# DMCO#12 -- DURAMAX COBALT #12 -- BARE WIRE

***Classification:*** **ERCoCr-B** ***Specification:*** AWS A5.21 / ASME SFA 5.21

## *Description:*

DMCO#12 bare rod develops high hardness, abrasion resistance and good corrosion resistance. These properties make DMCO#12 the choice for cutting wood saws and bars and for industrial cutting applications for carpet, plastics, paper and chemical industries. It is non-forgeable and can be machined with difficulty using carbide tools. DMCO#12 bonds well to all weldable grade steels, including stainless.

Typical applications include valve seats, bearing areas, rotary cutters, food processing equipment.

## *Typical Chemical Composition (%)*

| C | Mn | Si | Cr | Ni | Mo | Fe | W | Co |
|---|---|---|---|---|---|---|---|---|
| 1.2 - 1.7 | 1.0 max | 2.0 max | 26.0 - 32.0 | 3.0 max | 1.0 max | 3.0 max | 7.0 - 9.5 | Remainder |
| TOE = 0.50 max | | | | | | | | |

## *Typical Deposit Characteristics:*

| | | | |
|---|---|---|---|
| - Abrasion Resistance | Excellent | - Cold Abrasion | Good |
| - Impact Resistance | Excellent | - Hot Abrasion | Good |
| - Erosion Resistance | Excellent | - Deposit Layers | 1 Layer / 2 max |
| - Corrosion Resistance | Excellent | - Machinability | Use Carbide tools |
| - Typical Hardness | HRC 40 - 51 | *With Proper Preheat and Slow Cooling | |

## *Sizes available and recommended currents GTAW*

| Diameter | Process | Current | Voltage | Amperage | Shielding Gas |
|---|---|---|---|---|---|
| 3/32" (2.4mm) | GTAW | DCEN | 20 - 40 | 80 - 100 | Argon |
| 1/8" (3.2mm) | GTAW | DCEN | 20 - 40 | 90 - 120 | Argon |
| 5/32" (4.0mm) | GTAW | DCEN | 20 - 40 | 120 - 140 | Argon |
| 3/16" (4.8mm) | GTAW | DCEN | 20 - 40 | 140 - 160 | Argon |

## *Sizes available and recommended setting for Oxyfuel*

| Diameter | Process | Tip Size / Flame |
|---|---|---|
| 3/32" - 3/16" (2.4mm - 4.8mm) | OAW | #4 or #5 / 3X - 4X |