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COR™FORGE F115 FC

DESCRIPTION

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

APPLICATIONS

F115 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

Preheat at 750°F. Use COR™FORGE F110, or COR™FORGE F111 as an underlay. Apply F115 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

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

MECHANICAL PROPERTIES

Hardness: 30-35 Rc as welded
Work hardens to 40 +

CLASSIFICATION

Modification of Udimet® 520

Udimet is a registered trademark of Special Metals Corporation.