

Rutile flux cored wire for high strength steel applicable to post weld heat treatment with Ar-CO₂ mixed gas
AWS A5.29 E81T1-Ni1M



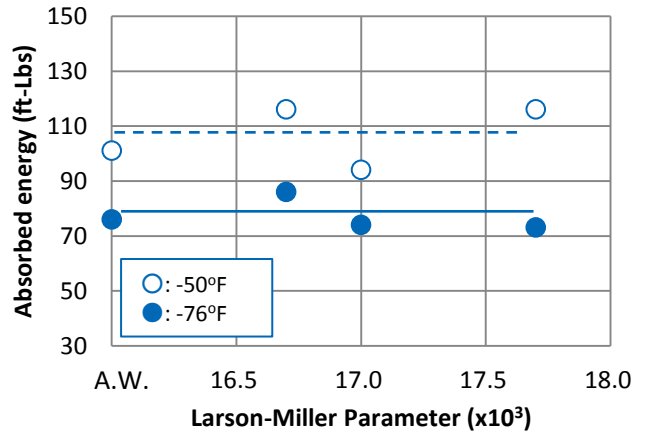
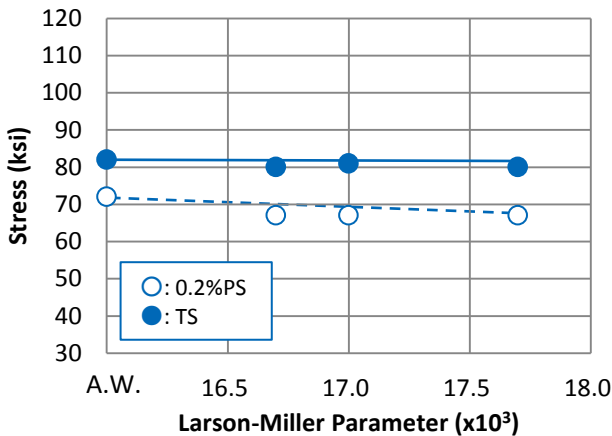
Features and typical fields of application

- 80 ksi class rutile flux cored wire suitable for post weld heat treatment (PWHT) without adverse degradation of mechanical properties while retaining acceptable mechanical properties
- Excellent impact toughness value down to -76F in the As-Welded condition and typical PWHT condition
- DW-A55LSR is designed to be used with 80%Ar-20%CO₂ shielding gas. It has a wide welding parameter range which makes this product very versatile for all position welding
- The optimized chemical design of the weld metal provides superior mechanical properties suitable for the most demanding industry specifications

Mechanical properties of all-weld metal as per AWS A5.29 with typical PWHT conditions

PWHT condition	LMTP* (x10 ³)	0.2% PS (ksi)	TS (ksi)	EL (%)	CVN (ft-Lbs)	
					-76F ^o	-50F ^o
As Welded	-	72	82	30	76	101
1020°F x 2hours	16.7	67	80	31	86	116
1020°F x 4hours	17.0	67	81	32	74	94
1110°F x 2hours	17.7	67	80	34	73	116

* Larson-Miller Parameter; $(T+20)\text{Log}(t)$, where T: Temperature/K, t: time/h



Chemical Composition of all weld metal as per AWS A5.29 (wt.%)

C	Si	Mn	P	S	Ni	Others
0.07	0.28	1.29	0.008	0.008	0.97	Ti, B



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Heat input envelope test with AWS A5.29 groove preparation (As Welded)

Heat Input (kJ/inch)	0.2% PS (ksi)	TS (ksi)	EL (%)	RA (%)	CVN (ft-Lbs)	
					-76F°	-40F°
25	82	86	30	73	63	83
43	69	80	32	75	92	85
61	66	79	32	75	79	97

Recommended welding conditions and deposition rate

Wire Dia.	Wire Feed Speed (in./min)	Current (A)	Arc Voltage (V)	Deposition Rate (Lbs/hr)	Wire Stick-Out (In.)
0.045"	140	120	21-24	4.0	3/4"
	200	160	23-26	6.0	
	290	200	25-28	8.0	
	330	220	25-28	9.0	
	400	250	26-28	10.5	

Approvals

ABS, LR, DNVGL, BV

Available Products

Wire Dia.	0.045"	Package	28Lbs spool
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DISCLAIMER

- Information in this material, such as chemical compositions and mechanical properties, is typical or an example for explaining the features and performances of our products, and it does not mean guarantee unless otherwise it is specified.
- Information contained herein is subject to change without notice. Please kindly contact Kobelco for latest information.



WARNING: This product can expose you to chemicals including Nickel and Titanium Dioxide, which are known to the State of California to cause cancer, and Chromium, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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