Режимы плазменной сварки

Без присадочной проволоки:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| материал | *δ*,мм | *I*, А | *U*, В | *V*, м/ч | *d*с, | *Q*,л/мин (аргон) |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | мм | Плазменный | Защитный |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 12Х18Н10Т | 1,0 | 30-50 | 17-19 | 20-40 | 1,4 | 0,8-1,2 | 5,5-7,5 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2,0 | 60-80 | 19-21 | 15-30 | 1,4 | 1,0-1,5 | 6,5-8,5 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 3,0 | 80-100 | 21-22 | 10-20 | 1,5 | 2,0-3,0 | 8,5-10,5 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 30ХГСА | 1,0 | 30-50 | 17-19 | 20-40 | 1,4 | 0,8-1,2 | 4,5-5,0 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2,0 | 60-80 | 19-21 | 15-30 | 1,4 | 1,0-1,5 | 4,5-5,0 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 3,0 | 80-100 | 21-22 | 10-20 | 1,5 | 2,0-3,0 | 5,0-5,5 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ВТ5, ОТ4 | 1,2 | 45-50 | 18-19 | 10-11 | 1,4 | 0,5-0,7 | 14-15 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1,5 | 55-60 | 19-22 | 10-11 | 1,6 | 0,5-0,7 | 14-15 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2,0 | 70-72 | 22-23 | 9,5-10 | 1,8 | 0,5-0,7 | 14-15 |

Стыковых соединений постоянным током (примерные режимы):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *δ*,мм | *I*, А | *U*, В | *V*, м/ч | *d* с, | *Q*,л/мин (аргон) |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | Плазмообразующий | Защитный |

|  |
| --- |
| Нержавеющая сталь |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 6,0 | 180-190 | 24-25 | 15-16 | 2,5 | 0,8-1,3 | 5,0-7,0 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 8,0 | 250-260 | 28-29 | 12-13 | 3,0 | 3,0-3,5 | 8,5-9,5 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 10,0 | 290-300 | 30-31 | 10-11 | 3,0 | 3,0-3,5 | 9,5-10,5 |

|  |
| --- |
| Титановые сплавы |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 4,7 | 185-190 | 21-22 | 20-21 | 3,4 | 7,8-8,2 | 26-27 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 10,0 | 220-225 | 36-37 | 15-16 | 3,4 | 14-15 | 27-28 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 12,0 | 270-275 | 37-38 | 15-16 | 3,4 | 12,8-13 | 27-28 |

|  |
| --- |
| Никель |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 3,2 | 200-205 | 29-30 | 40-41 | 2,8 | 6,5-6,9 | 24-25 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 6,0 | 245-250 | 30-32 | 20-21 | 3,4 | 4,5-4,7 | 24-25 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 8,0 | 310-312 | 31-32 | 14-15 | 3,4 | 5,5-5,7 | 24-25 |

Сталей без присадочного материала:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Толщина листов, мм | Скорость сварки, м/мин | Диаметр сопла, мм | Параметры дуги | | Плазмообразующий газ | | Фокусирующий и защитный газ | |
| Сила тока, А | Напряжение, В | Состав | Расход, м. куб. | состав | Расход, м. куб/час |
| Коррозионностойкая сталь | | | | | | | | |
| 2,4 | 0,97 | 2,0 | 160 | 31 | Аг + 7,5% Н2 | 0,14 | Аг +7,5% Н2 | 0,99 |
| 3,2 | 0,61 | 145 | 32 | 0,28 |
| 4,8 | 0,41 | 240 | 38 | 0,34 | 1,27 |
| 6,4 | 0,36 | 2,4 | 0,5 | 1,41 |
| 12,7 | 0,19 | 305 | 35 | Аг | 0,14 | 1,40 |
| Низкоуглеродистая сталь | | | | | | | | |
| 6,4 | 0,254 | 2,4 | 305 | 35 | Аг | 0,057 | Аг | 1,4 |

Продольных стыков труб из коррозионностойкой стали

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Толщина стенки, мм | Скорость сварки, см/мин | Сила тока, А (постоянный, прямой полярности) | Расход газа, м. куб/час | |
| Плазмообразующего | Защитного |
| 2,8 | 92 | 115 | 0,28 | 0,85 |
| 3,2 | 210 | 1,13 |
| 3,8 | 1,27 |
| 5,5 | 38 | 200 | 0,34 |
| 6,0 | 36 | 270 | 0,43 |