

Crown 12-FH-10

Gas Tungsten Arc Welding
(GTAW) TIG Alloy

Tool Steel

DCEN
All Position



Premium Heat-Treatable Low-Alloy Tool Steel TIG Alloy (6150)

Typical Applications

Crown 12-FH-10 is a chrome-vanadium flame-hardenable alloy for the build-up and repair of AISI 6150 steel with good resistance to abrasion and compression. **Crown 12-FH-10** has higher tensile strength and slightly lower elongation than the AISI 4100 series filler alloys. Specific applications include the build-up and repair of stamping dies (including GM 190, Chrysler NP 2088 and Ford M3A76A grades), forgings and castings made from medium carbon, medium alloy steels (such as AISI 6150) when post-weld heat treatment or flame hardening is required. It is also used in steel mills to build-up rolls for resurfacing tractor lugs and for welding tangs and shanks on high speed drills.

Specifications

AISI 6150

- Hardness 42-46 (Rockwell C) as welded.
51-56 (Rockwell C) after flame hardening.

Identifying Color:
Black End

- Preheat 550°F when welding on 6150. All other alloys, preheat according to base metal.
- Tensile Strength Up to 116,000 psi as welded
Up to 190,000 psi stress relieved

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 according to chart above. Interpass temperature should at least match the preheat temperature. Deposit stringer beads. Peen while hot.

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)
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
1/16 x 36"	TT12FH/TL-BP	TT12FH/TL
3/32 x 36"	TT12FH/TN-BP	TT12FH/TN
1/8 x 36"	TT12FH/TO-BP	TT12FH/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.

