

## COR™FORGE F25 FC

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### DESCRIPTION

COR™FORGE F25 FC is a flux-cored, chrome-nickel-moly, iron base alloy designed for welding wrought and cast steel. F25 is optimally suited for forging die applications, primarily for the repair and reclamation of hammer dies. The welding characteristics facilitate continuous multiple passes, without pausing for slag removal. F25 is also an excellent plant maintenance alloy, providing 130,000 psi tensile strength fabricating welds.

### APPLICATIONS

Forging applications include repair and buildup of hammer bases, columns, rams, sow blocks, and die shanks. Additional uses include fabrication and repair of steel structures and parts such as shafts, keyways, insert holders, and tie plates. F25 also works extremely well for joining hardenable steels such as 4130 and 4340. The undiluted weld deposits are fully machinable. F25 is also used extensively as an underlay prior to surfacing.

### PROCEDURE

A minimum preheat/interpass temperature of 800°F is recommended for forging dies. Post heat at 800°F for 3 hours after welding, and then allow the deposit to cool below 200°F. Temper at 1050°F for 1 hour/inch thickness. Preheat and post heat according to the base material for all other applications.

### WELDING PARAMETERS

Type	Size	Volts	Amps	Shielding Gas/Flux
MC-G	.045"	18-30	150-250	100% CO <sub>2</sub> or Ar-CO <sub>2</sub> mixtures
FC-G	.045"	22-26	150-250	100% CO <sub>2</sub> or Ar-CO <sub>2</sub> mixtures
FC-G	1/16"	23-25	200-400	100% CO <sub>2</sub> or Ar-CO <sub>2</sub> mixtures
FC-G	3/32"	29-31	350-600	100% CO <sub>2</sub> or Ar-CO <sub>2</sub> mixtures
FC-G	1/8"	30-32	450-600	100% CO <sub>2</sub> or Ar-CO <sub>2</sub> mixtures

Submerged arc wires are available in 1/16"-3/16"; Use a neutral flux.

### MECHANICAL PROPERTIES AFTER 1050°F TEMPER, 10 HOURS

Hardness: 25-30 Rc  
 Tensile: 132,000 psi  
 Yield: 117,000 psi  
 Elongation: 17%  
 R.A.: 60%

### CLASSIFICATION

Ni-Cr-Mo Iron Base alloy