

OK Flux 429

OK Flux 429 is a neutral, bonded flux intended for butt and fillet welding of carbon and low alloy steel plate. It combines good as welded and stress relieved mechanical properties with excellent performance. Its slag is generally self peeling, even in tight, narrow groove butt welds. It provides moderate tolerance of rust and mill scale. OK Flux 429 is used in offshore oil rig, bridge, ship, pressure vessel, and structural fabrication. It will operate with DC and AC, single and multiwire systems at currents up to 1000 amps.

Specifications

Classifications	AWS A5.17 : F7A2-EM14K ASME SFA 5.23 ASME SFA 5.17 AWS A5.17 : F7A2-EM12K AWS A5.17 : F6P4-EM12K AWS A5.17 : F7A2-EM13K AWS A5.17 : F7P4-EM14K AWS A5.17 : F7A4-EH12K AWS A5.23 : F8A2-EA1-A2 AWS A5.23 : F8P2-EA1-A2 AWS A5.23 : F8A2-EA2-A3 AWS A5.23 : F8P0-EA2-A3 AWS A5.23 : F9A4-ENi1K-Ni1 AWS A5.23 : F9A4-ENi14-Ni4 AWS A5.23 : F8P4-ENi4-Ni4
Approvals	CWB : AWS A5.28 F49A4-ENi1K-Ni1-H8 CWB : CSA W48 F49A3-EM12K (H8)
Industry	Ship and Offshore Yards Bridge Construction Ship/Barge Building Pressure Vessels Process Structural Steel Fabrication Mobile Equipment Power Generation Pipeline Industrial and General Fabrication

Approvals are based on factory location. Please contact ESAB for more information.

Slag Type	AB (Aluminate-Basic)
Alloy Transfer	Slightly silicon and Slightly manganese alloying
Density	nom: 1.2 kg/dm ³
Basicity Index	nom: 1.1

Classifications

Wire	AWS/EN	AWS - As Welded	AWS - PWHT
Spoolarc 29S	AWS A5.17: EM13K	F7A2-EM13K	-
Spoolarc 53	AWS A5.17: EH12K	F7A4-EH12K	-
Spoolarc 71	AWS A5.17: EM14K	F7A2-EM14K	F7P4-EM14K
Spoolarc 75	AWS A5.23: ENi1K	F8A4-ENi1K-Ni1	-
Spoolarc 81	AWS A5.17: EM12K	F7A2-EM12K	F6P4-EM12K
Spoolarc ENi4	AWS A5.23: ENi4	F9A4-ENi4 Ni4	F8P4-ENi4-ENi4

Approvals

Combined with Wire

*Selected production units only. Please contact ESAB for more information. Visit esab.com to download specific flux/wire combination fact sheets for more details.

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Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Mo
Spoolarc 29S						
0.07	1.70	0.70	0.012	0.020	-	-
Spoolarc 53						
0.06	1.80	0.50	0.010	0.026	-	-
Spoolarc 71						
0.06	1.58	0.58	0.009	0.018	-	-
Spoolarc 75						
0.05	1.50	0.60	0.012	0.018	0.80	-
Spoolarc 81						
0.06	1.40	0.45	0.015	0.020	-	-
Spoolarc ENi4						
0.06	1.30	0.40	0.009	0.021	1.79	0.15

Typical Mechanical Properties

Combined with Wire	Condition	Yield Strength	Tensile Strength	Elongation	Charpy V-Notch
Spoolarc 29S	As Welded	460 MPa (67 ksi)	570 MPa (83 ksi)	27 %	42 J @ -29 °C (38 ft-lb @ -20 °F)
Spoolarc 53	As Welded	490 MPa (71 ksi)	585 MPa (85 ksi)	28 %	52 J @ -40 °C (30 ft-lb @ -40 °F)
Spoolarc 71	As Welded	475 MPa (69 ksi)	565 MPa (82 ksi)	30 %	60 J @ -40 °C (44 ft-lb @ -40 °F)
Spoolarc 71	Stress Relieved 1 hr @ 621C (1150F)	430 MPa (63 ksi)	525 MPa (76 ksi)	32 %	60 J @ -29 °C (44 ft-lb @ -20 °F)
Spoolarc 75	As Welded	505 MPa (73 ksi)	595 MPa (86 ksi)	28 %	54 J @ -40 °C (40 ft-lb @ -40 °F)
Spoolarc 81	Stress Relieved 1 hr @ 621C (1150F)	415 MPa (60 ksi)	515 MPa (75 ksi)	30 %	68 J @ -40 °C (50 ft-lb @ -40 °F)
Spoolarc 81	As Welded	455 MPa (66 ksi)	545 MPa (79 ksi)	26 %	65 J @ -29 °C (48 ft-lb @ -20 °F)
Spoolarc ENi4	As Welded	565 MPa (82 ksi)	640 MPa (93 ksi)	25 %	60 J @ -40 °C (44 ft-lb @ -40 °F)
Spoolarc ENi4	Stress Relieved 1 hr @ 621C (1150F)	530 MPa (77 ksi)	615 MPa (89 ksi)	26 %	33 J @ -40 °C (24 ft-lb @ -40 °F)