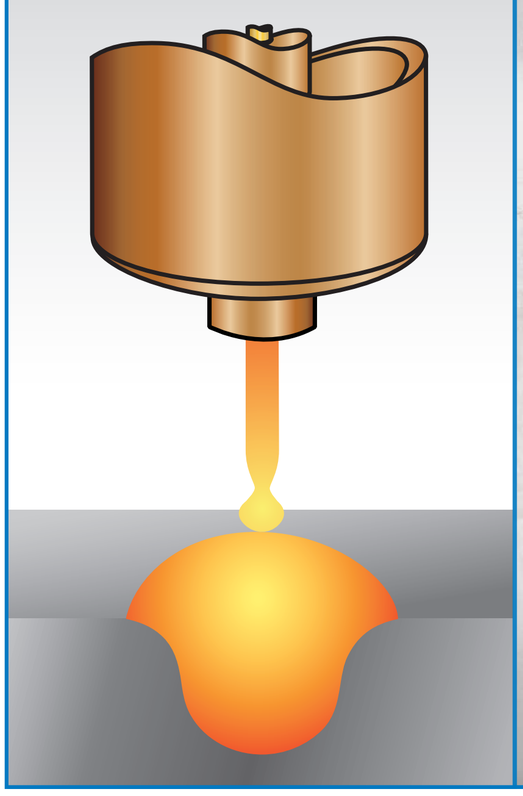
# 4 MIG PROCESSES

When it comes to choosing the right MIG transfer process for your application, there are many variables to consider. How thick is the metal? How important is a good bead? How will the final product be used? Find the answers to your questions below.

## Short Circuit Transfer

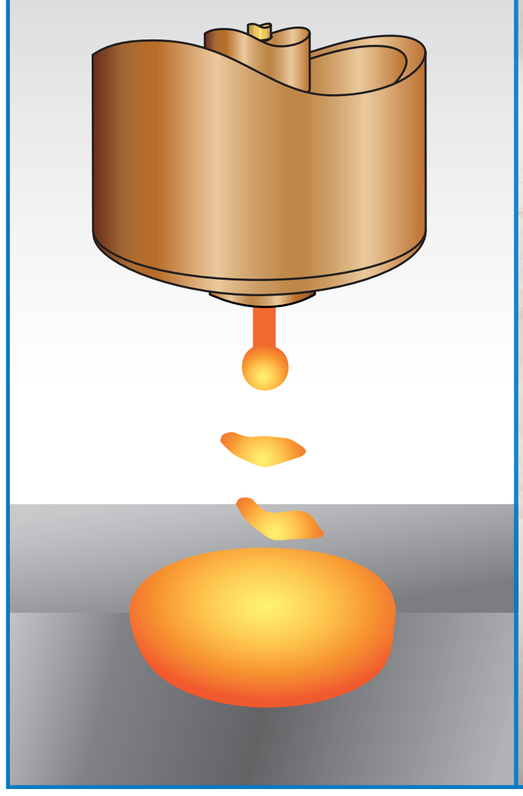


### Advantages
- Suitable for thin materials
- Good for:
  - Out-of-position work
  - Open root
  - Poor fit-up

### Limitations
- Lack of penetration on thicker materials
- Unsuitable for aluminum
- Produces spatter

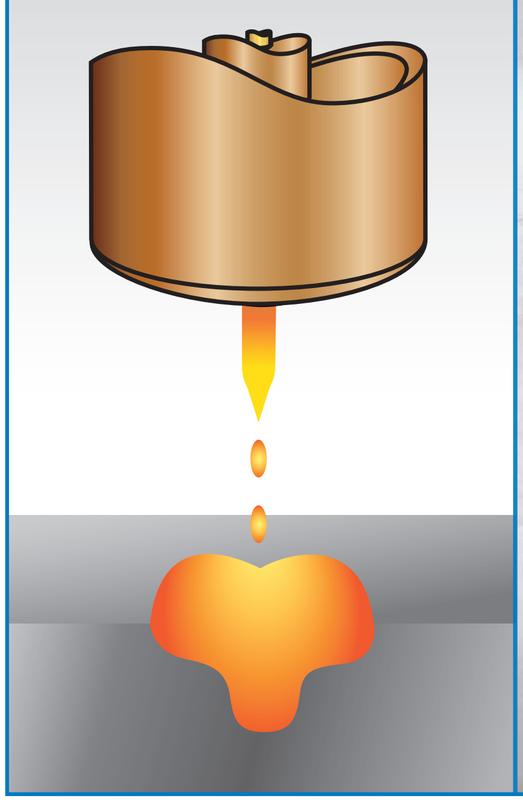
### Common Applications
- Sheet metal
- Automotive repair and restoration
- Root passes on pipe

## Globular Transfer



### Generally not recommended for use
- Excessive spatter
- High risk for:
  - Incomplete penetration
  - Cold lap
  - Incomplete fusion

## Spray Transfer

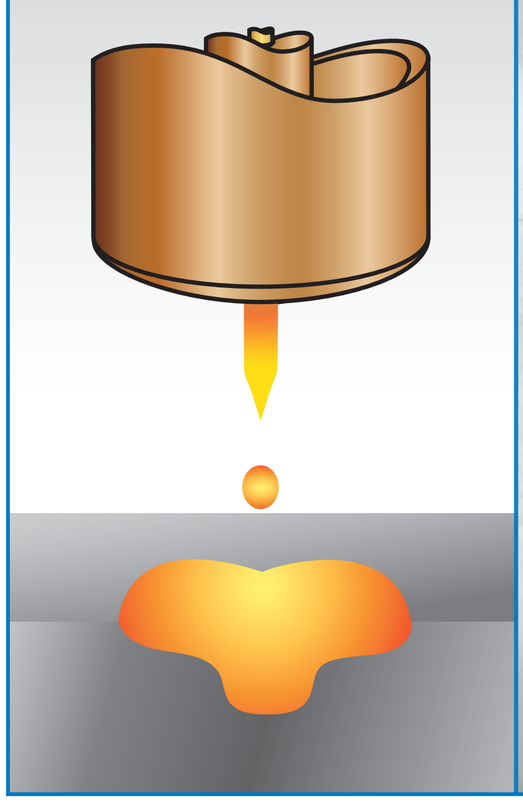


### Advantages
- High deposition
- Good fusion and penetration
- Good bead appearance
- Ideal for larger-diameter wires
- Very little spatter

### Limitations
- Suitable only on material thicker than 1/8 in.
- Effective only in the flat and horizontal fillet positions
- Good fit-up is always required

### Common Applications
- Heavy plate
- Aluminum
- High volume manufacturing

## Pulsed Spray Transfer



### Advantages
- Effective in all positions
- No spatter
- Suitable for thick or thin materials
- Perfect for joining all weldable metals

### Limitations
- Equipment is more expensive
- Cannot be used on poor fit-up
- Difficult to use on open root

### Common Applications
- Sheet metal
- Heavy plate
- Aluminum, stainless steel, carbon steel and exotic metals
- Automotive
- Heavy equipment
- Piping systems

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