Castolin Eutectic®
Eutectic Castolin

Premium Open Arc Wire
for Combating High Stress Abrasion

TeroMatec®
OA 4652

- High deposition rate reduces time needed to complete jobs
- Excellent wear resistance under sliding abrasion
- Extremely fine complex carbides in a martensitic matrix enhances wear resistance

TeroMatec® OA 4652

TeroMatec® OA 4652 s a highly effective hardfacing wire for resisting low-stress abrasion typically encountered in solids-handling equipment such as conveyors, chutes, vibrating screens, etc. Deposits of OA 4652 contain a fine dispersion of complex carbides contained in a wear-resistant martensitic matrix. This metallurgical structure, coupled with high hardness, provides the optimum resistance to wear under sliding abrasion conditions.

TECHNICAL DATA

Typical Values	
Typical Hardness:	62-68 HRC (1 pass)
Current Polarity:	DCEP (DC+)
Power Source:	Constant voltage and Integrated wire drive

7/64" (2.8MM)	AMPS	VOLTS	WIRE STICK-OUT
Globular	280-400 (Large parts)	27-31	1.25" ± 1/4" (Short nozzle)
Fine Globular	220-280 (Lighter parts)	27-30	

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 4652 is 1 pass 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 70-80º angle and use a push technique for downhand welding. For fully automated welding such as hardfacing cylindrical parts, the wire should exit at about a 10º 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	INDUSTRY
• Ash Handling Equipment	Thermal Power
• Mineral & Ore Handling Equipment	Cement, Mining
• Coal Grinding Parts	Thermal Power
• Ash Chutes	Thermal Power
• Conveyor Screws - Pug Mill Augers	Cement, Power
• Bucket Teeth, Bucket Edges/Inside	Quarries, Mining

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