



Special TIG Rod Formulated to
Repair Injection Mold Dies

TigTectic[®] 5P20



- Ideal solution for repairs to injection mold dies
- Deposit characteristics allow for an extremely high polished finish
- Similar to AISI P20 mold steel

TigTectic® 5P20

TigTectic 5P20 TIG rod is formulated for repairs to injection mold dies where the ability to obtain a high polish is critical for quality plastic moldings and die cast finishes. The deposit has a microstructure and hardness level suitable for general-purpose injection molds used for forming plastic and zinc die casting die components. TigTectic 5P20 is similar to AISI P20 mold steel.

TECHNICAL DATA

Typical Values	
Hardness:	30-35 HRC as-deposited
Hot Hardness:	Not used for metal hot work operations, as they do not have any "red hardness" properties.
Annealing Temperature:	1450-1500°F with annealed hardness of 185-225 BHN
Hardening Temperature:	Heat slowly to 1100°F (593°C) then transfer to preheated 575°F (302°C) oven
Preheat Temperature:	800-900°F (427- 482°C) when mold is preheated.
Inter-pass Temperature:	General applications use a ±50°F inter-pass range
Amperage Range:	Will depend on die mass and repair needs
Current & Polarity:	DCEN (-) and AC

PROCEDURE FOR USE

PREPARATION: Clean weld area of scale and oxide. Remove grease and oil by using a suitable VOC-free solvent. Dye penetrant test to locate cracks. Prepare cracks by grinding so as to generate a "U" profile. For enclosed cracks without a terminus point, continue the preparation 1" (25mm) ahead of the crack. Preheat slowly according to the grade and heat-treated condition of the tool die.

TECHNIQUE: maintain a short arc length and do not use a contact technique. Use stringer beads and back whip craters to reduce crater cracking tendencies. Check the interpass temperature frequently.

POST WELDING: Parts should be wrapped or covered with heat-retardant material to help with controlled cooling.

TYPICAL APPLICATIONS

Typical applications are zinc die casting dies, prototype molds, compression molds, and holders and back-ers on transfer molds.



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