Crown 8

Gas Tungsten Arc Welding (GTAW) TIG Alloy

High Strength Steel

"The Royal Line"
CROWN ALLOYS COMPANY
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Superior High Strength Low-Alloy TIG Alloy

Typical Applications

Crown 8 (ER 80S-D2) is a premium low-alloy cut length TIG filler metal that contains ½ percent molybdenum (for increased strength) and high levels of manganese and silicon to provide good wetting and good rust and scale tolerance. The higher level of deoxidizers (Mn and Si) help to control porosity. **Crown 8** (ER 80S-D2) will yield radiographic quality welds with excellent bead appearance in both ordinary and difficult-to-weld carbon and low alloy steels. **Crown 8** is ***THE*** recommended TIG alloy for welding **4130 tubing** up to .120" wall thickness.

The combination of weld soundness and strength makes the **Crown 8** suitable for single and multiple-pass welding of a variety of carbon and low-alloy, higher strength steels in both the as welded and post weld heat-treated conditions. Maximum mechanical properties are achieved when using a preheat and interpass temperature of 275^{O}F minimum.

Specifications

AWS A5.28/A5.28M
ER 80S-D2

Crown 8 (ER 80S-D2)	AWS Specification Minimum	**Typical** Mechanical Properties
Tensile Strength	80,000 psi (min)	Up to 95,000 psi
Yield Strength	68,000 psi (min)	Up to 81,000 psi
Elongation % in 2"	17.0% (min)	19.8%
Charpy V-Notch @ -20^{O}F	20 ft.lbs. (min)	27 ft.lbs.

Procedure

GTAW (TIG) Welding Parameters

Manual Welding - Direct Current Electrode Negative (DCEN) – Use a 2% thoriated tungsten (Th-2) Red Band

Metal Thickness	Gas Cup	Tungsten Diameter	Filler Rod Diameter	Amps	Argon Gas Flow-CFH
1/16"	3/8"	1/16"	1/16"	100 - 140	20
3/32"	3/8"	1/16"	1/16"	100 - 160	20
1/8"	7/16"	3/32"	1/16"	125 - 200	20
3/16"	7/16"	3/32"	3/32"	150 - 250	25
1/4"	1/2"	1/8"	1/8"	150 - 250	25
3/8"	1/2"	1/8"	1/8"	150 - 275	25
1/2"	1/2"	1/8"	1/8"	150 - 300	25

All suggested settings are approximate. Inverter-based welders generally require less heat input (lower amps). Welds should be tested to comply to your specifications.

Sizes and Part Numbers

Diameter	Part Numbers		
	1# Package	10# Package	50# Carton
.035 x 36”	MTCR8/TF-BP	MTCR8/TF-10	MTCR8/TF
.045 x 36”	MTCR8/TG-BP	MTCR8/TG-10	MTCR8/TG
1/16 x 36”	MTCR8/TL-BP	MTCR8/TL-10	MTCR8/TL
3/32 x 36”	MTCR8/TN-BP	MTCR8/TN-10	MTCR8/TN
1/8 x 36”	MTCR8/TO-BP	MTCR8/TO-10	MTCR8/TO
5/32 x 36”	MTCR8/TP-BP	MTCR8/TP-10	MTCR8/TP

!!!! WARNING !!!!

WELDING FUMES AND GASES CAN BE DANGEROUS TO YOUR HEALTH.

BEFORE USING THIS PRODUCT THE WELDER (END-USER) MUST READ AND UNDERSTAND THE COMPLETE PRODUCT WARNING LABEL AND THE NEW 16 SECTION SAFETY DATA SHEET (SDS).

THE SAFETY DATA SHEET (SDS) WHICH OUTLINES THE POTENTIAL HEALTH HAZARDS AND SAFETY INFORMATION RELATED TO THIS PRODUCT CAN BE DOWNLOADED FROM THE SDS PORTION OF THIS WEBSITE. IT IS ALSO AVAILABLE FROM YOUR EMPLOYER AND WELDING SUPPLY DISTRIBUTOR.

DO NOT PROCEED WITH USE OF THIS PRODUCT UNTIL YOU READ AND UNDERSTAND THE SAFETY DATA SHEET (SDS) AND PRODUCT WARNING STATEMENT.

BE SURE TO CONSULT THE LATEST VERSION OF THE SDS.

SEE THE PRODUCT WARNING LABEL AND SDS FOR COMPLETE WARNING INFORMATION.