



Techalloy 825

Description

Techalloy 825 is used for TIG, MIG and SAW welding of nickel-chromium-molybdenum-copper alloys. This can also be used to overlay cladding where similar chemical composition is required.

Specifications & Approvals:

AWS A5.14 ERNiFeCr-1

UNS N08065

CWB

Typical Chemical Composition

| C | Mn | Si | Fe | Cr | Mo | Ni | Nb | W | S | P | Al | Ti | Cu |
|-----|-----|-----|------|------|-----|------|----|---|------|------|-----|-----|-----|
| .01 | .45 | .25 | 27.5 | 22.5 | 3.1 | 42.6 | | | .001 | .015 | .10 | 1.0 | 2.5 |

Typical Mechanical Properties

| | | |
|------------------|------------|---------|
| Tensile Strength | 88,500 PSI | 610 MPA |
| Yield Strength | 61,000 PSI | 420 MPA |
| Elongation | 34% | |

Welding Parameters

| Process | Diameter | Voltage | Amperage | Gas |
|---------|---------------|---------|----------|---------------------------|
| TIG | .035" (0.9mm) | 12-15 | 60-90 | 100% Argon |
| | .045" (1.2mm) | 13-16 | 80-110 | 100% Argon |
| | 1/16" (1.6mm) | 14-18 | 90-130 | 100% Argon |
| | 3/32" (2.4mm) | 15-20 | 120-175 | 100% Argon |
| | 1/8" (3.2mm) | 15-20 | 150-220 | 100% Argon |
| MIG | .035" (0.9mm) | 26-29 | 150-190 | 75% Argon + 25% Helium |
| | .045" (1.2mm) | 28-32 | 180-220 | 75% Argon + 25% Helium |
| | 1/16" (1.6mm) | 29-33 | 200-250 | 75% Argon + 25% Helium |
| SAW | 3/32" (2.4mm) | 28-30 | 275-350 | Suitable Flux may be used |
| | 1/8" (3.2mm) | 29-32 | 350-450 | Suitable Flux may be used |
| | 5/32" (4.0mm) | 30-33 | 400-550 | Suitable Flux may be used |

Standard Packages:

| | | |
|---------------------------|--------------------------------------|---------------|
| MIG Wire– 33# wire basket | TIG Wire– 10# tube/30# Master Carton | SAW– 60# Coil |
|---------------------------|--------------------------------------|---------------|