

# FICHA TÉCNICA

## DUAL SHIELD LOW ALLOY FLUX CORED WIRES



## DUAL SHIELD II 80-Ni1H4

AWS A5.20: E81T1-Ni1MJDH4



### FEATURES

Dual Shield II 80-Ni1H4 produces diffusible Hydrogen levels of <4mL/100g over a wide range of welding parameters. Applications include petrochemical equipment, bridge fabrication, offshore oil construction, ship fabrication railcar, and heavy machinery.

### CLASSIFICATIONS AND APPROVALS

- Seismic D
- AWS A5.29: E81T1-Ni1MJDH4
- ASME SFA 5.29
- CERTIFIED BY C.W.B.- AWS A5.29
- A.B.S.- 3YSA(H5)
- MIL-E-24403/1: MIL-81T1-Ni1M
- D.N.V.- IV YMS(H5)
- L.R.- 4Y40S(H10)
- BV
- TUV

### WELDING PROCESS

- FCAW (Flux Core)

### INDUSTRIES

- Rail Road Car
- Mobile Machinery
- General Fabrication
- Civil Construction
- Bridge Construction
- Shipbuilding

### TYPICAL MECHANICAL PROPERTIES

As Welded 75% Ar / 25% CO<sub>2</sub>

Yield Strength 79 ksi, 545 MPa

Tensile Strength 89 ksi, 615 MPa

Reduction in Area 71%

Elongation in 2" 28%

Stress Relieved 2 hrs. @ 1150°F (620°C)

75% Ar / 25% CO<sub>2</sub>

Yield Strength 73 ksi, 505 MPa

Tensile Strength 84 ksi, 570 MPa

Reduction in Area 71%

Elongation in 2" 28%

### CHARPY V-NOTCH PROPERTIES

Testing Temperature -20°F (-29°C)

As Welded 75% Ar / 25% CO<sub>2</sub>

100 ft-lb, 149 J

Stress Relieved 2 hrs. @ 1150°F (620°C)

75% Ar / 25% CO<sub>2</sub> 90 ft-lb, 122 J

Testing Temperature -40°F (-40°C)

As Welded 75% Ar / 25% CO<sub>2</sub>

84 ft-lb, 114 J

Stress Relieved 2 hrs. @ 1150°F (620°C)

75% Ar / 25% CO<sub>2</sub> 50 ft-lb, 68 J

### WELD METAL ANALYSIS

75% Ar / 25% CO<sub>2</sub>

C 0.05%

Mn 1.20%

Si 0.32%

P 0.014%

S 0.009%

Ni 0.93%

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DEPOSITION TABLE - 75% Ar / 25% CO<sub>2</sub>

| Diameter<br>in (mm) | Amps | Volts | Wire Feed Speed<br>ipm (cm/min) | Deposition<br>lb/hr (kg/hr) | Efficiency<br>% |
|---------------------|------|-------|---------------------------------|-----------------------------|-----------------|
| .045 (1.2)          | 150  | 28    | 200 (508)                       | 4.2 (1.91)                  | 86              |
|                     | 210  | 29    | 300 (762)                       | 6.3 (2.86)                  | 86              |
|                     | 250  | 30    | 400 (1016)                      | 8.5 (3.86)                  | 87              |
|                     | 290  | 33    | 500 (1270)                      | 10.7 (4.85)                 | 87              |
| .052 (1.4)          | 155  | 25    | 150, (381)                      | 4.4 (2)                     | 87              |
|                     | 245  | 28    | 250, (635)                      | 7.3 (3.31)                  | 86              |
|                     | 310  | 33    | 350, (889)                      | 10.2 (4.63)                 | 85              |
|                     | 360  | 36    | 450 (1143)                      | 13.3 (6.03)                 | 85              |
| 1/16 (1.6)          | 190  | 27    | 150 (38)                        | 6.1 (2.77)                  | 87              |
|                     | 300  | 30    | 250 (635)                       | 10.2 (4.63)                 | 87              |
|                     | 365  | 33    | 300 (762)                       | 12.3 (5.58)                 | 86              |
|                     | 410  | 33    | 350 (889)                       | 14 (6.35)                   | 88              |
| 5/64 (2.0)          | 250  | 26    | 112 (284)                       | 6.4 (2.9)                   | 85              |
|                     | 350  | 28    | 176 (447)                       | 10.5 (4.76)                 | 85              |
|                     | 450  | 31    | 258 (655)                       | 14.8 (6.71)                 | 85              |

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### FULL RANGE WELDING PARAMETERS

| Gas: 75/25<br>.045" |       |         |                   | Gas: 75/25<br>.052" |       |         |                   |
|---------------------|-------|---------|-------------------|---------------------|-------|---------|-------------------|
| WFS<br>ipm          | Volts | Amps    | Tip to Work<br>in | WFS<br>ipm          | Volts | Amps    | Tip to Work<br>in |
| 150-260             | 22-26 | 130-200 | 3/8-1/2           | 110-230             | 22-26 | 135-250 | 1/2-5/8           |
| 260-380             | 24-27 | 200-225 | 1/2-3/4           | 230-340             | 25-29 | 250-295 | 5/8-3/4           |
| 380-520             | 27-29 | 225-265 | 3/4-1             | 340-470             | 27-31 | 295-355 | 3/4-1             |

### FULL RANGE WELDING PARAMETERS

| Gas: 75/25<br>1/16" |       |         |                    |
|---------------------|-------|---------|--------------------|
| WFS<br>ipm          | Volts | Amps    | Tip to Work<br>in  |
| 110-200             | 24-28 | 185-285 | 5/8-3/4            |
| 200-300             | 27-30 | 285-340 | 3/4-1              |
| 300-420             | 28-32 | 340-400 | 1-1 <sup>1/4</sup> |

### PART NUMBER / PRODUCT INFORMATION

| Part Number | Description                   | UPC          |
|-------------|-------------------------------|--------------|
| 245011119   | DS II 80-Ni1H4 045X33#PSP     | 662303058913 |
| 245011127   | DS II 80-Ni1H4 052X33#PSP     | 662303058920 |
| 245011135   | DS II 80-Ni1H4 1/16X33#PSP    | 662303058937 |
| 245011234   | DS II 80-Ni1H4 1/16X33#PSP VP | 662303058951 |
| 245011630   | DS II 80-Ni1H4 1/16X60#CL     | 662303058890 |
| 245011671   | DS II 80-Ni1H4 1/16X600#OMP   | 662303082987 |