

Crown HS-7-10

Gas Tungsten Arc Welding
(GTAW) TIG Alloy

Tool Steel

DCEN
All Position



Premium Shock Resistant TIG Alloy (S-7 Type)

Typical Applications

Crown HS-7-10 is used on shock resistant steels S-1 through S-7. For TIG (GTAW) welding on cold and medium hot working dies. Used on coining dies, trimmer dies, and especially good for high shock applications such as chisel points, hammer faces and punches. **Crown HS-7-10** is an ideal TIG hard-facing alloy as it will adhere to a wide variety of metals including 4130 and 4140.

Specifications

AISI S-7

- Hardness 54-57 (Rockwell C) as welded. Can be tempered for lower hardness.

Identifying Color: Light Blue End

- Preheat The "S" series tool steels all require 300°F to 500°F preheat and postheat. The S-5 needs to be preheated to 500°F.

- Tempering

S-1	300°F to 500°F
S-2	300°F to 500°F
S-3	300°F to 500°F
S-4	300°F to 500°F
S-5	500°F minimum
S-7	400°F to 425°F
- Annealing 1500°F to 1550°F for one hour per inch of thickness
- Hardening 1725°F

Procedure

Prepare area to be welded by grinding out cracks and other defects. Remove all foreign material, fatigued metal and any sharp radii. Remove all oxides and other contaminants. Preheat and post heat will be determined by base metal chemistry. Deposit stringer beads. Peening is advisable.

Manual Welding – DC straight polarity (DCEN) – Use Argon Shielding Gas

Tungsten: Traditional choice is a 2% thoriated tungsten (Red Band), however, the more recent and safer introductions of 2% ceriated tungsten (Orange Band) or 1.5% lanthanated tungsten (Gold Band) have demonstrated superior performance in most applications.

Safety note: Thorium is radioactive & may present risks which are negligible under normal conditions of use.

Material Thickness (inches)	Tungsten Diameter	Filler Rod Diameter	Arc Voltage (volts)	Welding Current (amperage)	Gas Flow (cfh)
.035 to .045	.040	.045	7 – 14	60 – 100	15 – 20
1/16 to 3/32	1/16	1/16	9 – 14	100 – 160	20
1/8	3/32	1/16	12 – 15	125 – 200	20
3/16	3/32	3/32	12 – 17	130 – 195	25
3/16 to 1/2	1/8	1/8	15 – 20	150 – 300	25

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

Sizes and Part Numbers

TIG Diameter	Part Numbers	
	1# Package	5# Package
.045 x 36"	TTHS7/TG-BP	TTHS7/TG
1/16 x 36"	TTHS7/TL-BP	TTHS7/TL
3/32 x 36"	TTHS7/TN-BP	TTHS7/TN
1/8 x 36"	TTHS7/TO-BP	TTHS7/TO



!!!! 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.

