

Guide to the ISO Coding

Mechanical properties

Electrode designation	Tensile Strength	Minimum elongation on L=5 d	Temperature for minimum impact value of 28 J
	N/mm ²	%	C
E 43 0	430 to 510	-	-
E 43 1	430 to 510	20	+20
E 43 2	430 to 510	22	0
E 43 3	430 to 510	24	-20
E 43 4	430 to 510	24	-30
E 43 5	430 to 510	24	-40
E 51 0	510 to 610	-	-
E 51 1	510 to 610	18	+20
E 51 2	510 to 610	18	0
E 51 3	510 to 610	20	-20
E 51 4	510 to 610	20	-30
E 51 5	510 to 610	20	-40

Types of coating

A = Acid (iron oxide)
AR = Acid (rutile)
B = Basic
C = Cellulosic
O = Oxidizing
R = Rutile (medium coated)
RR = Rutile (heavy coated)
S = Other Types

COMPULSORY

- 1) Upper limit tolerance :+40 N/mm²
 2) 1J = 0.102 kgf.m Example :

E 51 3 B 160 20 H

% Metal recovery for
Not less than 110% recovery

Low hydrogen
Electrode

Current Conditions

Welding Positions

- All Position
- All position, except vertical downwards.
- Flat butt weld,
Flat fillet weld,
Horizontal / vertical
fillet weld
- Flat butt weld,
Flat fillet weld
- As 3 and recommended
for vertical downward.

Symbol	Direct Current Recommended polarity	Alternating current Minimum open-circuit voltage V
(0)	+	
1	+ or -	50
2	-	50
3	+	50
4	+ or -	70
5	-	70
6	+	70
7	+ or -	90
8	-	90
9	+	90

OPTIONAL

- 1) Symbol reserved for electrodes used
Exclusively on direct current.

Note: In the example given above, it will be seen that E51 3 B is compulsory, the reminder optional.