

Duroxite® AP Electrode

General Product Description

Duroxite® AP electrode is a solid cored electrode designed for components experiencing metal-to-metal wear, metal-to-earth wear, impact and high abrasion applications. It has an extruded coating containing the alloy elements. The deposit offers a good balance of impact and abrasion resistance. Deposits are forgeable but not readily machinable. Duroxite® AP electrode has a good weldability and can be applied in all positions. Duroxite® AP electrode can be applied to carbon, low alloy, manganese steels and other steel substrates. It is suitable for single and multiple-layer up to three layers deposit.

Key Benefits

- Duroxite® AP electrode is a hardfacing electrode for all positions welding.
- The Duroxite® AP electrode deposited overlay consists of medium alloy martensite for good abrasion and impact resistance.

Typical Applications

Duroxite® AP electrode has many applications where moderate/high impact and high abrasion wear conditions prevail. Examples: Bucket teeth, tillage tools, bucket lips, bucket sides, cutting edges, sand dredge equipment, dragline buckets, conveyor chutes, grizzly bars, screw flights, metal shredders, sliding metal parts, tire shredder knives, extruder screws, tamper feet, churn drills, muller tires. Especially applicable for all-positional welding and re-instating of hardfacing sealing runs on clad wear plate fabrications.

Standard Dimensions

Standard diameter Metric
4.0 mm

Mechanical Properties

Typical all-weld metal surface Hardness ¹⁾	
Hardness: 2-layer deposit on mild steel	Hardness: 3-layer deposit on mild steel
55 - 60 HRC	55 - 60 HRC

¹⁾ Surface hardness is measured on machined flat surface just below overlay surface.

Chemical Composition

Typical all-weld metal analysis (Weight %)					
C (%)	Mn (%)	Si (%)	Cr (%)	Mo (%)	Fe
0.5	0.6	Up to 0.6	5.2	1.3	Balance

Welding recommendations

Welding conditions	
Current type	Welding positions
DCEP (Direct current electrode positive)	All Positions including flat, horizontal, vertical, overhead

Welding parameters recommendations

Diameter	Amperage (A)	
Metric	Range	Optimum
4.0 mm	140 - 220	170

Recovery: 90%

Delivery Conditions

Standard package	Weight
Type	Metric
Box	20 kg

Fabrication and Other Recommendations

The welded overlay components can be processed by welding, cutting, forming and machining. Specific recommendations can be found in the Duroxite® Product brochure or by consulting your local technical support representative.

Safety precautions

When welding or cutting Duroxite® products, smoke is produced containing harmful fumes and gases that are chemically highly complex and difficult to easily classify. The major toxic component in the fumes and gases produced in the process is hexavalent chromium. The proper exhaust ventilation equipment and fume-extraction torches are recommended, as well as suitable protective clothing and respiratory protection for operators.