

WELDING SUITABILITY

	Nonferrous heavy metals										Nonferrous alloys					Steel									
	Tungsten Molybdenum	Nickel-Alloy	Pure Nickel	Phosphorus-Tin bronze	Silicon-bronze	Nickel silver	Copper-Ni-Alloy (Constantan)	Brass over 25% ZN	Brass 5-25% ZN	Copper	Magnesium-Alloy	Al-Alloy AlMg, AlCuMg	Pure Aluminium	Stainless Steel	Steel, chromed	Steel, cadmium plated	Steel, galvanized	Steel, fire galvanized	Steel, leaded 80Pb, 18Sn, 2Sb	Steel, tinned	Steel, hot-rolled, untreated surface	Steel cold or hot rolled, C<0.25, clean surface			
Steel	Steel cold or hot rolled, C<0.25, clean surface	d II	d II	d II	d III	d II	e II	e II	e IV	f II	f V							b I,II	c I	e I,II	d I	a II			
	Steel, hot-rolled, untreated	f II			f II	f II	f II	f II										c II	d I,II	d I	e I,II	a II			
	Steel, tinned	e II	d I	d II	e II	e II	e II	e II	e IV	f V	f V							c II	d I,II	d I	e I,II	a II			
	Steel, leaded 80Pb, 18Sn, 2Sb	e II	d I	d II	e II	e II	e II	e II	e IV	f V	f V							c II	d I,II	d I	e I,II	a II			
	Steel, fire galvanized	f II	d II	d II	e II	e II	e II	e II	e IV	f V	f V							c II	d I,II	d I	e I,II	a II			
	Steel, galvanized	e II	d II	d II	e II	e II	e II	e II	e IV	f V	f V							c II	d I,II	d I	e I,II	a II			
	Steel, cadmium plated	e II	d I	d II	e II	e II	e II	e II	e IV	f V	f V							c II	d I,II	d I	e I,II	a II			
Nonferrous alloys	Pure Aluminium		e II	f II	d II	d II	d II	d II	e IV	f V	f V							c II	d I,II	d I	e I,II	a II			
	Al-Alloy AlMg, AlCuMg		e II	e II	d II	d II	d II	d II	e IV	f V	f V							c II	d I,II	d I	e I,II	a II			
	Magnesium-Alloy				e II	d II	d II	d II	e IV	f V	f V							c II	d I,II	d I	e I,II	a II			
	Copper	f II	e II	e II	d II	d II	d II	d II	d II	e II	f II							c II	d I,II	d I	e I,II	a II			
	Brass 5-25% ZN		d II	d II	d II	d II	d II	d II	d II	e II								c II	d I,II	d I	e I,II	a II			
	Brass over 25% ZN		d II	d II	d II	d II	d II	d II	d II	e II								c II	d I,II	d I	e I,II	a II			
	Copper-Ni-Alloy (Constantan)		c II	c IV	c II	c II	c II	b II										c II	d I,II	d I	e I,II	a II			
	Nickel silver		c II	c IV	c II	c II	b II											c II	d I,II	d I	e I,II	a II			
	Silicon-bronze		c II	d II	c II	b II												c II	d I,II	d I	e I,II	a II			
	Phosphorus-Tin bronze		d II	c II	b II													c II	d I,II	d I	e I,II	a II			
Nonferrous heavy metals	Pure Nickel	d II	c II	b II														c II	d I,II	d I	e I,II	a II			
	Nickel-Alloy	d II	b II															c II	d I,II	d I	e I,II	a II			
	Tungsten Molybdenum	d II																c II	d I,II	d I	e I,II	a II			

Welding suitability
a => excellent
b => very good
c => good
d => decent
e => difficult
f => very difficult

Alloy upper electrode
I => CuAg
II => CuCrZr
III => CuCoBe
IV => Cu-Tungsten
V => Molybdenum
VI => Special Tungsten

Alloy bottom electrode
I => CuAg
II => CuCrZr
III => CuCoBe
IV => Cu-Tungsten
V => Molybdenum
VI => Special Tungsten

Notes
1 => Good strength of the welding spot
2 => It may under certain conditions be welded
3 => Low strength of the welding spot
4 => it does not form an actual welding spot
5 => The welding data must be strictly adhered to
6 => The electrodes should be kept clean to avoid sticking to the weldment
7 => The workpiece is to be cleaned before welding (preferably metallic bright)
8 => With the flat electrode warping and discoloration can be reduced
9 => The metal coating may burn away or dissolve in the welding spot
When the coating or plating is thick, the strength of the weld is questionable
10 => Welding only by interposition of a bi-metall possible.
Shape and diameter of the electrodes affect the electrodes tool life