

Guide to AWS Coding

First two digits (in four digit numbers) refer to minimum ultimate strength;
Eg; E 45-45,000 PSI (lbs/sq.in), E60=60,000 PSI.

Third digit refers to position; 1 = all positions, 2 = horizontal and flat position,
3 = flat position only.

Fourth digit refers to current and indirectly to coating:

Four Digit	Power Supply	Quality	Type of Arc	Penetration
0		High	Digging	Deep
1	AC or Reverse Polarity DC	High	Digging	Deep
2	AC or DC	Moderate	Medium	Moderate
3	AC or DC	Moderate	Soft	Light
4	AC or DC	Moderate	Soft	Moderate
5 = DC reverse (Lime or titania sodium low hydrogen) 6 = AC or DC reverse (Tatiana or lime potassium low hydrogen) 7 = AC or DC either (iron oxide and iron powder) 8 = AC or DC reverse (low hydrogen, iron Powder)				

Fourth digit, power supply: E-6010 = reverse polarity DC
 E-6020 = AC or DC straight
 E-6030 = AC or DC either

Having learnt the significance of the various digits used in the nomenclature, it is relatively simple to use the classifications. For example, an E-8010 Electrode would have the following major characteristics:

1. The minimum tensile-strength requirement in the stress-relieved condition is 80,000 PSI
2. The Electrode can be used in all position
3. It operates satisfactorily only on reverse-polarity direct current.

Notes:

Polarity of welding current is generally spoken as straight or reverse. In straight polarity, the electrode is negative and the work positive – When polarity is reverse the electrode is positive and the work negative.