

Gas Metal Arc Welding (GMAW)

MODES OF TRANSFER

SHORT CIRCUIT TRANSFER

Operating Range for Steel

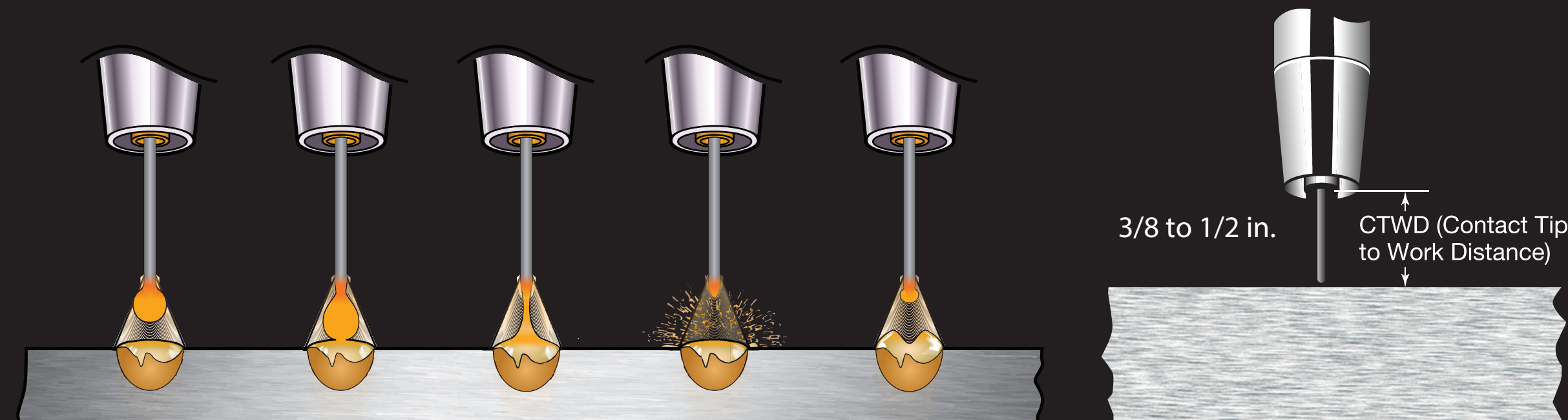
- » Low Voltages and [16V to 22V]
- » Low Amperages [30A to 200A]

Wire Electrode Size

- » Smaller Diameters
[0.025 - 0.045 in.]
[0.60 - 1.10 mm]

Shielding Gases Used

- » 100% CO₂
- » 75% Ar 25% CO₂ Gas Mix



GLOBULAR TRANSFER

Operating Range for Steel

- » High Voltages and [25V to 35V]
- » High Amperages [200A to 500A]

Wire Electrode Size

- » Larger Diameters
[0.035 in. and Larger]
[0.89 mm and Larger]

Shielding Gases Used

- » 100% CO₂ [most common]
- » 75% Ar 25% CO₂ Gas Mix



PULSED SPRAY TRANSFER

Operating Range for Steel

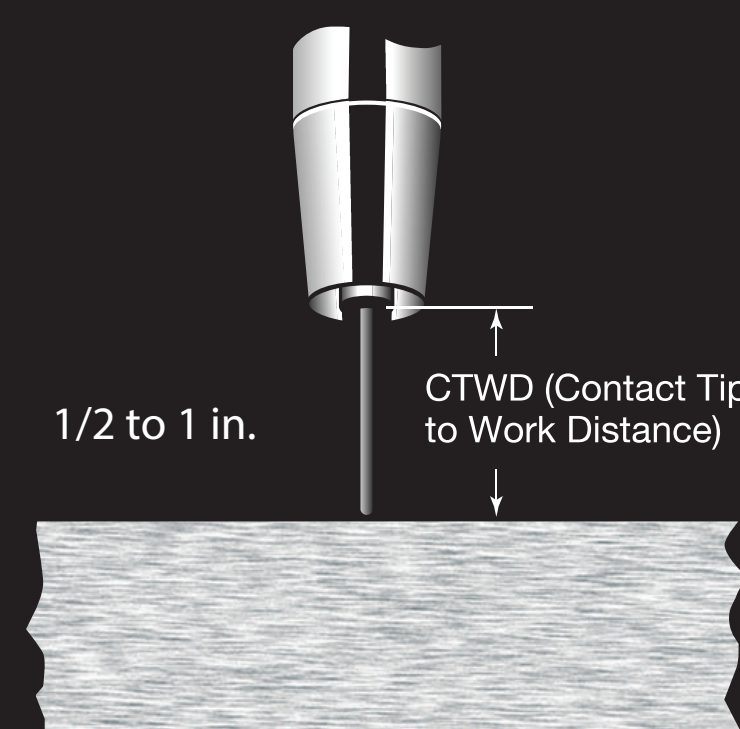
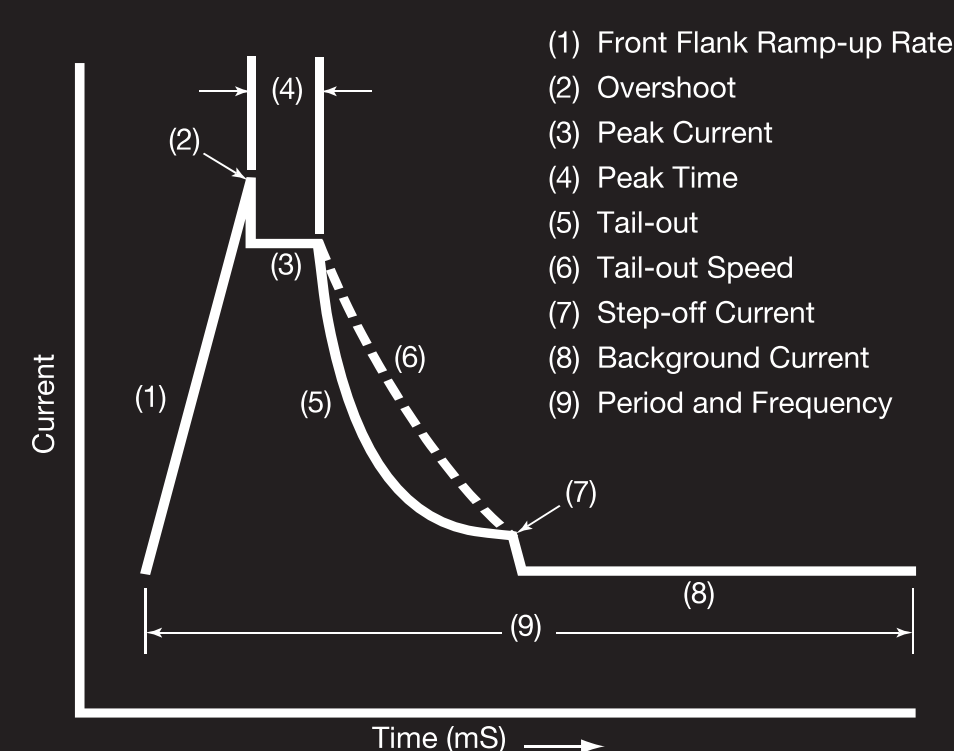
- » High Voltages and [25V to 35V]
- » Two Amperage Levels - peak and background [200A to 500A]

Wire Electrode Size

- » Smaller Diameters
[0.035 in. and Larger]
[0.89 mm and Larger]

Shielding Gases Used

- » Gas mixtures with over 80% Argon
- » 90% Ar with 10% CO₂



SPRAY TRANSFER

Operating Range for Steel

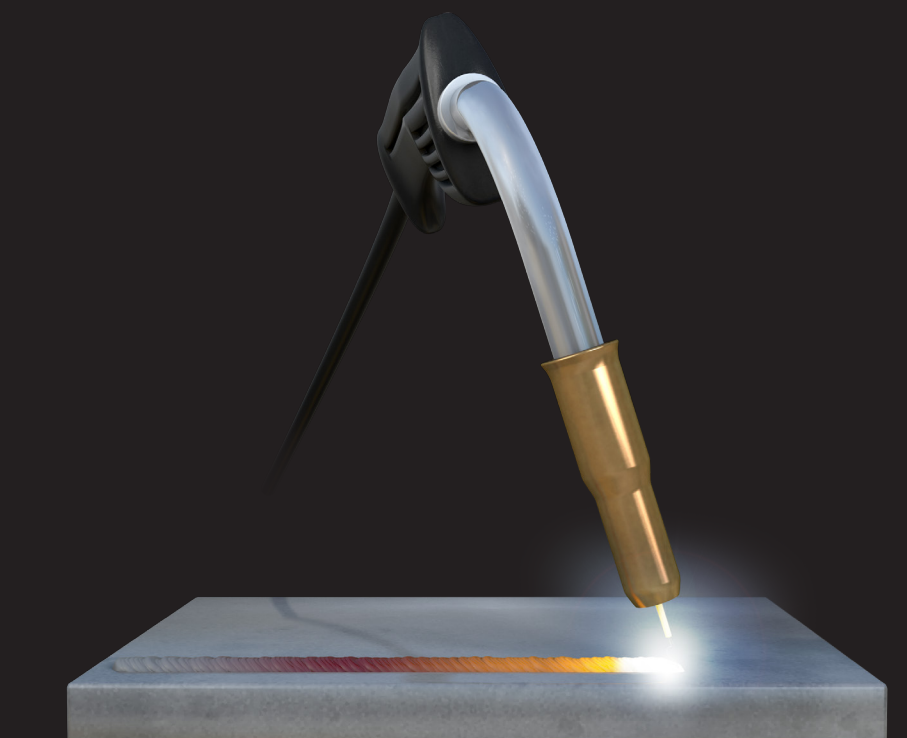
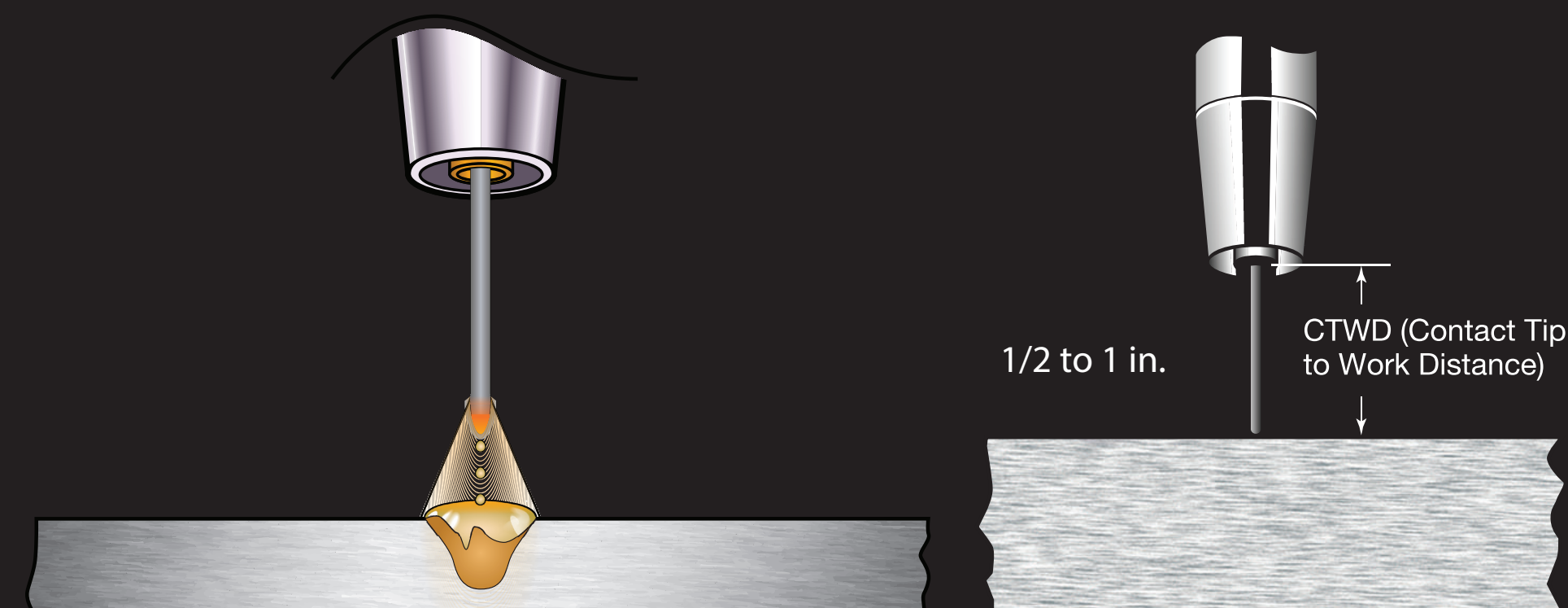
- » High Voltages and [25V to 35V]
- » High Amperages [200A to 500A]

Wire Electrode Size

- » Smaller Diameters
[0.035 in. and Larger]
[0.89 mm and Larger]

Shielding Gases Used

- » Gas mixtures with over 80% Argon
- » 90% Ar with 10% CO₂



GMAW Advantages

- » A wide range of materials can be welded
- » Faster than SMAW welding
- » Relatively inexpensive for home use
- » No slag
- » Good for poor fit-up and gaps

GMAW Mode of Transfer Selector

