

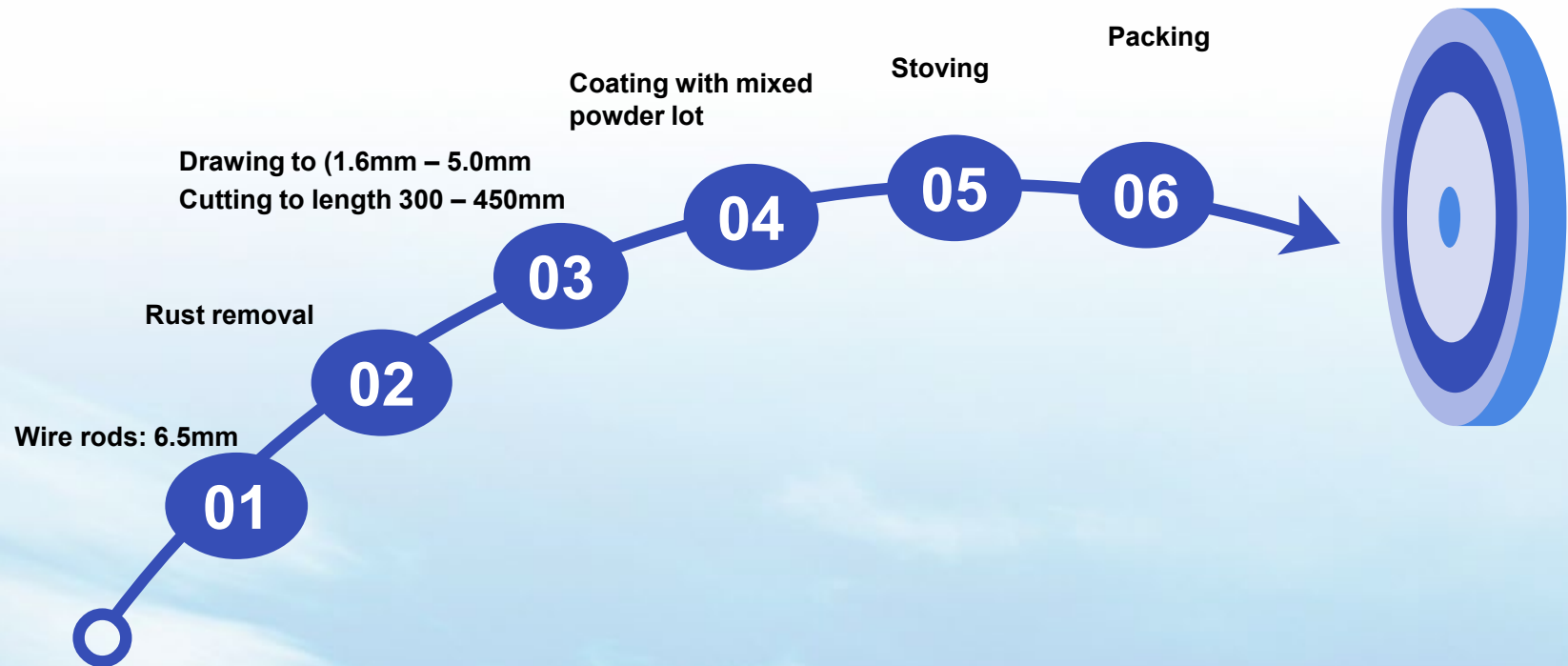


# Stick Electrodes Procedure

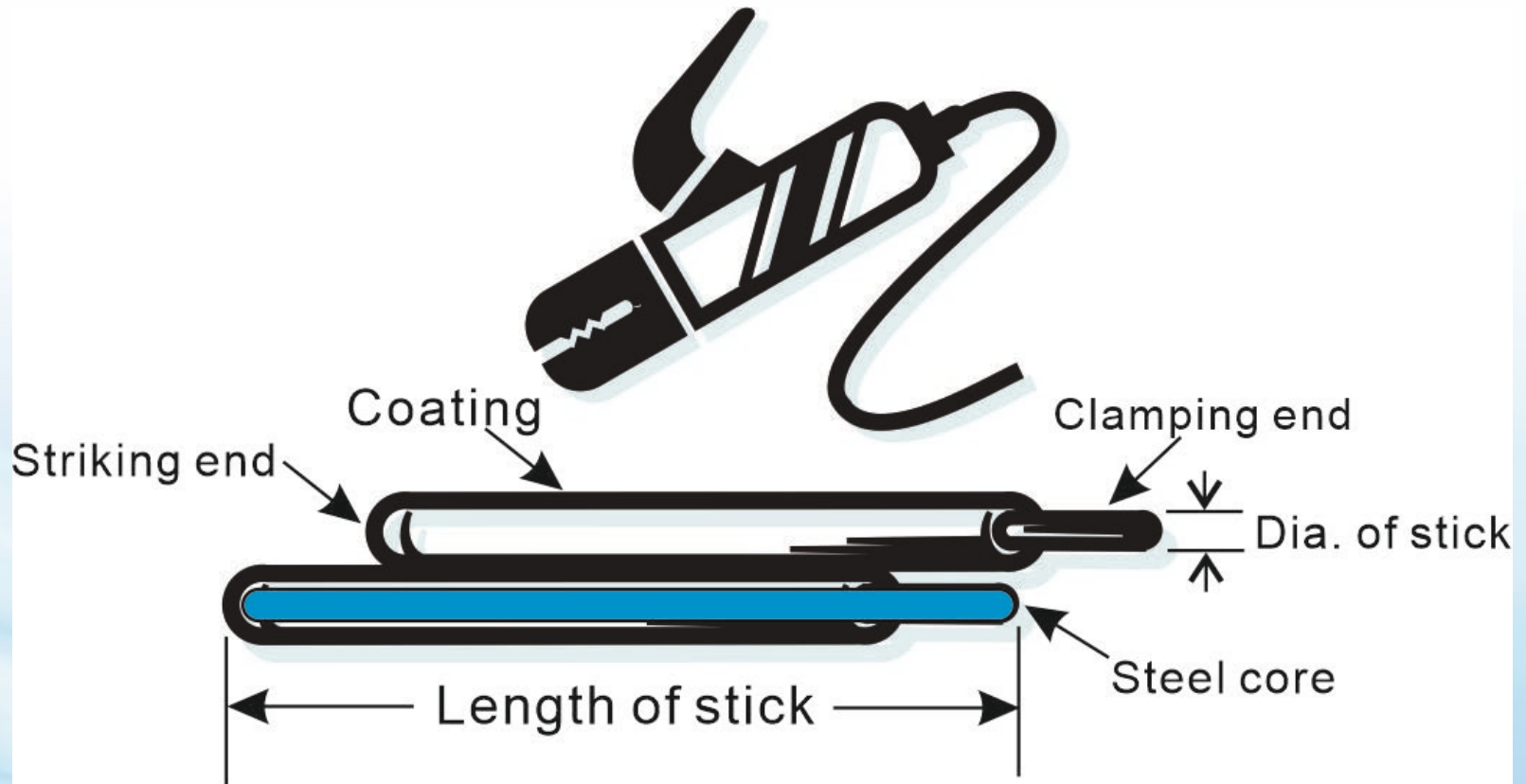
# SMAW

## Welding Electrodes

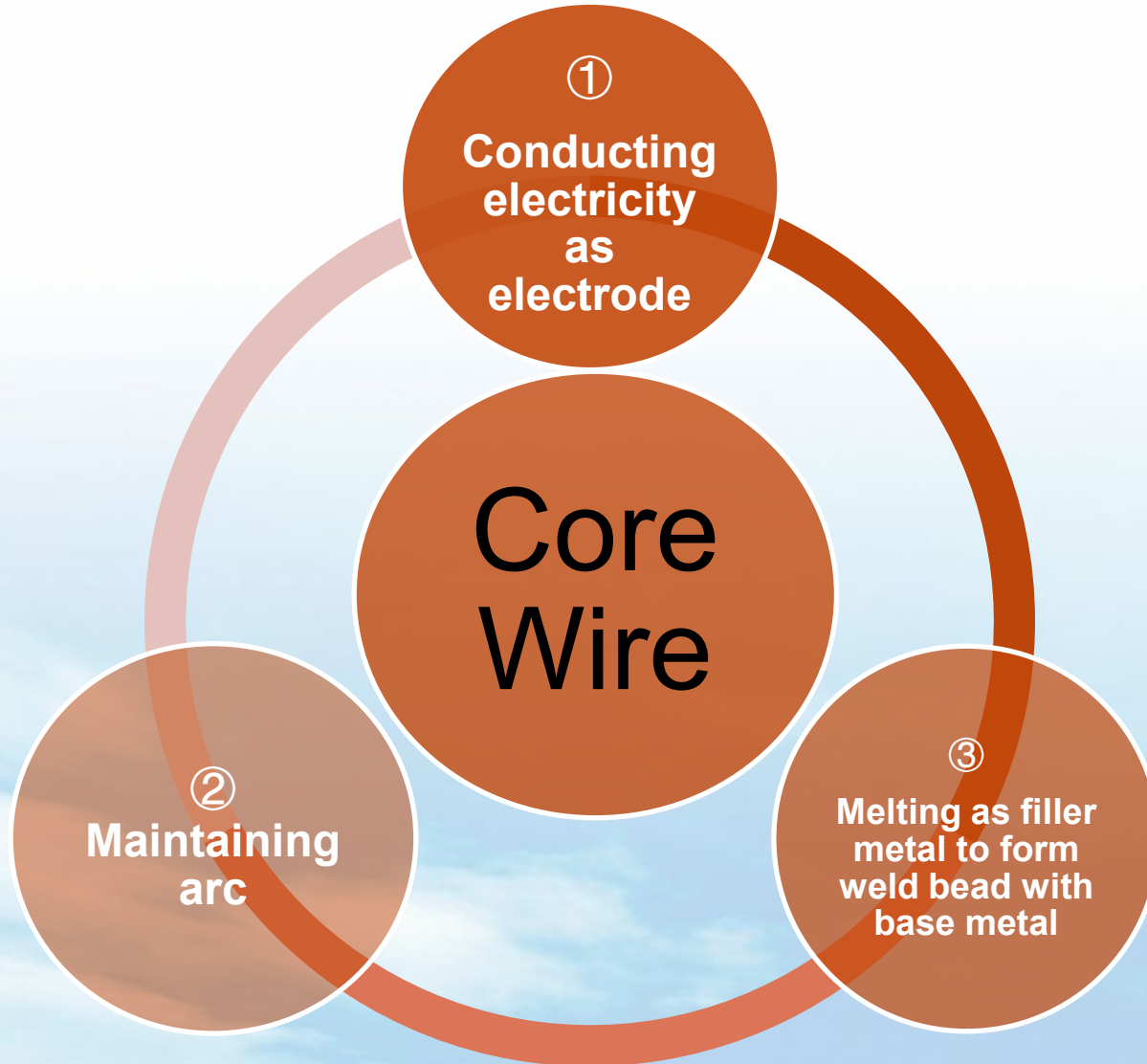
# Manufacturing Procedures



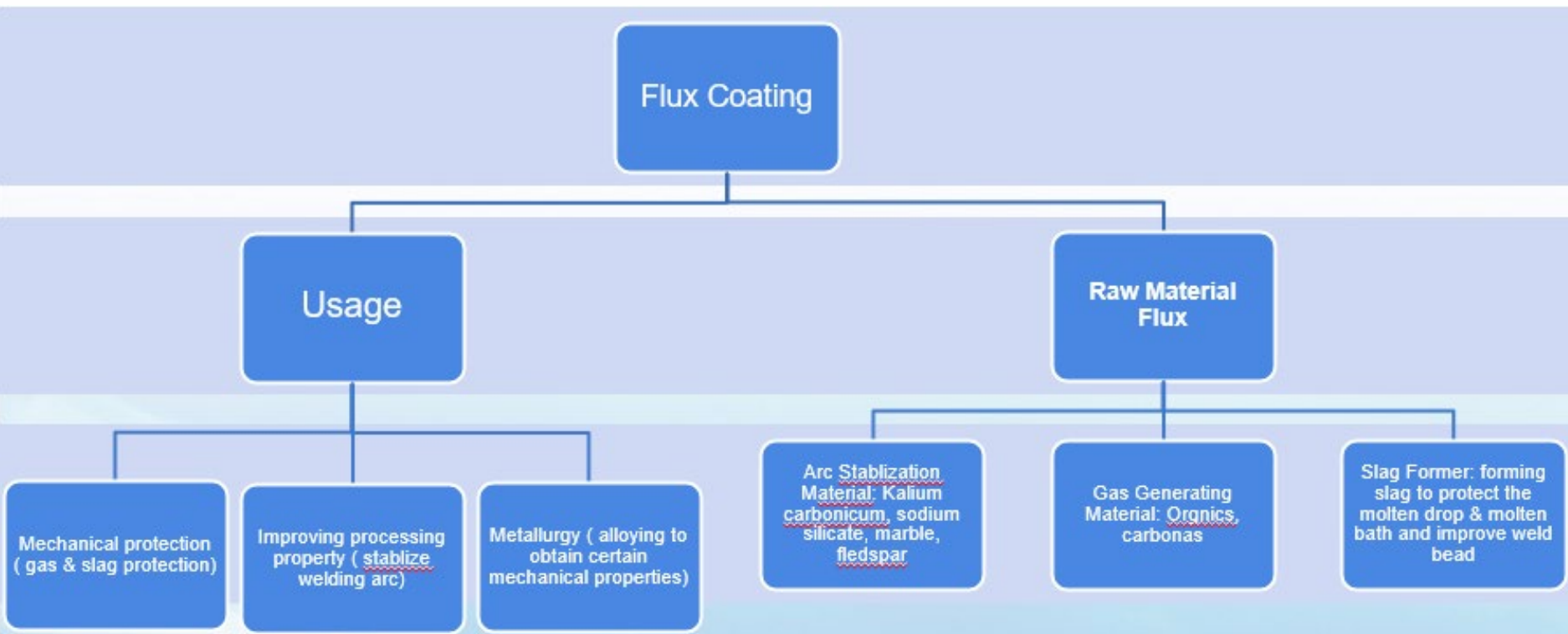
# Composition of welding electrode



# Function of Each Part:



# Function of Each Part:





## Classification of stick rod

### According to flux coating

According to the % of acid oxide & basic oxide in coating :

Acid electrodes ( E6013, etc) & Basic electrodes ( E7018, etc)

### According to application

- 1) Structural steel electrodes
- 2) Heat-resistance steel electrodes
- 3) Stainless Steel electrodes
- 4) Hard facing electrodes
- 5) Low temperature electrodes
- 6) Cast iron electrode

# Features Of Acid Electrodes

**Worse anti-crackle  
& mechanical  
property**

**01** Good processing property

**02** Insensitive to oil, water & rust in work piece,  
thus good anti-porosity

**03** Strong oxidizability lead to more loss  
in alloying elements

**04** DC & AC, all position welding

**05** Applicable to plain low carbon steel &  
low tensile low alloy steel structure

# Features Of Basic Electrodes

**01** Good alloying effect in weld bead

**02** Low hydrogen content in weld bead

**03** Good anti-crackle & mechanical property

**04** Worse processing property than acid ones

**05** DCEP (Direct Current Electrode Positive

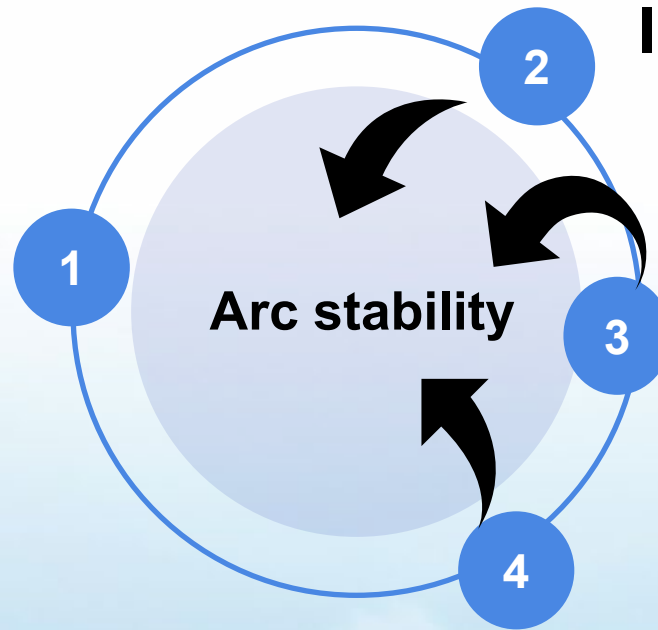
**06** Applicable to alloy steel & important carbon steel structure

**Sensitive to rust, water & oil in workpiece, since anti-porosity not good, stoving is required before welding, and short arc during welding**



## Importance

Directly affect the welding operation & welding quality



## Influence

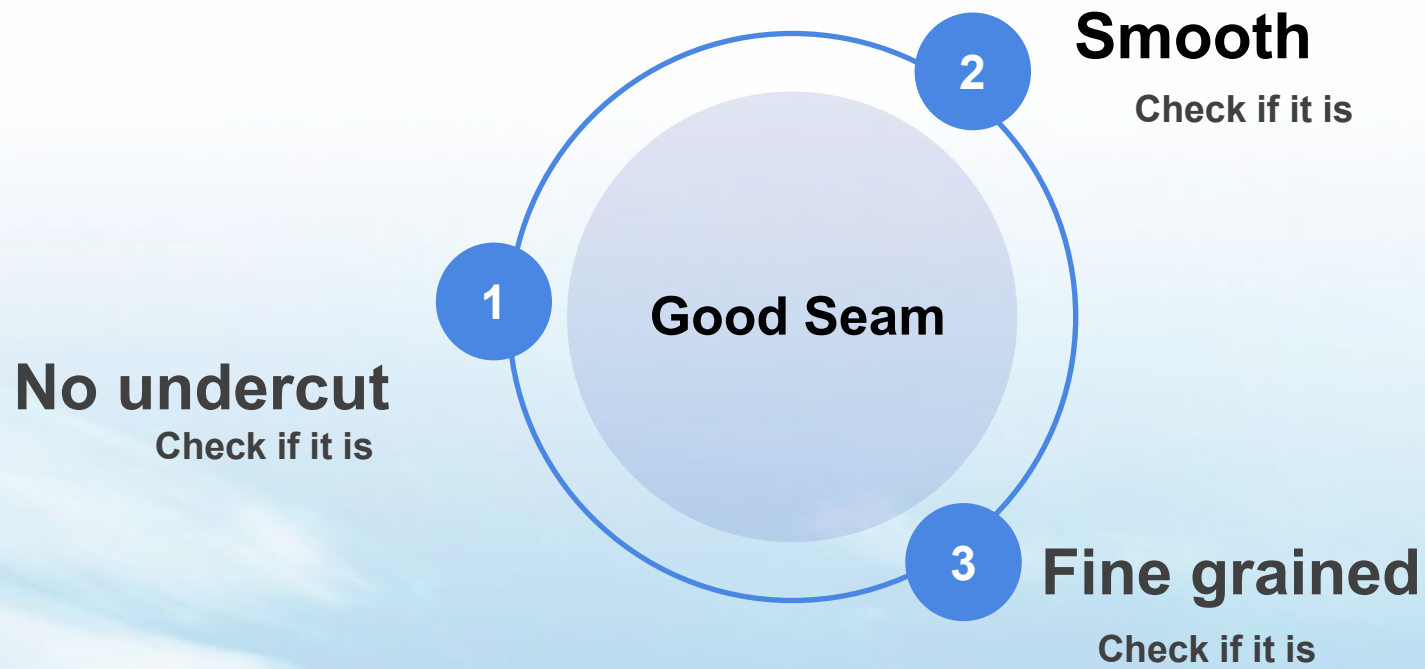
Power supply

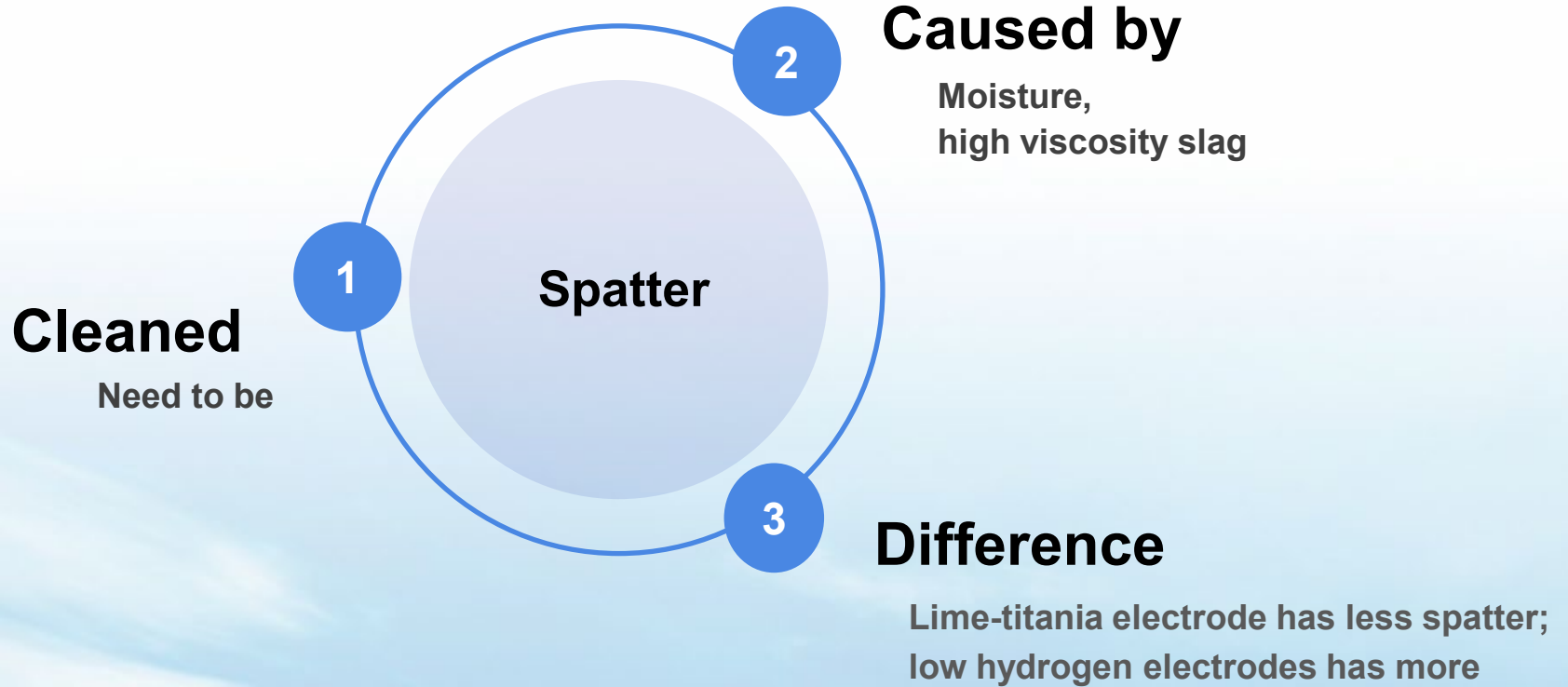
## Influence

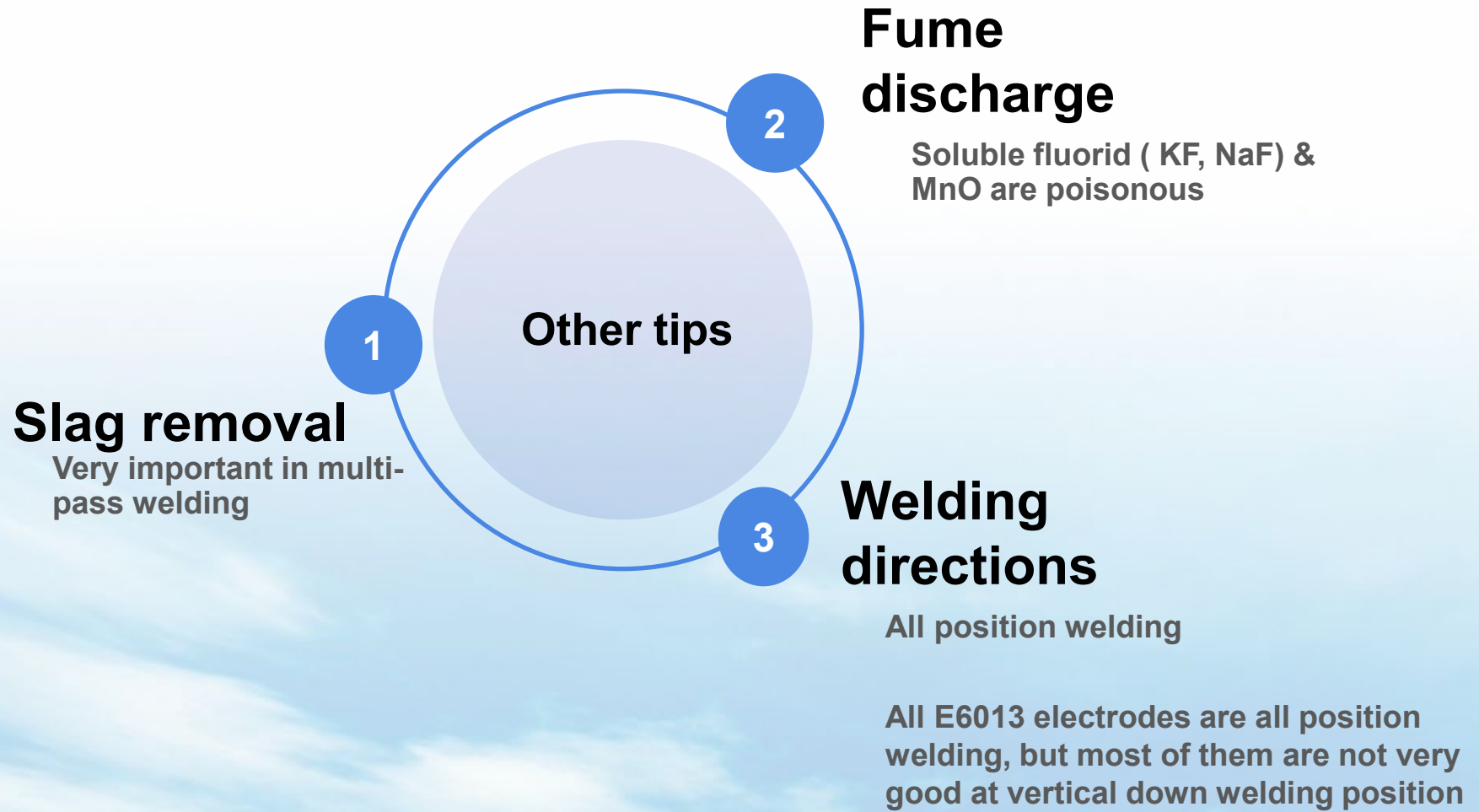
What contains in flux coating

## Influence

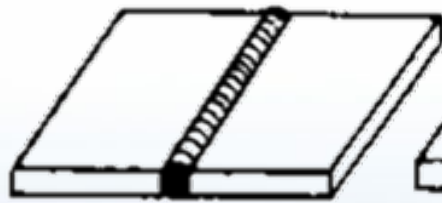
Welding parameter  
( speed, load capacity,  
current etc.)



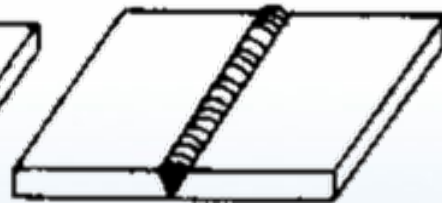




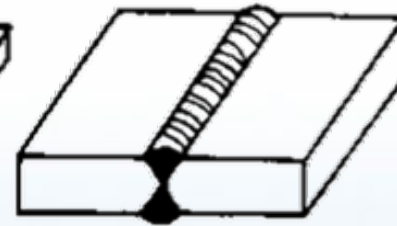
# Joint Mode



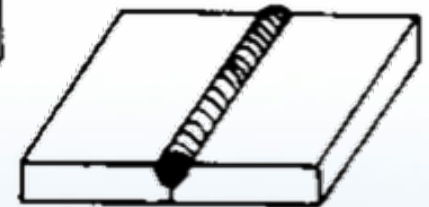
**square butt joint**



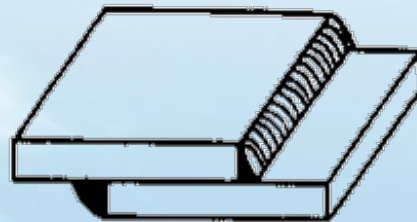
**V Docking**



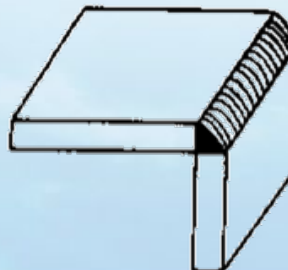
**X-butt Joint**



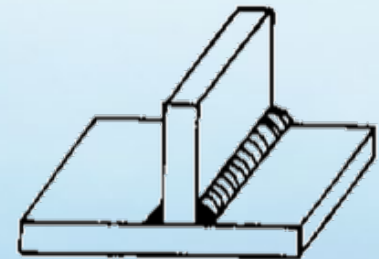
**U Docking**



**Overlap Joint**



**Corner Joint**

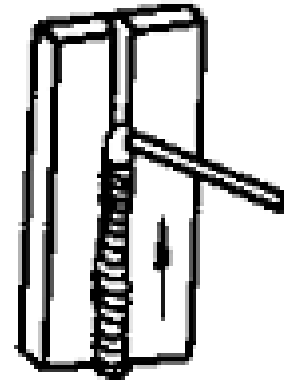


**T Docking**

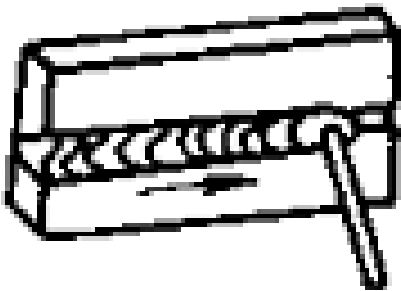
# Welding Position



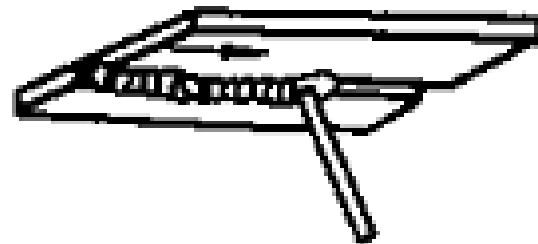
**Flat welding ( downhand )**



**Vertical Welding/ Up & Down**



**Horizontal welding**



**Overhead welding ( Uphand )**



### Packing E6013, E7018, carbon steel electrodes



- »»» 5kg / inner box,  
plastic film sealed
- »»» 4 boxes, 20kg / carton
- »»» 1000kgs in a pallet.

P.S. 1kg / 2kg / 2.5kg inner  
pack customizable

01

### Packing Stainless Steel Electrodes



2.5 / 3.2mm \* 2kg / Box  
20kg / Carton

02

### Packing Cast Iron / Hard- facing Electrodes



3.2 / 4.0mm \* 1kg / Box  
20kg / Carton

03