Castolin Eutectic®
Eutectic Castolin

Premium Open Arc Wearfacing Wire
for Combating Extreme Abrasion

TeroMatec®
OA 4601

- No shielding gas required, slag-free
- Optimum weld deposit structure for resisting abrasive wear
- Large application spread reduces consumable inventory

TeroMatec® OA 4601

TeroMatec™ OA 4601 is designed to achieve weld protective coatings on carbon and alloy steels. It is especially suitable for manganese steels as used in the construction and earthmoving industries.

It's unique flux core and alloying elements combine with the tubular alloy sheath to produce deposits that have excellent resistance to abrasion, even when service conditions include impact, corrosion and/or elevated temperatures.

Deposits polish in service to provide a smooth surface.

TECHNICAL DATA

Typical Values	
Typical Hardness:	55-60 HRC (2 passes)
Current Polarity:	DCEP (DC+)
Power Source:	Constant voltage and Integrated wire drive

DIAMETER	AMPS	VOLTS	WIRE STICK-OUT
0.045" (1.2mm)	100-210	19-25	9/16" ± 1/8" (Short nozzle)
1/16" (1.6mm)	120-250	20-27	1.25" ± 1/8" (Short nozzle)
7/64" (2.8mm)	225-450	23-32	

Note: Parameter adjustments will be needed depending on the size, weight, and shape of the part to be welded. For optimum wear resistance keep to the low end of the amperage & voltage ranges.

PROCEDURE FOR USE

Caution: Although a 2-roll wire drive assembly will work the optimum for maintaining arc voltage stability and consistent and smooth wire feeding is a serrated 4-roll drive assembly. Smooth drive rolls are not recommended!

Step 1: Remove all "old" cracked or spalled weld metal down to a sound base.

Step 2: TeroMatec OA 4601 is 2 passes maximum, it is often field practice to deposit a base-coat depending on the type of wear, severity, and the total amount of build-up required.*Note: When re-building 12-14% Mn steels use TeroMatec OA 3205 as a cushion layer, and for other alloy steels, TeroMatec OA 690 is recommended. A 2-pass minimum is advised when less-thick deposits are required.*

Step 3: Preheat the part to be hardfaced depending on its air hardenabilty potential and/or carbon level. For most constructional steels a nominal preheat of 150°F is suggested and for medium alloy steels, ~250°F.
Note: Do not pre-heat high manganese steels such as Hadfield Castings!

Step 4: After checking that the welding conditions are optimal by testing on scrap metal, position the gun head at a 70-80° angle and use a "pull" technique. For fully automated welding such as hardfacing cylindrical parts, the wire should exit at about a 10° lagging angle from top dead center. Using this technique will assure a smooth and regular weld deposit profile with the optimum level of fusion.
Note: If welding is interrupted and the part being welded cools to room temperature, make sure to reheat to the original preheat temperature. For hardenable steels slow cooling is advised using silicone blankets, vermiculite, or other environmentally suitable heat-retardant material.

Step 5: For most applications, other than a superficial grind, finishing is not required. If some level of profiling is needed, grinding can be used for more precise shaping.

TYPICAL APPLICATIONS

APPLICATIONS

- Crusher Hammer -Breaker Bars
- Secondary Crushers - Chutes
- Earthmoving Equipment
- Bucket Parts
- Conveyor Chains - Crushers
- Conveyor Screws - Mill Augers
- Road Repair Equipment

INDUSTRY

Cement, Disposal
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Construction
Quarries, Mining
Paper, Cement
Power, Cement
Construction

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