Castolin Eutectic®
Eutectic Castolin

A High Nickel Filler Metal For
Repairing Thin Section Gray Cast Irons
and for Joining Castings To Steels

TigTectic® 224

- General purpose rod for cast iron joining, build-up and repair
- Minimal dilution
- Smooth, dense, machinable deposits

TigTectic® 224

TigTectic 224 is a high quality, gas tungsten-arc rod, ideal for filling small casting defects, repairing minor cracks, rebuilding missing sections, and surfacing machined seats for follow-on machining.

TECHNICAL DATA

Typical Values	
Classification:	AWS 5.15 ERNi-C1
Tensile Strength:	50,000 psi (45 N/mm²)
Yield Strength:	38,000 psi (262 N/mm²)
Hardness:	90 HRB
Shielding Gas:	Welding Grade Argon
Current & Polarity:	DCEN (-)

SUGGESTED WELDING PARAMETERS:

Diameter	Amperage	Tungsten Diameter	Work Thickness	Shielding Gas	Flow Rate
1/16”	55 - 90	1/16”	1/16”	100% Argon	20 - 25 scfh
3/32”	80 - 140	3/32”	3/16”	100% Argon	25 - 30 scfh
1/8”	100 - 200	3/32”	3/8”	100% Argon	30 - 40 scfh

PROCEDURE FOR USE

Note: Optimum conditions for individual applications and welders should be determined by trial prior to welding the intended part or joint.

PREPARATION: Clean the joint and/or broken parts thoroughly. Lightly bevel cracks by grinding with minimal pressure to avoid localized overheating. Align parts and secure where necessary. Complex or large parts should be supported by jigs. A nominal preheat of 200 - 250°F (93-121°C) is recommended. Select a thoriated or lanthinated tungsten electrode, gas cup and filler diameter appropriate for the working thickness. Tungsten tips should be ground to proper dimensions for better electrode life, arc control and bead consistency.

Note: This nominal preheat will help to prevent cold shutting or lack of fusion as well as reducing the amperage range with its associated dilution.

TECHNIQUE: Use a strike plate to start the arc, scratching the tungsten tip with emery paper before re-strikes. Maintain and adjust the stand-off distance so that the molten pool is fully protected. Allow complete solidification before removing the filler rod or turning off the shielding gas.

POST WELDING: Slow cool after welding using available insulating material such as vermiculite or heat-retardant blankets.

TYPICAL APPLICATIONS

- Pump Valve Seats
- Engine Blocks with Surface Defects
- Re-patching Large-sized Holes
- Cylinder Head Inlet and Exhaust Port Cracks
- Touch-up Repairs

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