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## COR™FORGE F116 FC

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### DESCRIPTION

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COR™FORGE F116 FC is a flux-cored, nickel base alloy designed to prolong forging die life. F116 FC is alloyed with chromium, molybdenum, and cobalt to withstand stresses and oxidation at elevated temperatures. This is the hardest alloy in a group of three: refer to COR™FORGE F114 FC, and F115 FC.

### APPLICATIONS

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F116 FC is most often used for overlaying rotary forge hammer dies, and large, flat dies which are exposed to elevated temperatures for extended periods of contact. This material is not used for “finishing” dies, i.e. coining dies.

### PROCEDURE

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Preheat at 750°F. Use COR™FORGE F110, or COR™FORGE F111 as an underlay. Apply F116 FC with stringer beads, or a slight weave. Temper at 1025°F for 10 hours, and furnace cool at a rate not exceeding 100°F/hour. The welded overlay will display some stress relief cracks which will not affect the forging die performance.

### WELDING PARAMETERS

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Type	Size	Volts	Amps	Stickout	Shielding Gas
FC-G	1/16”	18-22	225-275	5/8”	75Ar-25CO <sub>2</sub>
FC-G	3/32”	22-26	210-450	3/4”	75Ar-25CO <sub>2</sub>

### MECHANICAL PROPERTIES

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Hardness: 35-40 Rc as welded  
Work hardens to 45 +

### CLASSIFICATION

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Modification of Udimet® 520

Udimet is a registered trademark of Special Metals Corporation.