Duplex 2209 AC-DC

AWS E2209-16

Replaces 020412 160-O, INDEX: 020520

DESCRIPTION:

Combining high strength with improved pitting and SCC resistance, **Duplex 2209 AC-DC** is specially formulated for welding 22 Cr-5 Ni-3 Mo (Type 2205) duplex stainless steels. It has a smooth running arc that results in a uniform bead that is flat to slightly convex.
Note: Actual certs are included in every master carton of stainless stick electrodes at no charge.

Features	Benefits
• Spray-like arc transfer	• Low spatter and less clean-up
• Electrode does not overheat	• Less stub loss, cost-effective
• Directional arc	• Metal goes where directed
• Easy strike and re-strike	• Easy to use, less chance of starting defects
• All-position	• Welds extremely well in flat, horizontal, vertical (up) and overhead positions
• Easy slag release	
• Extremely high moisture resistance	• Less chance of slag inclusions
	• Extends shelf-life of product in open environments

TYPICAL WELD METAL PROPERTIES* (CHEM PAD):

Weld Metal Analysis:

		AWS Spec
Carbon (C)	0.03	0.04 max
Chromium (Cr)	22.90	21.5 to 23.5
Nickel (Ni)	10.10	8.5 to 10.5
Molybdenum (Mo)	3.00	2.5 to 3.5
Manganese (Mn)	1.01	0.5 to 2.5
Silicon (Si)	0.38	0.90 max
Phosphorus (P)	0.011	0.04 max
Sulphur (S)	0.013	0.03 max
Copper (Cu)	0.21	0.75 max
Nitrogen (N)	0.093	0.08 to 0.20

TYPICAL MECHANICAL PROPERTIES* (AS WELDED):

		AWS Spec
Tensile Strength	115,000 psi (794 MPa)	100,000 psi
Yield Strength	90,000 psi (621 MPa)	not required
Elongation % in 2”	27%	20%
DeLong Ferrite Number Range	25-80	not required
Schaeffler Number Range	25-80	not required
WRC Number Range (1992)	25-80	not required

CONFORMANCES AND APPROVALS:

• AWS Spec A5.4, Class E2209-16 • ASME SFA5.4

*The information contained or otherwise referenced herein is presented only as “typical” without guarantee or warranty, and McKay expressly disclaims any liability incurred from any reliance thereon. Typical data are obtained when welded and tested in accordance with AWS A5.4 specification. Other tests and procedures may produce different results. No data is to be construed as a recommendation for any welding condition or technique not controlled by McKay.

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RECOMMENDED WELDING PROCEDURES:

GENERAL: DCEP (electrode positive, work negative) or AC

ARC LENGTH: Short (less than half the diameter of the electrode)

FLAT & HORIZONTAL: Angle electrode 10-15º from 90º

VERTICAL-UP: Use weaving techniques. Reduced amperage compared to flat position setting

OVERHEAD: Use slight weaving motion within the puddle

STORAGE: AC-DC electrodes have a high degree of moisture resistance; however, for critical applications, the electrodes should be held at 225ºF after opening.

RECONDITIONING: If exposed to atmosphere for extended periods, recondition at 500ºF for 1 hour

RECOMMENDED OPERATING PARAMETERS:

Diameter			FLAT & HORIZONTAL		
Inches	mm	Type of Power	Minimum Amps	Optimum Amps	Maximum Amps
3/32	2.4	DCEP or AC	45	65	80
1/8	3.2	DCEP or AC	55	105	120
5/32	4.0	DCEP or AC	65	140	170
3/16	4.8	DCEP or AC	160	170	205

AVAILABLE DIAMETERS AND PACKAGES:

Diameter		Length		6-lb. Can	10-lb. Can
Inches	mm	Inches	mm		
3/32	2.4	10	254	S486430-032	—
1/8	3.2	14	355	—	S486444-033
5/32	4.0	14	355	—	S486451-033
3/16	4.8	14	355	—	S486458-033