

Crown PIM-10

Gas Tungsten Arc Welding
(GTAW) TIG Alloy

Tool Steel

DCEN
All Position



"The Royal Line"

CROWN ALLOYS COMPANY

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Premium Chrome-Moly Mold Steel TIG Alloy (P-20)

Typical Applications

Crown PIM-10 is specially formulated to produce dense, fine grained, heat-treatable deposits on pre-hardened AISI P-20. **Crown PIM-10** is able to match the machinability, polishability and texturing capability of most zinc and plastic injection mold steels. Weld deposits will provide uniform chrome plating properties and are nitridable as well. Specific applications include P-20 plastic mold steels for dies, molds and holder blocks used in compression or injection molding of ABS, thermosetting, SMC, GMT, Flax PP and transparent melts. **Crown PIM-10** is also effective on sulphur and lead bearing steels where porosity is a problem.

Specifications

AISI P-20

- Hardness 34-36 (Rockwell C) as welded.
Up to 48-54 (Rockwell C) after post weld heat treatment.
- Preheat 400°F to 900°F preheat depending on base metal chemistry, the type of weld and the amount of deposit.
- Heat Treatment Use P-20 procedure

Identifying Color:
Fluorescent Orange End

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 according to chart above. Deposit stringer beads.

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)
.020 to .045	.040	.035	5 – 10	30 – 70	15
.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
.035 x 36"	TTPIM/TF-BP	TTPIM/TF
.045 x 36"	TTPIM/TG-BP	TTPIM/TG
1/16 x 36"	TTPIM/TL-BP	TTPIM/TL
3/32 x 36"	TTPIM/TN-BP	TTPIM/TN
1/8 x 36"	TTPIM/TO-BP	TTPIM/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.

