
|     |     | 7,0  |     | 4,0  | 140 | 6,0  |
|     |     | 10,0 |     | 6,0  |     | 8,5  |
|     |     | 12,0 | 108 | 8,0  |     | 10,0 |
|     |     | 14,0 |     | 8,0  |     | 12,0 |
|     |     | 16,0 |     | 9,0  |     | 13,0 |
|     |     | 18,0 |     | 9,0  |     | 15,0 |
| 250 | 273 | 7,0  |     | 4,0  |     | 6,0  |
|     |     | 10,0 |     | 6,0  |     | 8,5  |
|     |     | 12,0 | 114 | 8,0  |     | 10,0 |
|     |     | 14,0 |     | 8,0  |     | 12,0 |
|     |     | 16,0 |     | 9,0  |     | 13,0 |

|  |  |      |     |      |  |      |
|--|--|------|-----|------|--|------|
|  |  | 18,0 |     | 9,0  |  | 15,0 |
|  |  | 7,0  |     | 4,0  |  | 6,0  |
|  |  | 10,0 |     | 6,0  |  | 8,5  |
|  |  | 12,0 | 133 | 8,0  |  | 10,0 |
|  |  | 14,0 |     | 8,0  |  | 12,0 |
|  |  | 16,0 |     | 10,0 |  | 13,0 |
|  |  | 18,0 |     | 10,0 |  | 15,0 |
|  |  | 7,0  |     | 4,5  |  | 8,3  |
|  |  | 10,0 |     | 8,0  |  | 12,0 |
|  |  | 12,0 | 159 | 10,0 |  | 14,0 |
|  |  | 14,0 |     | 10,0 |  | 16,0 |
|  |  | 16,0 |     | 12,0 |  | 18,0 |
|  |  | 18,0 |     | 12,0 |  | 20,0 |
|  |  | 7,0  |     | 4,5  |  | 8,3  |
|  |  | 10,0 |     | 8,0  |  | 12,0 |

|     |     |      |     |      |     |      |
|-----|-----|------|-----|------|-----|------|
| 250 | 273 | 12,0 | 168 | 10,0 | 180 | 14,0 |
|     |     | 14,0 |     | 10,0 |     | 16,0 |
|     |     | 16,0 |     | 12,0 |     | 18,0 |
|     |     | 18,0 |     | 12,0 |     | 20,0 |
|     |     | 7,0  | 219 | 6,0  |     | 8,3  |
|     |     | 10,0 |     | 8,0  |     | 12,0 |
|     |     | 12,0 |     | 10,0 |     | 14,0 |
|     |     | 14,0 |     | 12,0 |     | 16,0 |
|     |     | 16,0 |     | 14,0 |     | 18,0 |
|     |     | 18,0 |     | 16,0 |     | 20,0 |
|     |     | 8,0  | 108 | 4,0  |     | 9,0  |
|     |     | 10,0 |     | 4,0  |     | 11,0 |
|     |     | 12,0 |     | 6,0  |     | 16,0 |
|     |     | 14,0 |     | 6,0  |     | 18,0 |
|     |     | 16,0 |     | 8,0  |     | 20,0 |

|      |      |      |     |     |     |      |
|------|------|------|-----|-----|-----|------|
| 300  | 325  | 18,0 | 114 | 8,0 | 140 | 23,0 |
|      |      | 22,0 |     | 9,0 |     | 28,0 |
|      |      | 8,0  |     | 4,0 |     | 9,0  |
|      |      | 10,0 |     | 4,0 |     | 11,0 |
|      |      | 12,0 |     | 6,0 |     | 16,0 |
|      |      | 14,0 |     | 6,0 |     | 18,0 |
|      |      | 16,0 |     | 8,0 |     | 20,0 |
|      |      | 18,0 |     | 8,0 |     | 23,0 |
|      |      | 22,0 |     | 9,0 |     | 28,0 |
|      |      | 8,0  |     | 5,0 |     | 11,0 |
|      |      | 10,0 |     | 6,0 |     | 13,0 |
|      |      | 12,0 |     | 8,0 |     | 16,0 |
|      |      | 14,0 |     | 8,0 |     | 18,0 |
|      |      | 16,0 |     | 8,0 |     | 20,0 |
| 18,0 | 10,0 | 23,0 |     |     |     |      |

|     |     |      |     |      |  |      |
|-----|-----|------|-----|------|--|------|
|     |     | 22,0 |     | 10,0 |  | 28,0 |
|     |     | 8,0  |     | 4,5  |  | 11,0 |
|     |     | 10,0 |     | 6,0  |  | 14,0 |
|     |     | 12,0 |     | 8,0  |  | 16,0 |
|     |     | 14,0 | 159 | 8,0  |  | 18,0 |
|     |     | 16,0 |     | 10,0 |  | 20,0 |
|     |     | 18,0 |     | 10,0 |  | 23,0 |
|     |     | 22,0 |     | 12,0 |  | 28,0 |
|     |     | 8,0  |     | 4,0  |  | 11,0 |
|     |     | 10,0 |     | 6,0  |  | 14,0 |
|     |     | 12,0 |     | 8,0  |  | 16,0 |
| 300 | 325 | 14,0 | 168 | 8,0  |  | 18,0 |
|     |     | 16,0 |     | 10,0 |  | 20,0 |
|     |     | 18,0 |     | 10,0 |  | 23,0 |
|     |     | 22,0 |     | 12,0 |  | 28,0 |

|  |  |      |     |      |     |      |
|--|--|------|-----|------|-----|------|
|  |  | 8,0  |     | 7,0  |     | 11,0 |
|  |  | 10,0 |     | 8,0  |     | 14,0 |
|  |  | 12,0 |     | 10,0 |     | 17,0 |
|  |  | 14,0 | 219 | 10,0 |     | 20,0 |
|  |  | 16,0 |     | 12,0 |     | 22,0 |
|  |  | 18,0 |     | 14,0 |     | 25,0 |
|  |  | 22,0 |     | 16,0 |     | 31,0 |
|  |  | 8,0  |     | 7,0  | 180 | 11,0 |
|  |  | 10,0 |     | 10,0 |     | 14,0 |
|  |  | 12,0 |     | 12,0 |     | 17,0 |
|  |  | 14,0 | 273 | 12,0 |     | 20,0 |
|  |  | 16,0 |     | 14,0 |     | 22,0 |
|  |  | 18,0 |     | 16,0 |     | 25,0 |
|  |  | 22,0 |     | 18,0 |     | 31,0 |
|  |  | 12,0 |     | 6,0  |     | 22,0 |

|     |     |      |     |      |     |      |
|-----|-----|------|-----|------|-----|------|
|     |     | 16,0 |     | 8,0  |     | 29,0 |
|     |     | 20,0 | 159 | 10,0 |     | 35,0 |
|     |     | 24,0 |     | 12,0 |     | 42,0 |
|     |     | 26,0 |     | 12,0 |     | 45,0 |
|     |     | 12,0 |     | 6,0  |     | 22,0 |
|     |     | 16,0 |     | 8,0  |     | 29,0 |
|     |     | 20,0 | 168 | 10,0 |     | 35,0 |
|     |     | 24,0 |     | 12,0 |     | 42,0 |
|     |     | 26,0 |     | 12,0 |     | 45,0 |
|     |     | 12,0 |     | 8,0  |     | 22,0 |
|     |     | 16,0 |     | 10,0 |     | 29,0 |
| 350 | 377 | 20,0 | 219 | 12,0 | 220 | 35,0 |
|     |     | 24,0 |     | 14,0 |     | 42,0 |
|     |     | 26,0 |     | 16,0 |     | 45,0 |
|     |     | 10,0 |     | 7,0  |     | 20,0 |



|  |  |      |     |      |  |      |
|--|--|------|-----|------|--|------|
|  |  | 12,0 |     | 10,0 |  | 24,0 |
|  |  | 14,0 |     | 12,0 |  | 28,0 |
|  |  | 16,0 | 273 | 12,0 |  | 31,0 |
|  |  | 20,0 |     | 16,0 |  | 38,0 |
|  |  | 24,0 |     | 18,0 |  | 45,0 |
|  |  | 26,0 |     | 18,0 |  | 49,0 |
|  |  | 10,0 |     | 8,0  |  | 20,0 |
|  |  | 12,0 |     | 10,0 |  | 24,0 |
|  |  | 14,0 |     | 12,0 |  | 28,0 |
|  |  | 16,0 | 325 | 16,0 |  | 31,0 |
|  |  | 20,0 |     | 18,0 |  | 38,0 |
|  |  | 24,0 |     | 22,0 |  | 45,0 |
|  |  | 26,0 |     | 22,0 |  | 49,0 |
|  |  | 12,0 |     | 8,0  |  | 37,0 |
|  |  | 16,0 |     | 10,0 |  | 53,0 |

|  |  |      |     |      |  |      |
|--|--|------|-----|------|--|------|
|  |  | 20,0 | 159 | 10,0 |  | 65,0 |
|  |  | 22,0 |     | 10,0 |  | 71,0 |
|  |  | 26,0 |     | 12,0 |  | 83,0 |
|  |  | 28,0 |     | 12,0 |  | 89,0 |
|  |  | 12,0 |     | 8,0  |  | 37,0 |
|  |  | 16,0 |     | 10,0 |  | 53,0 |
|  |  | 20,0 | 168 | 10,0 |  | 65,0 |
|  |  | 22,0 |     | 10,0 |  | 71,0 |
|  |  | 26,0 |     | 12,0 |  | 83,0 |
|  |  | 28,0 |     | 12,0 |  | 89,0 |
|  |  | 12,0 |     | 8,0  |  | 32,0 |
|  |  | 16,0 |     | 10,0 |  | 45,0 |
|  |  | 20,0 | 219 | 12,0 |  | 56,0 |
|  |  | 22,0 |     | 12,0 |  | 61,0 |
|  |  | 26,0 |     | 14,0 |  | 72,0 |

|      |     |      |      |      |      |      |
|------|-----|------|------|------|------|------|
| 400  | 426 | 28,0 |      | 16,0 | 220  | 76,0 |
|      |     | 12,0 |      | 10,0 |      | 27,0 |
|      |     | 16,0 |      | 12,0 |      | 36,0 |
|      |     | 20,0 | 273  | 14,0 |      | 44,0 |
|      |     | 22,0 |      | 14,0 |      | 48,0 |
|      |     | 26,0 |      | 18,0 |      | 56,0 |
|      |     | 28,0 |      | 18,0 |      | 59,0 |
|      | 325 | 10,0 |      | 8,0  | 23,0 |      |
|      |     | 12,0 |      | 10,0 | 27,0 |      |
|      |     | 14,0 |      | 12,0 | 31,0 |      |
|      |     | 16,0 | 325  | 12,0 | 36,0 |      |
|      |     | 20,0 |      | 16,0 | 44,0 |      |
|      |     | 22,0 |      | 18,0 | 48,0 |      |
|      |     | 26,0 |      | 20,0 | 56,0 |      |
| 28,0 |     | 22,0 | 59,0 |      |      |      |

|     |     |      |     |      |  |      |
|-----|-----|------|-----|------|--|------|
|     |     | 10,0 |     | 10,0 |  | 23,0 |
|     |     | 12,0 |     | 12,0 |  | 27,0 |
|     |     | 14,0 |     | 14,0 |  | 31,0 |
|     |     | 16,0 | 377 | 16,0 |  | 36,0 |
|     |     | 20,0 |     | 20,0 |  | 44,0 |
|     |     | 22,0 |     | 20,0 |  | 48,0 |
|     |     | 26,0 |     | 24,0 |  | 56,0 |
|     |     | 28,0 |     | 26,0 |  | 59,0 |
|     |     | 12,0 |     | 10,0 |  | 46,0 |
|     |     | 14,0 |     | 12,0 |  | 54,0 |
|     |     | 16,0 | 377 | 12,0 |  | 61,0 |
|     |     | 20,0 |     | 16,0 |  | 75,0 |
|     |     | 22,0 |     | 20,0 |  | 81,0 |
|     |     | 26,0 |     | 22,0 |  | 94,0 |
| 500 | 530 | 12,0 |     | 10,0 |  | 46,0 |

|    |    |      |     |      |     |      |
|----|----|------|-----|------|-----|------|
|    |    | 14,0 |     | 12,0 |     | 54,0 |
|    |    | 16,0 | 426 | 16,0 |     | 61,0 |
|    |    | 20,0 |     | 16,0 | 300 | 75,0 |
|    |    | 22,0 |     | 20,0 |     | 81,0 |
|    |    | 26,0 |     | 22,0 |     | 94,0 |
| 50 | 57 | 3,0  | 45  | 2,5  | 45  | 0,2  |
|    |    | 3,5  |     | 2,5  |     | 0,2  |
|    |    | 4,0  |     | 3,0  |     | 0,3  |
|    |    | 5,0  |     | 4,0  |     | 0,3  |
|    |    | 6,0  |     | 5,0  |     | 0,4  |
| 80 | 89 | 3,5  | 76  | 3,0  | 55  | 0,5  |
|    |    | 4,0  |     | 3,5  |     | 0,5  |
|    |    | 6,0  |     | 5,0  |     | 0,7  |
|    |    | 8,0  |     | 6,0  |     | 0,9  |

|     |     |      |     |     |     |     |
|-----|-----|------|-----|-----|-----|-----|
| 125 | 133 | 5,0  | 108 | 4,0 | 80  | 1,3 |
|     |     | 6,0  |     | 5,0 |     | 1,6 |
|     |     | 8,0  |     | 7,0 |     | 2,0 |
|     |     | 10,0 |     | 9,0 |     | 2,5 |
|     |     | 5,0  | 114 | 4,5 |     | 1,3 |
|     |     | 6,0  |     | 5,0 |     | 1,6 |
|     |     | 8,0  |     | 6,0 |     | 2,0 |
|     |     | 10,0 |     | 8,0 |     | 2,5 |
| 150 | 159 | 5,0  | 114 | 4,0 | 105 | 2,0 |
|     |     | 6,0  |     | 5,0 |     | 2,5 |
|     |     | 8,0  |     | 6,0 |     | 3,1 |
|     |     | 10,0 |     | 8,0 |     | 3,8 |
|     |     | 5,0  | 133 | 4,5 |     | 2,0 |
|     |     | 6,0  |     | 5,0 |     | 2,5 |
|     |     | 8,0  |     | 7,0 |     | 3,1 |

|  |      |     |     |
|--|------|-----|-----|
|  | 10,0 | 9,0 | 3,8 |
| <b>Примечание</b> - Масса приведена для справок. |      |     |     |

**Измененная редакция. Изм. № 1)**

Примеры условных обозначений:

- концентрического перехода исполнения 1,  $D = 76,1$  мм,  $T = 2,9$  мм,  $D_1 = 48,3$  мм,  $T_1 = 2,6$  мм из стали марки Р9:

*Переход К-1-76,1 ' 2,9-48,3 ' 2,6-Р9 ГОСТ 17378-2001*

- эксцентрического перехода исполнения 2,  $D = 76$  мм,  $T = 3,0$  мм,  $D_1 = 45$  мм,  $T_1 = 2,5$  мм из стали марки 20:

*Переход Э- 76 ' 3-45 ' 2,5 ГОСТ 17378-2001*

- то же, из стали марки 09Г2С для трубопроводов, подконтрольных органам надзора:

*Переход ПЭ-76 ' 3-45 ' 2,5-09Г2С ГОСТ 17378-2001*

4.2. Толщина стенки переходов в неторцевых сечениях должна быть не менее  $T_1$  при наружном диаметре сечения не более  $1,1 D_1$ , а в остальных сечениях - не менее  $T$ .

4.3. Радиусы  $r_1$  и  $r_2$  переходов исполнения 1 должны соответствовать указанным в [таблице 3](#), а исполнения 2 устанавливаются изготовителем в конструкторской документации с учетом применяемой технологии изготовления и обеспечения требуемых показателей прочности и надежности

**Измененная редакция. Изм. № 1)**

Таблица 3 - Радиусы сопряжения поверхностей переходов исполнения 1

| Тип перехода | $r_1$    | $r_2$ |
|--------------|----------|-------|
|              | не менее |       |

|                 |      |                   |
|-----------------|------|-------------------|
| Концентрический | 0,4D | 0,4D <sub>1</sub> |
| Эксцентрический | 0,3D | 0,3D <sub>1</sub> |

**Измененная редакция. [Изм. № 1](#))**

4.4. По согласованию между изготовителем и потребителем (заказчиком) допускается изготовление переходов других размеров.

## 5. Технические условия

Технические условия - по [ГОСТ 17380](#).

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Ключевые слова: трубопроводы, детали трубопроводов, трубопроводные переходы, конструкция, размеры.

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