**Лукашев Виктор Георгиевич**

**Учебная практика. ГР 21СВ**

**08.06.-13. 06 2020г.**

**Тема: Изучение и выполнение задач ГОСТ 5264-80**

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Настоящий стандарт устанавливает основные типы, конструктивные элементы и размеры сварных соединений из сталей, а также сплавов на железоникелевой и никелевой основах, выполняемых ручной дуговой сваркой.  Стандарт не распространяется на сварные соединения стальных трубопроводов  по ГОСТ 16037-80.  2. Основные типы сварных соединений должны соответствовать указанным в [табл. 1](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#001).  3. Конструктивные элементы и их размеры должны соответствовать указанным в табл. 2 - 54.  Таблица 1   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Тип соединения | Форма подготовленных кромок | Характер сварного шва | Форма поперечного сечения | | Толщина свариваемых деталей, мм | Условное обозначение соединения | | подготовленных кромок | сварного шва | | Стыковое | С отбортовкой кромок | Односторонний | img2 | img3 | 1-4 | [С1](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#002) | | img4 | img5 | 1-12 | [С28](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#003) | | С отбортовкой одной кромки | img6 | img7 | 1-4 | [С3](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#004) | | Стыковое | Без скоса кромок | img8 | img9 | 1-4 | [С2](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#005) | | Односторонний на съемной подкладке | img10 | img11 | [С4](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#006) | | Односторонний на остающейся подкладке | img12 | img13 | [С5](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#007) | | Односторонний замковый | img14 | img15 | 1-4 | [С6](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#008) | | Двухсторонний | img17 | img16 | 2-5 | [С7](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#009) | | Стыковое | Без скоса кромок последующей дорожкой | img18 | 6-12 | [С42](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#010) | | img19 | | Стыковое | Со скосом одной кромки | Односторонний | img20 | img21 | [С8](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#011) | | Односторонний на съемной подкладке | img22 | img23 | [С9](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#012) | | Односторонний на остающейся подкладке | img24 | img25 | 3-60 | [C10](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#013) | | Односторонний замковый | img26 | img27 | [C11](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#014) | | Двухсторонний | img28 | img29 | [C12](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#015) | | Стыковое | С криволинейным скосом одной кромки | img30 | img31 | 15-100 | [C13](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#016) | | Стыковое | С ломаным скосом одной кромки | img32 | img33 | [C14](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#017) | | Стыковое | С двумя симметричными скосами одной кромки | Двухсторонний | img34 | img35 | 8-100 | [C15](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#018) | | Стыковое | С двумя симметричными  криволинейными скосами одной кромки | img36 | img37 | 30-120 | [C16](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#019) | | Стыковое | С двумя симметричными скосами одной кромки | img38 | img39 | 12-100 | [C43](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#020) | | Стыковое | Со скосом кромок | Односторонний | img40 | img41 | 3-60 | [С17](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#021) | | Односторонний на съемной подкладке | img42 | img43 | [С18](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#022) | | Стыковое | Со скосом кромок | Односторонний на остающейся подкладке | img44 | img45 | 6-100 | [С19](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#023) | | Стыковое |  | Односторонний замковый | img46 | img47 | 3-60 | [С20](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#024) | | Стыковое |  | Двусторонний | img48 | img49 | [С21](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#025) | | Стыковое | Со скосом кромок с последующей дорожкой | Двусторонний | img50 | img51 | 8-40 | [С45](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#026) | | Стыковое | img52 | | Стыковое | С криволинейным скосом кромок | Двусторонний | img53 | img54 | 15-120 | [С23](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#027) | | Стыковое | С ломаным скосом кромок | Двусторонний | img55 | img56 | [С24](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#028) | | Стыковое | С двумя симметричными скосами кромок | Двусторонний | img57 | img58 | 8-120 | [С25](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#029) | | Стыковое | С двумя симметричными криволинейными скосами кромок | Двусторонний | img59 | img60 | 30-175 | [С26](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#030) | | Стыковое | С двумя симметричными ломаными скосами кромок | Двусторонний | img61 | img62 | 30-75 | [С27](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#031) | | Стыковое | С двумя несимметричными скосами кромок | Двусторонний | img63 | img64 | 12-120 | [С39](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#032) | | Стыковое | Двусторонний | img65 | img66 | [С40](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#033) | | Угловое | С отбортовкой одной кромки | Односторонний | img67 | img68 | 1-4 | [У1](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#034) | | Угловое | Без скоса кромок | Односторонний | img69 | img70 | 1-12 | [У2](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#035) | | img71 | img72 | [1-6](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#036) | [У4](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#036) | | img73 | img74 | [1-30](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#037) | | Угловое | Без скоса кромок | Двусторонний | img75 | img76 | [2-8](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#038) | [У5](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#038) | | img77 | img78 | [2-30](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#039) | | Угловое | Со скосом одной кромки | Односторонний | img79 | img80 | 3-60 | [У6](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#040) | | Двусторонний | img81 | [У7](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#041) | | Угловое | С двумя симметричными скосами одной кромки | img82 | img83 | 8-100 | [У8](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#042) | | Угловое | Со скосом кромок | Односторонний | img84 | img85 | 3-60 | [У9](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#043) | | Двусторонний | img86 | [У10](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#044) | | Тавровое | Без скоса кромок | Односторонний | img87 | img88 | 2-10 | [Т1](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#045) | | Двусторонний | img89 | [Т3](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#046) | | Тавровое | Со скосом одной кромки | Односторонний | img90 | img91 | 3-60 | [Т6](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#047) | | Двусторонний | img92 | [Т7](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#048) | | Тавровое | С криволинейным скосом одной кромки | Двусторонний | img93 | img94 | 15-100 | [Т2](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#049) | | Тавровое | С двумя симметричными скосами одной кромки | Двусторонний | img95 | img96 | 8-100 | [Т8](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#050) | | img97 | img98 | 12-100 | [Т9](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#051) | | Тавровое | С двумя симметричными криволинейными скосами одной кромки | Двусторонний | img99 | img100 | 30-120 | [Т5](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#052) | | Нахлесточное | Без скоса кромок | Односторонний | img101 | img102 | 2-60 | [Н1](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#053) | | Двусторонний | img103 | [Н2](http://graph.power.nstu.ru/wolchin/umm/svarka/gost5264_80.htm#054) |   Таблица 2  Размеры,  мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение сварного соединения | Конструктивные элементы | | *s* | *b* | | *R* | *i* | *e*,  не более | | подготавливаемых кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | | С1 | img104 | img105 | От 1 до 2 | 0 | +0,5 | От s до 2s | От s до 3s | 2s + 3 | | Св. 2 до 4 | +1,0 |   \* размер для справок  Таблица 3  Размеры,  мм   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s* | *R* | *e*,  не более | *g* | | | подготавливаемых кромок свариваемых деталей | сварного шва | Номин | Пред. откл. | | С28 | img106 | img107 | От 1 до 2 | От s до 2s | 3s +2 | 0 | +1 | | Св. 2 до 6 | 2s + 3 | | Св. 6 до 9 | +2 | | Св. 9 до 12 | 2s + 4 | +3 |   Таблица 4  Размеры,  мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s* | *b* | | *R* | *i* | *e*,  не более | | подготавливаемых кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | | С3 | img108 | img109 | От 1 до 2 | 0 | +0,5 | От s до 2s | От s до 3s | 2s + 3 | | Св. 2 до 4 | +1,0 |   \* размер для справок  Таблица 5  Размеры,  мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s=s1* | *b* | | *e*,  не более | *g* | | | подготавливаемых кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | С2 | img110 | img111 | От 1,0 до 1,5 | 0 | +0,5 | 6 | 1,0 | ±0,5 | | Св.1,5 до 3,0 | 1 | ±1,0 | 7 | 1,5 | ±1,0 | | Св.3,0 до 4,0 | 2 | +1,0  -0,5 | 8 | 2,0 |   Таблица 6  Размеры,  мм   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s=s*1 | *b* | | e,  не более | e1,  не более | *g* | | | подготавливаемых кромок свариваемых деталей | сварного шва | Номин. | Пред откл. | Номин. | Пред откл. | | С4 | img112 | img113 | От 1,0 до 1,5 | 0 | +0,5 | 6 | 4 | 1,0 | ±0,5 | | Св.1,5 до 3,0 | 1 | ±1,0 | 7 | 6 | 1,5 | ±1,0 | | Св.3,0 до 4,0 | 2 | +1,0  -0,5 | 8 |  | 2,0 |     Таблица 7  Размеры,  мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s=s*1 | *b* | | *e*,  не более | *g* | | | подготавливаемых кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | С5 | img114 | img115 | От 1,0 до 1,5 | 0 | +0,5 | 6 | 1,0 | ±0,5 | | Св.1,5 до 3,0 | 1 | ±1,0 | 7 | 1,5 | ±1,0 | | Св.3,0 до 4,0 | 2 | +1,0  -0,5 | 8 | 2,0 |   Таблица 8  Размеры,  мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s=s1* | *b* | | *e*,  не более | *g* | | | подготавливаемых кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | С6 | img116 | img117 | От 1,0 до 1,5 | 0 | +0,5 | 6 | 1,0 | ±0,5 | | Св.1,5 до 3,0 | 1 | ±1,0 | 7 | 1,5 | ±1,0 | | Св.3,0 до 4,0 | 2 | +1,0  -0,5 | 8 | 2,0 |   Таблица 9  Размеры,  мм   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | s=s1 | b | | e,  не более | g  Номин. | | подготавливаемых кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | | С7 | img118 | img119 | 2 | 2 | (1,0 | 8 | 1,5 | | Св.2 до 4 | 9 | | Св.4 до 5 | +1,5  -1,6 | 10 | 2,0 |     Таблица 10  Размеры,  мм   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s=s1* | *h±1* | *f±1* | *e*,  не более | *e*1,  не более | | подготавливаемых кромок свариваемых деталей | сварного шва | | С42 | img120 | img121 | От 6 до 8 | 4 | 7 | 10 | 12 | | img122 | Св.8 до 10 | 6 | 9 | 12 | 14 | | Св.10 до 12 | 8 | 11 | 14 | 16 |   Таблица 11  Размеры,  мм   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s=s1* | *e* | | *g* | | | подготавливаемых кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | С8 | img123 | img124 | От 3 до 5 | 8 | +0,5 | 1,0 | ±0,5 | | Св.5 до 8 | 12 | ±2 | 0,5 | ±1,5 | | Св.8 до 11 | 16 | -0,5  +2,0 | | Св.11 до 14 | 20 | | Св.14 до 17 | 24 | ±3 | | Св.17 до 20 | 28 | -0,5 | | Св.20 до 24 | 32 | | Св.24 до 28 | 35 | | Св.28 до 32 | 38 | | Св.32 до 36 | 41 | | Св.36 до 40 | 44 | | Св.40 до 44 | 49 | ±4 | | Св.44 до 48 | 53 | | Св.48 до 52 | 56 | | Св.52 до 56 | 60 | | Св.56 до 60 | 64 |   Таблица 12  Размеры,  мм   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | s=s1 | b±1 | e | | e1±2 | g | | | подготавливаемых кромок свариваемых деталей | сварного шва | Номин. | Пред откл. | Номин | Пред откл. | | С9 | img125 | img126 | От 3 до 5 | 3 | 10 | ±2 | 4 | 0,5 | +1,5  -0,5 | | Св.5 до 8 | 14 | | Св.8 до 11 | 4 | 18 | | Св.11 до 14 | 22 | 6 | | Св.14 до 17 | 5 | 26 | ±3 | +2,0  -0,5 | | Св.17 до 20 | 30 | | Св.20 до 24 | 34 | 8 | | Св.24 до 28 | 38 | | Св.28 до 32 | 41 | | Св.32 до 36 | 44 | | Св.36 до 40 | 49 | | Св.40 до 44 | 53 | ±4 | | Св.44 до 48 | 56 | | Св.48 до 52 | 60 | | Св.52 до 56 | 64 | | Св.56 до 60 | 68 |     Таблица 13  Размеры, мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначениесварного соединения | Конструктивные элементы | | *s = s*1 | *b±1* | *е* | | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | С10 | img127 | img128 | От 3 до 5 | 3 | 10 | ±2 | 0,5 | +1,5  -0,5 | | Св.5 до 8 | 14 | | Св.8до11 | 18 | | Св.11 до14 | 4 | 22 | | Св.14 до17 | 26 | | Св.17 до 20 | 30 | | Св.20 до 24 | 34 | | Св.24 до 28 | 38 | ±3 | | Св.28 до 32 | 41 | | Св.32 до 36 | 44 | | Св.36 до 40 | 5 | 49 | | Св.40 до 44 | 53 | +2,0  -0,5 | | Св.44 до 48 | 56 | | Св.48 до 52 | 60 | ±4 | | Св.52 до 56 | 64 | | Св.56 до 60 | 68 |     Таблица 14  Размеры, мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначениесварного соединения | Конструктивные элементы | | *s* | *b±1* | *e* | | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | С11 | img129 | img130 | От 3 до 5 | 3 | 10 | ±2 | 0,5 | +1,5  -0,5 | | Св.5 до 8 | 14 | | Св.8 до 11 | 18 | | Св.11 до 14 | 4 | 22 | | Св.14 до 17 | 26 | | Св.17 до 20 | 30 | | Св.20 до 24 | 34 | ±3 | | Св.24 до 28 | 38 | | Св.28 до 32 | 41 | | Св.32 до 36 | 44 | | Св.36 до 40 | 5 | 49 | +2,0  -0,5 | | Св.40 до 44 | 53 | | Св.44 до 48 | 56 | | Св. 48 до 52 | 60 | ±4 | | Св.52 до 56 | 64 | | Св.56  до 60 | 68 |   Таблица 15  Размеры, мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение сварного соединения | Конструктивные элементы | | *s = s*1 | *e* | | *e*1±2 | *g = g*1 | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | С12 | img131 | img132 | От 3 до 5 | 8 | ±2 | 8 | 0,5 | +1,5  -0,5 | | Св.5 до 8 | 12 | | Св.8 до 11 | 16 | | Св.11 до 14 | 20 | | Св.14 до 17 | 24 | | Св.17 до 20 | 28 | 10 | | Св.20 до 24 | 32 | | Св. 24 до 28 | 35 | ±3 | | Св. 28 до 32 | 38 | | Св.32 до 36 | 41 | +2,0  -0,5 | | Св.36 до 40 | 44 | | Св.40 до 44 | 49 | | Св.44 до 48 | 53 | 12 | | Св.48 до 52 | 56 | ±4 | | Св.52 до 56 | 60 | | Св.56 до 60 | 64 |   Таблица 16  Размеры, мм   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначениесварного соединения | Конструктивные элементы | | *s = s*1 | *R*±1 | *e* | | *e*1±2 | *s = s*1 | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред.  откл. | Номин. | Пред.  откл. | | С13 | img133 | img134 | От 15 до 17 | 8 | 16 | ±3 | 10 | 0,5 | +2,0  -0,5 | | Св.17 до 20 | 17 | | Св.20 до 24 | 18 | | Св.24 до 28 | 19 | | Св.28 до 32 | 20 | | Св.32 до 36 | 22 | | Св.36 до 40 | 24 | | Св.40 до 44 | 26 | | Св.44 до 48 | 28 | 12 | | Св.48 до 52 | 30 | ±4 | | Св.52 до 56 | 32 | | Св.56 до 60 | 34 | | Св.60 до 64 | 36 | | Св.64 до 70 | 38 | | Св.70 до 76 | 40 | ±5 | 14 | +3,0  -0,5 | | Св.76 до 82 | 10 | 42 | | Св.82 до 88 | 44 | | Св.88 до 94 | 46 | | Св.94 до100 | 48 |   Таблица 17  Размеры, мм   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение сварногосоединения | Конструктивные элементы | | *s = s1* | *h*1±1 | *e* | | *e*1±2 | *g* =*g*1 | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Предв. откл. | | С14 | img135 | img136 | От 15 до 17 | 10 | 16 | ±3 | 10 | 0,5 | +2,0  -0,5 | | Св.17 до 20 | 17 | | Св.20 до 24 | 18 | | Св.24 до28 | 19 | | Св.28 до32 | 20 | | Св.32 до 36 | 22 | | Св.36 до 40 | 24 | | Св.40 до 44 | 26 | | Св.44 до 48 | 28 | 12 | | Св.48 до 52 | 30 | ±4 | | Св.52 до 56 | 12 | 32 | | Св.56 до 60 | 34 | | Св.60 до 64 | 36 | | Св.64 до70 | 38 | | Св.70 до 76 | 40 | ±5 | | Св.76 до 82 | 42 | 14 | +3,0  -0,5 | | Св.82 до 88 | 44 | | Св.88 до94 | 46 | | Св.94 до100 | 48 |     Таблица 18  Размеры, мм   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначениесварного соединения | Конструктивные элементы | | *s = s*1 | *e* | | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | С15 | img137 | img138 | От 8 до 11 | 10 | ±2 | 0,5 | +1,5  -0,5 | | Св.11 до 14 | 12 | | Св.14 до 17 | 14 | | Св.17 до 20 | 16 | | Св.20 до 24 | 18 | | Св.24 до 28 | 20 | | Св.28 до 32 | 22 | | Св.32 до 36 | 24 | ±3 | +2,0  -0,5 | | Св.36 до 40 | 26 | | Св.49 до 44 | 28 | | Св.44 до 48 | 30 | | Св.48 до 52 | 32 | | Св.52 до 56 | 34 | | Св.56 до 60 | 36 | | Св.60 до 64 | 39 | | Св.64 до 70 | 42 | | Св.70 до 76 | 45 | -3,0  -0,5 | | Св.76 до 82 | 48 | ±4 | | Св.82 до 88 | 51 | | Св.88 до 94 | 54 | | Св.94 до100 | 58 |     Таблица 19  Размеры, мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначениесварного элемента | Конструктивные элементы | | *s = s*1 | R±1 | *e* | | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | C16 | img139 | img140 | От 30 до 32 | 8 | 16 | ±3 | 0,5 | +2,0  -0,5 | | Св.32 до 36 | 17 | | Св. 36 до 40 | 18 | | Св. 40 до 44 | 19 | | Св. 44 до 48 | 20 | | Св. 48 до 52 | 21 | | Св. 52 до 56 | 22 | | Св. 56 до 60 | 23 | | Св. 60 до 64 | 10 | 24 | | Св. 64 до 70 | 25 | | Св. 70 до 76 | 26 | | Св. 76 до 82 | 27 | | Св. 82 до 88 | 28 | ±4 | +3,0  -0,5 | | Св. 88 до 94 | 29 | | Св. 94 до 100 | 30 | | Св. 100 до 106 | 32 | | Св. 106 до 112 | 34 | | Св. 112 до 118 | 36 | | Св. 118 до 120 | 38 |     Таблица 20  Размеры, мм   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение сварногосоединения | Конструктивные элементы | | *s = s1* | *e* | | *e*1 | | *g* =*g*1 | | | подготовленных кромок свариваемых деталей | сварного шва | Номин | Пред. откл. | Номин | Пред. откл. | Номин | Пред. откл. | | С43 | img141 | img142 | От 12 до 14 | 18 | ±2 | 15 | ±2 | 0,5 | +1,5  -0,5 | | Св.14 до 17 | 19 | 16 | | Св.17 до 20 | 20 | 17 | | Св.20 до24 | 22 | ±3 | 18 | | Св.24 до28 | 24 | 19 | | Св.28 до 32 | 27 | 20 | +2,0  -0,5 | | Св.32 до 36 | 30 | 21 | | Св.36 до 40 | 33 | 22 | | Св.40 до 44 | 36 | 23 | | Св.44 до 48 | 39 | 25 | | Св.48 до 52 | 42 | 27 | | Св.52 до 56 | 45 | 29 | | Св.56 до 60 | 48 | 31 | | Св.60 до 64 | 51 | 33 | | Св.64 до 70 | 54 | 35 | | Св.70 до 76 | 57 | 37 | | Св.76 до 82 | 60 | ±4 | 39 | ±3 | +3,0  -0,5 | | Св.82 до 88 | 63 | 41 | | Св.88 до 94 | 66 | 43 | | Св.94 до 100 | 69 | 45 |     Таблица 21  Размеры, мм   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначениесварного соединения | Конструктивные элементы | | *s = s*1 | *e* | | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | С17 | img143 | img144 | От 3 до 5 | 8 | ±2 | 0,5 | +1,5  -0,5 | | Св.5 до 8 | 12 | | Св.8 до 11 | 16 | | Св.11 до 14 | 19 | | Св.14 до 17 | 22 | | Св.17 до 20 | 26 | | Св.20 до 24 | 30 | ±3 | | Св.24 до 28 | 34 | | Св.28 до 32 | 38 | | Св.32 до 36 | 42 | +2,0  -0,5 | | Св.36 до 40 | 47 | | Св.49 до 44 | 52 | | Св.44 до 48 | 54 | | Св.48 до 52 | 56 | ±4 | | Св.52 до 56 | 60 |  | | Св.56 до 60 | 65 |  |     Таблица 22  Размеры, мм   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначениесварного соединения | Конструктивные элементы | | *s = s*1 | *b*±1 | *e* | | *e*1±1 | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | С18 | img145 | img146 | От 3 до 5 | 3 | 10 | ±2 | 4 | 0,5 | +1,5  -0,5 | | Св.5 до 8 | 16 | | Св.8 до 11 | 4 | 20 | | Св.11 до 14 | 24 | | Св.14 до 17 | 28 | 6 | | Св.17 до 20 | 32 | | Св.20 до 24 | 36 | | Св.24 до 28 | 40 | ±3 | | Св.28 до32 | 44 | | Св.32 до36 | 48 | +2,0  -0,5 | | Св.36 до 40 | 5 | 50 | | Св.40 до 44 | 54 | | Св.44 до 48 | 56 | | Св.48 до 52 | 60 | ±4 | | Св.52 до 56 | 63 | | Св.56 до 60 | 68 |   Таблица 23  Размеры, мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначениесварного элемента | Конструктивные элементы | | *s = s*1 | *b*±1 | *e* | | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | C19 | img147 | img148 | От 6 до 10 | 8 | 17 | ±2 | 0,5 | +1,5  -0,5 | | Св.10 до 14 | 19 | | Св. 14 до 18 | 22 | | Св. 18 до 22 | 24 | | Св. 22 до 26 | 26 | | Св. 26 до 30 | 28 | ±3 | | Св. 30 до 35 | 30 | +2,0  -0,5 | | Св. 35 до 40 | 32 | | Св. 40 до 47 | 34 | | Св. 47 до 54 | 36 | ±4 | | Св. 54 до 60 | 38 | | Св. 60 до 66 | 12 | 40 | | Св. 66 до 72 | 44 | +3,0  -0,5 | | Св. 72 до 78 | 48 | ±5 | | Св. 78 до 85 | 52 | | Св. 85 до 92 | 56 | | Св. 92 до 100 | 60 |     Таблица 24  Размеры, мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение   сварного элемента | Конструктивные элементы | | *s* | *b*±1 | *e* | | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | C20 | img149 | img150 | От 3 до 5 | 3 | 10 | ±2 | 0,5 | +1,5  -0,5 | | Св.5 до 8 | 16 | | Св. 8 до 11 | 20 | | Св. 11 до 14 | 4 | 24 | | Св. 14 до 17 | 28 | | Св. 17 до 20 | 32 | | Св. 20 до 24 | 36 | ±3 | | Св. 24 до 28 | 40 | | Св. 28 до 32 | 44 | +2,0  -0,5 | | Св. 32 до 36 | 5 | 48 | | Св. 36 до 40 | 50 | | Св. 40 до 44 | 54 | | Св. 44 до 48 | 56 | | Св. 48 до 52 | 60 | ±4 | | Св. 52 до 56 | 63 | | Св. 56 до 60 | 68 |     Таблица 25  Размеры, мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение сварного соединения | Конструктивные элементы | | *s = s*1 | *e* | | *e*1±2 | *g = g*1 | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | С21 | img151 | img152 | От 3 до 5 | 8 | ±2 | 8 | 0,5 | +1,5  -0,5 | | Св.5 до 8 | 12 | | Св.8 до 11 | 16 | | Св.11 до 14 | 19 | | Св.14 до 17 | 22 | | Св.17 до 20 | 26 | 10 | | Св.20 до 24 | 30 | | Св. 24 до 28 | 34 | ±3 | | Св. 28 до 32 | 38 | | Св.32 до 36 | 42 | +2,0  -0,5 | | Св.36 до 40 | 47 | | Св.40 до 44 | 52 | | Св.44 до 48 | 54 | 12 | | Св.48 до 52 | 56 | ±4 | | Св.52 до 56 | 60 |     Таблица 26  Размеры, мм   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s = s*1 | |  |  | | --- | --- | | c | +2 | | -1 | | |  |  | | --- | --- | | *h* | +2 | | -1 | | |  |  | | --- | --- | | *f* | +2 | | -1 | | *e* | | *e*1±2 | *g = g*1 | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл | | C 45 | img153 | img154  img155 | От 8 до 11 | 4 | 6 | 12 | 14 | ±2 | 18 | 0,5 | +1,5  -0,5 | | Св. 11 до 14 | 16 | | Св.14 до 17 | 20 | | Св.17 до 20 | 24 | | Св.20 до 24 | 7 | 9 | 14 | 27 | 20 | | Св.24 до 28 | 30 | ±3 | +2,0  -0,5 | | Св.28 до 32 | 34 | | Св.32 до 36 | 10 | 12 | 16 | 36 | 22 | | Св.36 до 40 | 38 |   Таблица 27  Размеры, мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение сварного соединения | Конструктивные элементы | | *s = s*1 | *e* | | *e*1±2 | *g = g*1 | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | С23 | img156 | img157 | От 15 до 17 | 26 | ±3 | 10 | 0,5 | +2,0  -0,5 | | Св.17 до 20 | 28 | | Св.20 до 24 | 30 | | Св.24 до 28 | 32 | | Св.28 до 32 | 33 | | Св.32 до 36 | 34 | | Св.36 до 40 | 35 | | Св. 40 до 44 | 36 | | Св. 44 до 48 | 38 | 12 | | Св.48 до 52 | 40 | ±4 | | Св.52 до 56 | 42 | | Св.56 до 60 | 44 | | Св.60 до 64 | 46 | | Св.64 до 70 | 48 | | Св.70 до 76 | 50 | | Св.76 до 82 | 52 | ±5 | 14 | +3,0  -0,5 | | Св.82 до 88 | 54 | | Св.88 до 94 | 56 | | Св.94 до 100 | 60 |   Таблица 28  Размеры, мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение сварного  соединения | Конструктивные элементы | | *s = s*1 | *e* | | *e*1±2 | *g = g*1 | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | С24 | img158 | img159 | От 15 до 17 | 24 | ±3 | 10 | 0,5 | +2,0  -0,5 | | Св.17 до 20 | 26 | | Св.20 до 24 | 28 | | Св.24 до 28 | 30 | | Св.28 до 32 | 32 | | Св.32 до 36 | 34 | | Св.36 до 40 | 36 | | Св. 40 до 44 | 38 | | Св. 44 до 48 | 40 | 12 | | Св.48 до 52 | 42 | ±4 | | Св.52 до 56 | 44 | | Св.56 до 60 | 46 | | Св.60 до 64 | 48 | | Св.64 до 70 | 50 | | Св.70 до 76 | 52 | | Св.76 до 82 | 54 | ±5 | 14 | +3,0  -0,5 | | Св.82 до 88 | 56 | | Св.88 до 94 | 58 | | Св.94 до 100 | 60 |   Таблица 29  Размеры, мм   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s = s*1 | *e* | | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | С25 | img160 | img161 | Св.8 до 11 | 10 | ±2 | 0,5 | +1,5  -0,5 | | Св.11 до 14 | 12 | | Св.14 до 17 | 14 | | Св.17 до 20 | 16 | | Св.20 до 24 | 18 | | Св.24 до 28 | 20 | | Св.28 до 32 | 22 | | Св.32 до 36 | 24 | +2,0  -0,5 | | Св.36 до 40 | 26 | ±3 | | Св.49 до 44 | 28 | | Св.44 до 48 | 30 | | Св.48 до 52 | 32 | | Св.52 до 56 | 34 | | Св.56 до 60 | 36 | | Св.60 до 64 | 39 | | Св.64 до 70 | 42 | | Св.70 до 76 | 45 | | Св.76 до 82 | 48 | | Св.82 до 88 | 51 | | Св.88 до 94 | 54 | ±4 | +3,0  -0,5 | | Св.94 до 100 | 57 | | Св.100 до 106 | 60 | | Св.106 до 112 | 63 | | Св.112 до 118 | 66 | | Св.118 до 120 | 68 |   Таблица 30  Размеры, мм   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s = s*1 | *e* | | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | С26 | img162 | img163 | От 30 до 34 | 23 | ±3 | 0,5 | +2,0  -0,5 | | Св.34 до 38 | 24 | | Св.38 до 42 | 25 | | Св.42 до 46 | 26 | | Св.46 до 50 | 27 | | Св.50 до 54 | 28 | | Св.54 до 60 | 29 | | Св.60 до 66 | 31 | | Св.66 до 72 | 33 | | Св.72 до 78 | 34 | | Св.78 до 84 | 36 | | Св.84 до 90 | 38 | ±4 | | Св.90 до 96 | 40 | | Св.96 до 100 | 42 | | Св.100 до 108 | 44 | +3,0  -0,5 | | Св.108 до 116 | 46 | | Св.116 до 124 | 48 | | Св.124 до 132 | 50 | | Св.132 до 140 | 52 | | Св.140 до 148 | 54 | | Св.148 до 156 | 56 | ±5 | | Св.156 до 164 | 60 | | Св.164 до 170 | 64 | | Св.170 до 175 | 68 |   Таблица 31  Размеры, мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение   сварного элемента | Конструктивные элементы | | *s =s*1 | *h*±1 | *e* | | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | C27 | img164 | img165 | От 30 до 34 | 8 | 17 | ±3 | 0,5 | +2,0  -0,5 | | Св.34 до 38 | 18 | | Св.38 до 42 | 20 | | Св.42 до 46 | 21 | | Св.46 до 50 | 22 | | Св.50 до 54 | 23 | | Св.54 до 60 | 25 | | Св.60 до 66 | 28 | | Св.66 до 72 | 30 | | Св.72 до 78 | 32 | | Св.78 до 84 | 12 | 34 | | Св.84 до 90 | 36 | ±4 | | Св.90 до 96 | 38 | | Св.96 до 100 | 40 | | Св.100 до 108 | 42 | | Св.108 до 116 | 44 | +3,0  -0,5 | | Св.116 до 124 | 46 | | Св.124 до 132 | 50 | | Св.132 до 140 | 20 | 54 | | Св.140 до 148 | 57 | | Св.148 до 156 | 60 | ±5 | | Св.156 до 164 | 64 | | Св.164 до 170 | 68 | | Св.170 до 175 | 72 |     Таблица 32  Размеры, мм   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного элемента | Конструктивные элементы | | *s =s*1 | *e* | | *e*1 | | *g=g*1 | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | Номин. | Пред. откл. | | C39 | img166 | img167 | От 12 до 14 | 16 | ±2 | 11 | ±2 | 0,5 | +1,5  -0,5 | | Св.14 до 17 | 18 | 12 | | Св.17 до 20 | 20 | 13 | | Св.20 до 24 | 22 | 14 | | Св.24 до 28 | 25 | 16 | | Св.28 до 32 | 28 | 18 | | Св.32 до 36 | 30 | 20 | +2,0  -0,5 | | Св.36 до 40 | 32 | ±3 | 22 | | Св.40 до 44 | 35 | 24 | | Св.44 до 48 | 38 | 25 | | Св.48 до 52 | 41 | 26 | | Св.52 до 56 | 44 | 27 | | Св.56 до 60 | 47 | 28 | | Св.60 до 64 | 49 | 29 | | Св.64 до 70 | 51 | 30 | | Св.70 до 76 | 53 | 31 | | Св.76 до 82 | 55 | 32 | | Св.82 до 88 | 57 | 33 | +3,0  -0,5 | | Св.88 до 94 | 60 | ±4 | 34 | ±3 | | Св.94 до 100 | 63 | 35 | | Св.100 до 106 | 66 | 36 | | Св.106 до 112 | 69 | 38 | | Св.112 до 118 | 72 | 40 | | Св.118 до 120 | 75 | 42 |     Таблица 33  Размеры, мм   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение   сварного элемента | Конструктивные элементы | | *s =s*1 | *e* | | *e*1 | | *g=g*1 | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | Номин. | Пред. откл. | | C40 | img168 | img169 | От 12 до 14 | 20 | ±2 | 10 | ±2 | 0,5 | +1,5  -0,5 | | Св.14 до 17 | 22 | 11 | | Св.17 до 20 | 23 | 12 | | Св.20 до 24 | 24 | 13 | | Св.24 до 28 | 25 | 14 | | Св.28 до 32 | 26 | 15 | | Св.32 до 36 | 27 | 16 | +2,0  -0,5 | | Св.36 до 40 | 28 | ±3 | 18 | | Св.40 до 44 | 29 | 20 | | Св.44 до 48 | 30 | 21 | | Св.48 до 52 | 31 | 23 | | Св.52 до 56 | 32 | 25 | | Св.56 до 60 | 33 | 27 | | Св.60 до 64 | 34 | 29 | | Св.64 до 70 | 36 | 30 | | Св.70 до 76 | 38 | 31 | | Св.76 до 82 | 40 | 32 | | Св.82 до 88 | 42 | 34 | +3,0  -0,5 | | Св.88 до 94 | 44 | ±4 | 36 | ±3 | | Св.94 до 100 | 47 | 38 | | Св.100 до 106 | 50 | 40 | | Св.106 до 112 | 52 | 42 | | Св.112 до 118 | 54 | 44 | | Св.118 до 120 | 56 | 46 |     Таблица 34  Размеры, мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s* | *b* | | *R* | *i* | *e*, не более | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | | УI | img170 | img171 | От 1 до 2 | 0 | +0,5 | От *s*до 2*s* | От *s*до 3*s* | 2*s* +3 | | Св.2 до 4 | +1,0 |     Таблица 35  Размеры, мм   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  свариваемого соединения | Конструктивные элементы | | *s* | *R* | *e*, не более | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | | У2 | img172 | img173 | От 1 до 2 | От s до 2 s | 5 | 0 | +1 | | Св.2 до 6 | 7 | | Св.6 до 9 | 13 | +2 | | Св.9 до 12 | 17 |     Таблица 36  Размеры, мм   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  свариваемого соединения | Конструктивные элементы | | *s* | *n* | *b* | | *е*, не более | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл | | У4 | img174 | img175 | От 0,1 до 1,5 | От 0 до 0,5 *s* | 0 | +0,5 | 6 | | Св.1,5 до 3,0 | +1,0 | 8 | | Св.3,0 до 5,0 | 10 | | Св.5,0 до 6,0 | +2,0 | 12 |     Таблица 37  Размеры, мм   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  свариваемого соединения | Конструктивные элементы | | *s* | *n* | *b* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл | | У4 | img176 | img177 | От 0,1 до 1,5 | От 0,5 до *s* | 0 | +0,5 | | Св.1,5 до 3,0 | +1,0 | | Св.3,0 до 30,0 | +2,0 |     Таблица 38  Размеры, мм   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  свариваемого соединения | Конструктивные элементы | | *s* | *n* | *b* | | *е*, не более | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл | | У5 | img178 | img179 | От 2 до 3 | От 0 до 0,5 *s* | 0 | +1 | 8 | | Св.3 до 5 | 10 | | Св.5 до 6 | 12 | | Св.6 до 8 | +2 | 14 |   Таблица 39  Размеры, мм   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  свариваемого соединения | Конструктивные элементы | | *s* | *n* | *b* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл | | У5 | img180 | img181 | От 2 до 3 | От 0,5 до  *s* | 0 | +1 | | Св.3 до 30 | +2 |     Таблица 40  Размеры, мм   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s* | *e* | | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. окл. | Номин. | Пред. откл. | | У6 | img182 | img183 | От 3 до 5 | 8 | ±2 | 0,5 | +1,5  -0,5 | | Св.5 до 8 | 12 | | Св.8 до 11 | 16 | | Св.11 до 14 | 20 | | Св.14 до 17 | 24 | | Св.17 до 20 | 28 | | Св.20 до 24 | 32 | | Св.24 до 28 | 35 | +2,0  -0,5 | | Св.28 до 32 | 38 | ±3 | | Св.32 до 36 | 41 | | Св.36 до 40 | 44 | | Св.40 до 44 | 49 | | Св.44 до 48 | 53 | | Св.48 до 52 | 56 | ±4 | | Св.52 до 56 | 60 | | Св.56 до 60 | 64 |     Таблица 41  Размеры, мм   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s* | *e* | | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. окл. | Номин. | Пред. откл. | | У7 | img184 | img185 | От 3 до 5 | 8 | ±2 | 0,5 | +1,5  -0,5 | | Св.5 до 8 | 12 | | Св.8 до 11 | 16 | | Св.11 до 14 | 20 | | Св.14 до 17 | 24 | | Св.17 до 20 | 28 | | Св.20 до 24 | 32 | | Св.24 до 28 | 35 | +2,0  -0,5 | | Св.28 до 32 | 38 | ±3 | | Св.32 до 36 | 41 | | Св.36 до 40 | 44 | | Св.40 до 44 | 49 | | Св.44 до 48 | 53 | | Св.48 до 52 | 56 | ±4 | | Св.52 до 56 | 60 | | Св.56 до 60 | 64 |     Таблица 42  Размеры, мм   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного элемента | Конструктивные элементы | | *s* | *e* | | *e*1 | | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | Номин. | Пред. откл. | | У8 | img186 | img187 | От 8 до 11 | 10 | ±2 | 9 | ±2 | 0,5 | +1,5  -0,5 | | Св.11 до 14 | 12 | 11 | | Св.14 до 17 | 14 | 12 | | Св.17 до 20 | 16 | 14 | | Св.20 до 24 | 18 | 16 | | Св.24 до 28 | 20 | 18 | | Св.28 до 32 | 22 | 20 | +2,0  -0,5 | | Св.32 до 36 | 24 | ±3 | 22 | ±2 | | Св.36 до 40 | 26 | 24 | | Св.40 до 44 | 28 | 26 | | Св.44 до 48 | 30 | 28 | | Св.48 до 52 | 32 | 30 | | Св.52 до 56 | 34 | 32 | | Св.56 до 60 | 36 | 34 | | Св.60 до 64 | 39 | 37 | | Св.64 до 70 | 42 | 40 | | Св.70 до 76 | 45 | 43 | | Св.76 до 82 | 46 | +3,0  -0,5 | | Св.82 до 88 | ±4 | 48 | ±4 | | Св.88 до 94 | 54 | 52 | | Св.94 до 100 | 58 | 56 |     Таблица 43  Размеры, мм   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s* | *e* | | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | У9 | img188 | img189 | От 3 до 5 | 8 | ±2 | 0,5 | +1,5  -0,5 | | Св.5 до 8 | 12 | | Св.8 до 11 | 16 | | Св.11 до 14 | 19 | | Св.14 до 17 | 22 | | Св.17 до 20 | 26 | | Св.20 до 24 | 30 | | Св.24 до 28 | 34 | +2,0  -0,5 | | Св.28 до 32 | 38 | ±3 | | Св.32 до 36 | 42 | | Св.36 до 40 | 47 | | Св.40 до 44 | 52 | | Св.44 до 48 | 54 | | Св.48 до 52 | 56 | ±4 | | Св.52 до 56 | 60 | | Св.56 до 60 | 65 |     Таблица 44  Размеры, мм   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s* | *e* | | *g* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | Номин. | Пред. откл. | | У10 | img190 | img191 | От 3 до 5 | 8 | ±2 | 0,5 | +1,5  -0,5 | | Св.5 до 8 | 12 | | Св.8 до 11 | 16 | | Св.11 до 14 | 19 | | Св.14 до 17 | 22 | | Св.17 до 20 | 26 | | Св.20 до 24 | 30 | | Св.24 до 28 | 34 | +2,0  -0,5 | | Св.28 до 32 | 38 | ±3 | | Св.32 до 36 | 42 | | Св.36 до 40 | 47 | | Св.40 до 44 | 52 | | Св.44 до 48 | 54 | | Св.48 до 52 | 56 | ±4 | | Св.52 до 56 | 60 | | Св.56 до 60 | 64 |     Таблица 45  Размеры, мм   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Условное обозначение  свариваемого соединения | Конструктивные элементы | | *s* | *b* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл | | Т1 | img192 | img193 | От 2 до 3 | 0 | +1 | | Св.3 до 15 | +2 | | Св.15 до 40 | +3 |   Таблица 46  Размеры, мм   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Условное обозначение  свариваемого соединения | Конструктивные элементы | | *s* | *b* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл | | Т3 | img194 | img195 | От 2 до 3 | 0 | +1 | | Св.3 до 15 | +2 | | Св.15 до 40 | +3 |     Таблица 47  Размеры, мм   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s* | *e* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | | Т6 | img196 | img197 | От 3 до 5 | 7 | ±2 | | Св.5 до 8 | 10 | | Св.8 до 11 | 14 | | Св.11 до 14 | 18 | | Св.14 до 17 | 22 | | Св.17 до 20 | 26 | | Св.20 до 24 | 30 | | Св.24 до 28 | 33 | | Св.28 до 32 | 36 | ±3 | | Св.32 до 36 | 40 | | Св.36 до 40 | 44 | | Св.40 до 44 | 47 | | Св.44 до 48 | 50 | | Св.48 до 52 | 54 | ±4 | | Св.52 до 56 | 58 | | Св.56 до 60 | 62 |     Таблица 48  Размеры, мм   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного соединения | Конструктивные элементы | | *s* | *e* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | | Т7 | img198 | img199 | От 3 до 5 | 7 | ±2 | | Св.5 до 8 | 10 | | Св.8 до 11 | 14 | | Св.11 до 14 | 18 | | Св.14 до 17 | 22 | | Св.17 до 20 | 26 | | Св.20 до 24 | 30 | | Св.24 до 28 | 33 | | Св.28 до 32 | 36 | ±3 | | Св.32 до 36 | 40 | | Св.36 до 40 | 44 | | Св.40 до 44 | 47 | | Св.44 до 48 | 50 | | Св.48 до 52 | 54 | ±4 | | Св.52 до 56 | 58 | | Св.56 до 60 | 62 |     Таблица 49  Размеры, мм   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного элемента | Конструктивные элементы | | *s* | *R*±1 | *e* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | | Т2 | img200 | img201 | От 15 до 17 | 8 | 14 | ±3 | | Св.17 до 20 | 15 | | Св.20 до 24 | 16 | | Св.24 до 28 | 17 | | Св.28 до 32 | 18 | | Св.32 до 36 | 20 | | Св.36 до 40 | 22 | | Св.40 до 44 | 24 | | Св.44 до 48 | 25 | | Св.48 до 52 | 28 | ±4 | | Св.52 до 56 | 30 | | Св.56 до 60 | 32 | | Св.60 до 64 | 34 | | Св.64 до 70 | 36 | | Св.70 до 76 | 38 | | Св.76 до 82 | 10 | 40 | ±5 | | Св.82 до 88 | 42 | | Св.88 до 94 | 44 | | Св.94 до 100 | 46 |     Таблица 50  Размеры, мм   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного элемента | Конструктивные элементы | | *s* | *е* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | | Т8 | img202 | img203 | От 8 до 11 | 9 | ±2 | | Св.11 до 14 | 11 | | Св.14 до 17 | 12 | | Св.17 до 20 | 14 | | Св.20 до 24 | 16 | | Св.24 до 28 | 18 | | Св.28 до 32 | 20 | | Св.32 до 36 | 22 | | Св.36 до 40 | 24 | | Св.40 до 44 | 26 | | Св.44 до 48 | 28 | | Св.48 до 52 | 30 | ±3 | | Св.52 до 56 | 32 | | Св.56 до 60 | 34 | | Св.60 до 64 | 37 | | Св.64 до 70 | 40 | | Св.70 до 76 | 43 | | Св.76 до 82 | 46 | ±4 | | Св.82 до 88 | 48 | | Св.88 до 94 | 52 | | Св.94 до 100 | 56 |     Таблица 51  Размеры, мм   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного элемента | Конструктивные элементы | | *s* | *е* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | | Т9 | img204 | img205 | От 12 до 14 | 8 | ±2 | | Св.14 до 17 | 10 | | Св.17 до 20 | 12 | | Св.20 до 24 | 14 | | Св.24 до 28 | 16 | | Св.28 до 32 | 17 | | Св.32 до 36 | 18 | | Св.36 до 40 | 19 | ±3 | | Св.40 до 44 | 20 | | Св.44 до 48 | 21 | | Св.48 до 52 | 22 | | Св.52 до 56 | 24 | | Св.56 до 60 | 26 | | Св.60 до 64 | 28 | | Св.64 до 70 | 30 | | Св.70 до 76 | 32 | | Св.76 до 82 | 34 | ±4 | | Св.82 до 88 | 36 | | Св.88 до 94 | 38 | | Св.94 до 100 | 40 |     Таблица 52  Размеры, мм   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  сварного элемента | Конструктивные элементы | | *s* | *R*±1 | *e* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл. | | Т5 | img206 | img207 | От 30 до 32 | 8 | 14 | ±3 | | Св.32 до 36 | 15 | | Св.36 до 40 | 16 | | Св.40 до 44 | 17 | | Св.44 до 48 | 18 | | Св.48 до 52 | 19 | | Св.52 до 56 | 20 | | Св.56 до 60 | 21 | | Св.60 до 64 | 22 | | Св.64 до 70 | 23 | | Св.70 до 76 | 24 | | Св.76 до 82 | 10 | 25 | ±4 | | Св.82 до 88 | 26 | | Св.88 до 94 | 27 | | Св.94 до 100 | 28 | | Св.100 до 106 | 30 | | Св.106 до 112 | 32 | | Св.112 до 118 | 34 | | Св.118 до 120 | 36 |     Таблица 53  Размеры, мм   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение   свариваемого соединения | Конструктивные элементы | | *s* | *В* | *b* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл | | Н1 | img208 | img209 | От 2 до 5 | 3-20 | 0 | +1,0 | | Св.5 до 10 | 8-40 | +1,5 | | Св.10 до 29 | 12-100 | | Св.29 до 60 | 30-240 | +2,0 |   Таблица 54  Размеры, мм   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Условное обозначение  свариваемого соединения | Конструктивные элементы | | *s* | *В* | *b* | | | подготовленных кромок свариваемых деталей | сварного шва | Номин. | Пред. откл | | Н2 | img210 | img211 | От 2 до 5 | 3-20 | 0 | +1,0 | | Св.5 до 10 | 8-40 | +1,5 | | Св.10 до 29 | 12-100 | | Св.29 до 60 | 30-240 | +2,0 |   4. Сварка стыковых соединений деталей неодинаковой толщины при разнице, не превышающей значений, указанных в табл. 55, должна проводиться так же, как деталей одинаковой толщины; конструктивные элементы подготовленных кромок и размеры сварного шва следует выбирать по большей толщине.    Таблица 55  мм   |  |  | | --- | --- | | Толщина тонкой детали | Разность толщин деталей | | От 1 до 4 | 1 | | Св. 4 до 20 | 2 | | Св. 20 до 30 | 3 | | Св. 30 | 4 |   Для осуществления плавного перехода от одной детали к другой допускается наклонное расположение поверхности шва (черт. 1).  img212  Черт. 1  При разности в толщине свариваемых деталей свыше значений, указанных в табл. 55, на детали, имеющей большую толщину *s*1, должен быть сделан скос с одной или двух сторон до толщины тонкой детали *s*, как указано на черт. 2, 3 и 4. При этом конструктивные элементы подготовленных кромок и размеры сварного шва следует выбирать по меньшей толщине.  img213  Черт. 2  img214  Черт. 3  img215  Черт. 4  5. Допускается смещение свариваемых кромок перед сваркой относительно друг друга, не более:  0,5 мм - для деталей толщиной до 4 мм;  1,0 мм - для деталей толщиной 4 -10 мм;  0,1 *s*, но не более 3 мм - для деталей толщиной 10-100мм;  0,01 *s* + 2 мм, но не более 4 мм - для деталей толщиной более 100мм.  6. В стыковых, тавровых и угловых соединениях толщиной более 16 мм, выполняемых в монтажных условиях, допускается увеличение номинального значения *b* до 4 мм. При этом соответственно может быть увеличена ширина шва *е*, *е*1.  (Измененная редакция, Изм. №1).  7. При сварке в положениях, отличных от нижнего, допускается увеличение размера *g* и *g*1 не более:  1,0 мм - для деталей толщиной до 60 мм;  2,0 мм - для деталей толщиной свыше 60 мм.  8. При выполнении двустороннего шва с полным проплавлением перед сваркой с обратной стороны корень шва должен быть расчищен до чистого металла.  Для несимметричных соединений с двусторонним швом в случае строжки корня первого шва допускается увеличение размеров подварочного шва до размеров первого шва.  9. Размер и предельные отклонения катета углового шва *К*, *К*1 должны быть установлены при проектировании. При этом размер катета должен быть не более 3 мм для деталей толщиной до 3 мм включительно и 1,2 толщины более тонкой детали при сварке деталей толщиной свыше 3 мм. Предельные отклонения размера катета угловых швов от номинального значения приведены в приложении3.  8,9. (Измененная редакция, Изм. №1).  10. (Исключен, Изм. № 1).  11. Минимальные значения катетов угловых швов приведены в приложении1.  12. При применении электродов с более высоким временным сопротивлением разрыву, чем у основного металла, катет углового шва в расчетном соединении может быть уменьшен до значений, приведенных в приложении2.  13. Допускается выпуклость и вогнутость углового шва до 30% его катета. При этом вогнутость не должна приводить к уменьшению значения катета *К*n(черт. 5), установленного при проектировании.  img216  Черт. 5  ***Примечание. Катетом Кn является катет наибольшего прямоугольного треугольника, вписанного во внешнюю часть углового шва. При симметричном шве за катет  Кnпринимается любой из равных катетов, при несимметричном шве - меньший.***  (Измененная редакция, Изм. №1).  14. Допускается применять установленные настоящим стандартом основные типы сварных соединений, конструктивные элементы и размеры сварных соединений при сварке в двуокиси углерода электродной проволокой диаметром 0,8-1,4 мм (УП).  15. Допускается в местах перекрытия сварных швов и в местах исправления дефектов увеличение размеров швов до 30% номинального значения.  16. При подготовке кромок с применением ручного инструмента предельные отклонения угла скоса кромок могут быть увеличены до ( 5(.  При этом соответственно может быть изменена ширина шва *е*, *е*1.  15, 16. (Введены дополнительно, Изм. № 1).  ПРИЛОЖЕНИЕ 1  *Рекомендуемое*  мм   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Предел  текучести  свариваемой стали, МПа | Минимальный катет углового шва для толщины более толстого из свариваемых элементов | | | | | | | | | От 3 до 4 | Св.4 до 5 | Св.5 до 10 | Св.10 до 16 | Св.16 до 22 | Св.22 до 32 | Св.32 до 40 | Св.40 до 80 | | До 400 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | Св.400 до 450 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 |   ***Примечание. Минимальное значение катета не должно превышать 1,2 толщины более тонкого элемента.***  ПРИЛОЖЕНИЕ 2  *Рекомендуемое*  мм   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Катет углового шва для отношения временного сопротивления разрыву металла шва  к временному сопротивлению разрыву основного металла | | | | | | 1,0 | 1,1 | 1,2 | 1,3 | 1,4 | | 4 | 4 | 4 | 3 | 3 | | 5 | 5 | 4 | 4 | 4 | | 6 | 6 | 5 | 5 | 4 | | 7 | 7 | 6 | 6 | 5 | | 8 | 7 | 7 | 6 | 6 | | 9 | 8 | 8 | 7 | 7 | | 10 | 9 | 9 | 8 | 7 | | 11 | 10 | 9 | 9 | 8 | | 12 | 11 | 10 | 9 | 9 | | 13 | 12 | 11 | 10 | 9 | | 14 | 13 | 12 | 11 | 10 | | 15 | 14 | 13 | 12 | 11 | | 16 | 15 | 14 | 13 | 12 | | 17 | 16 | 14 | 13 | 12 | | 18 | 17 | 15 | 14 | 13 | | 19 | 17 | 16 | 15 | 14 | | 20 | 18 | 17 | 16 | 14 |   ПРИЛОЖЕНИЕ 3  *Рекомендуемое*  мм   |  |  | | --- | --- | | Номинальный размер катета  углового шва | Предельные отклонения размера катета углового шва от номинального значения | | От 3 до 5 включ. | +1,0  -0,5 | | Св. 5 до 8 включ. | +2,0  -1,0 | | Св.8 до 12 включ. | +2,5  -1,5 | | Св. 12 | +3,0  -2,0 | | |