

Duroxite® 200 Wire

General Product Description

Duroxite® 200 Wire is a flux-cored welding wire for hardfacing components subject to severe abrasive wear and moderate impact applications using an open-arc welding process. The deposit contains hard complex carbides in a tough matrix and performs exceptionally well for both fine and coarse abrasion applications. It naturally reveals stress-relief cracks after welding. Duroxite® 200 Wire is suitable for single-layer or double-layer.

Key Benefits

- Same wear resistance guaranteed from surface through 75% depth of overlay in multi-layer deposit.
- Optimal alloy formulation that forms a primary chromium-rich carbide with co-existing refined multi-alloys carbides which provide a good combination of wear and impact resistance.

Typical Applications

Duroxite® 200 Wire is mainly designed to use for hardfacing components undergoing heavy wear by earth, sand or abrasives up to 600 °C (1100°F).

Typical examples include: Sand and earthmoving equipment, ground engaged teeth, slurry pipe, railway ballast tampers, dredge buckets and lips, sand dredging parts, dragline bucket liners, crushing equipment, brick industry components, coke hammers, rippers, sizing screens, Muller tyres, catalyst lift pipes, pump impellers, fan blades, rockwool rolls, wear plates or wear parts operating at high temperature in steelmaking industry.

Standard Dimensions

Standard diameter Metric
1.2 mm
1.6 mm
2.8 mm

Mechanical Properties

		ASTM G65 – Procedure A weight loss ²⁾		Typical all-weld metal surface hardness ¹⁾	Typical surface hardness	
Number of overlay passes	Classifications	Surface (g max)	75 % depth of overlay ³⁾ (g max)	Hardness: 3-layer deposit on mild steel	Singel pass	Double pass
Multiple passes	DIN 8555: MF 10-GF-65-GRT	0.12	0.12	62 - 67 HRC	57 - 60 HRC	60 - 65 HRC

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

²⁾ ASTM G65 is a standard test measuring sliding abrasion resistance using a dry sand/rubber wheel apparatus. ASTM G65-Procedure A is the most severe test method.

³⁾ ASTM G65 wear test is conducted at 75% depth of the overlay materials to ensure consistently good wear resistance from the top surface through to the depth of 75% of the overlay.

Chemical Composition

Typical all-weld metal analysis (Weight %)					
C (%)	Mn (%)	Si (%)	Cr (%)	Nb (%)	Fe
5.3	0.2	Up to 0.2	22.0	6.5	Balance

Welding recommendations

Welding conditions		
Current type	Shielding gas	Welding positions
DCEP (Direct current electrode positive)	None (Self-shielded)	Flat, half up, half down

Welding parameters recommendations

Diameter	Amperage (A)		Voltage (V)		Stick-out	
	Range	Optimum	Range	Optimum	Range	Optimum
1.2 mm	150 - 200	180	25 - 30	28	10 mm - 20 mm	15 mm
1.6 mm	190 - 210	200	27.5 - 28.5	28	10 mm - 20 mm	15 mm
2.8 mm	290 - 310	300	29.5 - 30.5	30	15 mm - 25 mm	20 mm

Recovery: 90%

Delivery Conditions

Standard package	Weight
Type	Metric
Spool	15 kg
Spool	15 kg
Spool	25 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.