

EXCALIBUR™

7018 and 7018-1

Excalibur 7018 and 7018-1 are all-position, low hydrogen, moisture resistant manual electrodes. These electrodes deliver exceptional operating characteristics. The smooth, even burnoff of Excalibur electrodes make them the ideal choice for critical out-of-position welding applications where operator appeal is important.

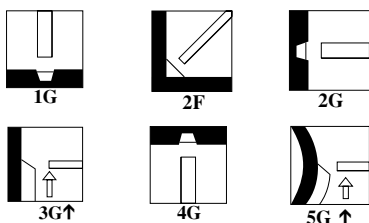
CONFORMANCE

Excalibur 7018 conforms to:
 AWS A5.1-91: E7018
 ASME SFA 5.1: E7018

Excalibur 7018-1 conforms to:
 AWS A5.1-91: E7018-1
 ASME SFA 5.1: E7018-1



WELDING POSITIONS



ADVANTAGE LINCOLN

- Moisture resistant coating.
- Exceptionally clean puddle and uniform slag follow, making it easy

- for a welder to “carry” the puddle.
- Starting tip to facilitate initial arc strike.
- Superior tie-in at weld bead edges. Less tendency to undercut.
- Square coating burnoff, resistant to fingernailing in critical out-of-position joints or joints more susceptible to arc blow conditions.

- Smooth bead profile - flat to slightly convex.
- Excellent slag removal.
- Coating flexibility - less breakage of flux when bent, or when restriking a partially used electrode.
- Manufactured under a quality system certified to ISO 9002 requirements.

CONFORMANCES AND APPROVALS

AWS Class	Lloyd's Grade	DNV Grade	GL Grade	BV Grade	ASME		ABS Grade	Conformance Certificate Available ⁽¹⁾	Military Specifications
					Boiler Code – Group	Analysis			
EXCALIBUR 7018	3, 3YH5	3YH5	3YH5	3YHHH	F4	A1	E7018M 3, 3YH5	Yes	—
EXCALIBUR 7018-1	3, 3YH5	3YH5	3YH5	3YHHH	F4	A1	E7018M 3, 3YH5	Yes	—

ABS: American Bureau of Shipping Lloyd's: Lloyd's Register for Shipping DNV: Det Norske Veritas GL: Germanischer Lloyd BV: Bureau Veritas
⁽¹⁾ “Certificate of Conformance” to AWS classifications test requirements is available. These are needed for Federal Highway Administration projects.

MECHANICAL PROPERTIES - As Welded per AWS A5.1 (DC+)

	Yield Strength psi (MPa)	Tensile Strength psi (MPa)	Elongation (%)	Charpy V-Notch ft-lbs (Joules)	
				@ -20°F (-29°C)	@ -50°F (-45°C)
Excalibur 7018 Requirements AWS E7018	58,000 (400) min	70,000 (483) min.	22 min.	20 (27) min.	-
Typical Test Results (Range)⁽¹⁾	65,000- 75,000 (448 - 517)	75,000 - 88,000 (517 - 607)	28 - 35	100 - 200 (135 - 271)	-
Excalibur 7018-1 Requirements AWS E7018	58,000 (400) min	70,000 (483) min.	22 min.	-	20 (27) min.
Typical Test Results (Range)⁽¹⁾	64,000- 79,000 (441 - 545)	76,000 - 92,000 (524 - 634)	29 - 35	-	80 - 130 (108 - 176)

⁽¹⁾ Typical all weld metal.

DEPOSIT COMPOSITION

	%C	%S	%Mn	%Si	%Cr	%Ni	%Mo	%P
Excalibur 7018 Requirements per AWS A5.1-91	Not Specified	Not Specified	1.60 Max.	.75 Max.	.20 Max.	.30 Max.	.30 max.	Not Specified
Typical Test Results (Range)	.04 - .06	.005 - .012	1.25 - 1.50	.40 - .60	.05	.04	.03	.012 - .018
Excalibur 7018-1 Requirements per AWS A5.1-91	Not Specified	Not Specified	1.60 Max.	.75 Max.	.20 Max.	.30 Max.	.30 max.	Not Specified
Typical Test Results (Range)	.05 - .06	.005 - .012	1.30 - 1.55	.40 - .55	.05	.04	.03	.012 - .018

DIAMETERS / PACKAGING

Diameter Inches(mm)	10 Lb.	50 Lb.
	Easy Open Hermetic Can	Easy Open Hermetic Can
3/32 (2.4)	✓	✓
1/8 (3.2)	✓	✓
5/32 (4.0)	✓	✓
3/16 (4.8)	✓ ⁽¹⁾	✓
7/32 (5.6)		✓
1/4 (6.4)		✓

TYPICAL PROCEDURES

Diameter Inches (mm)	Current (Amps)	
	Range	Optimum
3/32 (2.4)	70 - 110	90
1/8 (3.2)	90 - 160	130
5/32 (4.0)	130 - 210	160
3/16 (4.8)	200 - 300	240
7/32 (5.6)	250 - 330	270
1/4 (6.4)	300 - 400	340

DIFFUSIBLE HYDROGEN

Excalibur 7018 and 7018-1	Typical Results ⁽¹⁾ (ml/100g weld deposit)
All sizes	2.5

⁽¹⁾ Gas Chromatograph per AWS A4.3

⁽¹⁾ Excalibur 7018 only.



**THE
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