



# S. R. Industries

## STAR ARC ER409Nb

**ER409Nb** is a ferritic stainless steel welding alloy used to weld types 409 and 409Ti base metals. The addition of columbium leads to a preferential reaction with carbon which interrupts chromium from forming carbides. This improves corrosion resistance, increases strength at high temperatures, and promotes ferritic microstructure.

**AWS Specification : AWS A5.9/A5.9M:2006**

|                                                      |                        |
|------------------------------------------------------|------------------------|
| <i>AWS Classification</i>                            | <b>ER409Nb</b>         |
| <i>Welding Current</i>                               | <i>DCEP</i>            |
| <b>Typical Wire Chemistry</b>                        |                        |
| <i>C</i>                                             | <i>0.08</i>            |
| <i>Cr</i>                                            | <i>10.5 - 13.5</i>     |
| <i>Ni</i>                                            | <i>0.6</i>             |
| <i>Mo</i>                                            | <i>0.50</i>            |
| <i>Mn</i>                                            | <i>0.8</i>             |
| <i>Si</i>                                            | <i>1.0</i>             |
| <i>P</i>                                             | <i>0.04</i>            |
| <i>S</i>                                             | <i>0.03</i>            |
| <i>Cu</i>                                            | <i>0.75</i>            |
| <i>Nb</i>                                            | <i>10xCmin/0.75max</i> |
| <b>Typical Mechanical Properties<br/>(As Welded)</b> |                        |
| <i>Yield Strength, ksi</i>                           | <i>50</i>              |
| <i>Tensile Strength, ksi</i>                         | <i>67</i>              |

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|                                                                    |                 |
|--------------------------------------------------------------------|-----------------|
| <i>Elongation%, min</i>                                            | 26              |
| <i>Welding Positions</i>                                           | <i>F,V,OH,H</i> |
| <b><i>Available Diameters MIG with Operating Range in Amps</i></b> |                 |
| .030"                                                              | 50 - 100        |
| .035"                                                              | 160 - 210       |
| .045"                                                              | 180 - 250       |
| <b><i>Available Diameters TIG with Operating Range in Amps</i></b> |                 |
| .035"                                                              | 60 - 90         |
| .045"                                                              | 80 - 110        |
| 1/16"                                                              | 90 - 130        |
| 3/32"                                                              | 120 - 175       |
| 1/8"                                                               | 150 - 220       |
| 5/32"                                                              | 170 - 350       |

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