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ER2209 DATA SHEET

Pinnacle Alloys ER2209

AWS CLASS ER2209

CODE AND SPECIFICATION DATA:

AWS A5.9 ASME SFA 5.9; UNS S39209

DESCRIPTION:

Pinnacle Alloys ER2209 is utilized for joining 22% Cr/ 5% Ni duplex stainless steels. 2205 Duplex base material exhibits higher strength as compared with standard austenitic stainless steels, such as 316L. This material possesses good general corrosion resistance in a wide range of environments, but also has high resistance to pitting attack in chloride environments, such as sea water.

DIAMETERS: .035", .045", 1/16", 3/32", 1/8", 5/32"

TYPICAL CHEMICAL COMPOSITION (Wt %):

Carbon (C)	0.02
Chromium (Cr)	22.6
Copper (Cu)	0.13
Iron (Fe)	Balance
Manganese (Mn)	1.70
Molybdenum (Mo)	3.20
Nickel (Ni)	8.60
Nitrogen (N)	0.16
Phosphorous (P)	0.016
Silicon (Si)	0.40
Sulfur (S)	0.005

TYPICAL MECHANICAL PROPERTIES:

Tensile Strength (psi)	108,000 psi (740 MPa)
Yield Strength (psi)	93,000 psi (640 MPa)
Percent Elongation	42%

TYPICAL GMAW PARAMETERS (Spray Transfer Welding with Bare Stainless Wire):

Diameter	Type of Power	Amperage	Volts	Stickout	98% Ar/ 2% O ₂ (cfh)
.035"	DCEP	150-225	23-26	1/2"-3/4"	35
.045"	DCEP	200-325	24-28	1/2"-3/4"	35
1/16"	DCEP	300-350	24-27	1/2"-3/4"	35



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TYPICAL GMAW PARAMETERS (Short-Circuiting Welding with Bare Stainless Wire):

Diameter	Type of Power	Amperage	Volts	Stickout	90% He/ 7½% Ar/ 2½% CO ₂ (cfh)
.035"	DCEP	60-200	14-22	3/8"-1/2"	25
.045"	DCEP	75-225	15-23	3/8"-1/2"	25
1/16"	DCEP	100-250	16-23	3/8"-1/2"	25

TYPICAL GTAW PARAMETERS (Welding with Stainless Cut-Lengths*):

Diameter	Metal Thickness	Number of Passes	Tungsten Size	Amperage	Travel Speed (in/min)
1/16"	1/16"	1	1/6"	35-60	12
3/32"	3/32"	1	1/16"	45-85	12
3/32"	1/8"	1	1/16"	55-100	12
1/8"	3/16"	1	3/32"	65-130	10

*DCEN, Argon Shield, Tungsten Electrode

TYPICAL SAW PARAMETERS:

Diameter	Amperage	Volts	Flux
1/16"			Call SOWESCO
3/32"	275-350	28-33	
1/8"	350-450	29-32	
5/32"	400-550	30-33	

NOTICE: The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. Thus the results are not guarantees for the use in the field. The manufacturer disclaims any warranty of merchantability of fitness for any particular purpose with respect to its products.

CAUTION: Consumers should be thoroughly familiar with the safety precautions on the warning label posted in each shipment and in the American National Standards A49.1, "Safety in Welding and Cutting," published by the American Welding Society, 550 NW LeJune Road, Miami, FL 33126: OSHA Safety and Health Standards 29 CFR 1910 is available from the U.S. Department of Labor, Washington, D.C. 20210.

Pinnacle Alloys MSDS sheet may be obtained at www.pinnaclealloys.com.