



Anti-Wear Continuous Open Arc Wire

TeroMatec[®] **0A 3952**



- Ideal choice for field work or on-site applications
- No need for costly gas cylinders, regulators or flow meters
- Excellent wear protective coating
- Slag-free deposits save weld clean-up time
- Relatively thick, wide overlays possible in a single pass

TeroMatec® OA 3952

Special, self shielded, flux cored alloy wire specifically developed for outdoor maintenance and repair welding of thick, heavy components where faster weld deposition rates over traditional coated electrodes, are required.

High chromium, columbium hyper-eutectic iron-based alloy depositing complex carboborides for wear-protective coating of carbon steels, low or high alloy steels and 14% Mn steels. Excellent resistance to severe abrasion and erosion up to 1200°F (649°C) service temperatures. Single pass provides optimum, intrinsic properties. Ready formation of stress relieving cracks to minimize distortion. Slag free deposits save weld cleaning time. Deposits are smooth, flat, grindable and rust resistant.

Ideal choice for field work or on site applications. No need for costly gas cylinders, regulators or flow meters. Core deoxidizers tolerate air currents or draught effects.

Relatively thick, wide overlays possible in single pass. No enforced stop - starts increase welding duty cycles.

TECHNICAL DATA

Typical Values	
Typical Hardness:	60-65 HRC
Current polarity:	DCEP (DC+)

7/64" (2.8MM)	AMPS	VOLTS	WIRE STICK-OUT
Globular	280-400 (Large parts)	27-32	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 3952 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 hardenability 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

For wear-preventive protective coating of a wide range of steel components subject to severe abrasion or erosion by mineral particles, sand, rocks, gravel etc. processed in the Quarry, Earthmoving, Dredging, Sand/ Gravel, Coal/ Coke and Cement industries:

Wear plates, pneumatic conveyor systems, mixer blades, pump impellers, mold screws, coal screens, excavator bucket teeth, conveyor chutes, sand pumps, concrete mixers, asphalt handling etc.



Eutectic Corporation:
N94 W14355 Garwin Mace Dr.
Menomonee Falls WI, 53051 USA
+1 800. 558. 8524 • eutectic.com

Eutectic Canada:
428, rue Aimé-Vincent, Vaudreuil-Dorion,
Québec J7V 5V5 Canada
+1 800. 361. 9439 • eutectic.ca



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