

Duroxite® 201

General Product Description

Duroxite® 201 is developed for severe wear and impact applications applying specially formulated abrasive materials on Hardox® 450 backing plate. The overlay material is composed of primary chromium-rich carbides and refined multiple-alloy complex carbides dispersed evenly in a ductile eutectic austenite matrix. The additional multi-alloy carbides are harder and finer than the co-existing chromium-rich carbides which interlock between large primary chromium-rich carbides in a matrix.

Key Benefits

- Hardox® 450 backing withstands plastic deformation better due to its high yield strength flexing back after impact
- Provides stronger support due to high hardness and better bonding properties between overlay and base steel
- Better performance for impact situations than Duroxite® 200 at elevated temperatures up to 350° C (660° F), but impact resistance is best at room temperature

Typical Applications

Duroxite® 201 is widely used in many industries including mining, cement and power generation. Some specific applications include:

Mining	Screen plates, loader bucket liners, feeding systems for ball mills, loader bucket liners, bucket lip shrouds, bucket side shrouds, chutes, liner plates and skip liners
Cement	Cement furnace components, sinter plant parts, fan blades, mixer blades, gyratory mantles, coal and cement pulverizer rolls, raw material crushing components, molding panels
Power	Coal discharger chutes

For more information on applications see the Duroxite™ Product brochure.

Standard Dimensions

Standard overlay thicknesses	
Metric unit	
6 mm on 6 mm	
10 mm on 10 mm	
6 mm on 20 mm	
6 mm on 25 mm	
6 mm on 32 mm	

Other plate sizes and custom thicknesses can be produced upon request.

Standard plate sizes

Metric unit	Imperial unit
1.85 m x 2.85 m	6.1' x 9.3'
1.2 m x 2.4 m	4' x 8'
1.5 m x 3.0 m	5' x 10'
1.8 m x 3.0 m	6' x 10'

Other plate sizes and custom thicknesses can be produced upon request.

Mechanical Properties

Wear properties			ASTM G65 – Procedure A weight loss ²⁾	
Number of overlay passes	Typical surface hardness ¹⁾ (HRC)	Typical surface hardness ¹⁾ (HV)	Surface (g max)	75 % depth of overlay ³⁾ (g max)
Multiple passes	60 - 65	700 - 850	0.12	0.12

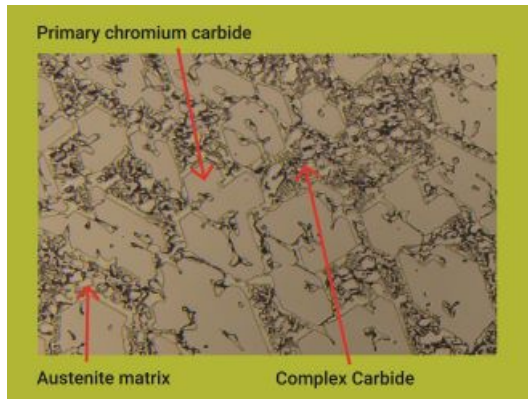
¹⁾ Surface hardness is measured on machined flat surface just below overlay surface.

²⁾ ASTM G65 - Procedure A weight loss, 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 - Procedure A weight loss, 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.

Microstructure

The microstructure of Duroxite® 201 contains primary chromium-rich carbides and refined multiple-alloy complex carbides with a typical hardness of 2500 to 3000 HK*) dispersed evenly in a ductile eutectic austenite matrix. The typical volume fraction of primary chromium-rich carbides is maintained between 30 to 40% with 7 to 10% of multi-alloy complex carbides.



*) HK is the Knoop microhardness used primarily for very brittle materials or thin sheets.

Tolerances

More details are given in SSAB's brochure Duroxite® Guarantees or at www.ssab.com.

Thickness

Tolerances according to Duroxite® Thickness Guarantee.

Duroxite® overall and overlay thickness tolerances can be guaranteed within $\pm 10\%$ of specified thickness.

Flatness

Plate flatness tolerance guaranteed over 1.5 m (5').

Standard overlay thicknesses	Plate flatness tolerance guaranteed over 1.5m (5'), Metric unit		
	1.5 m x 3.0 m	1.8 m x 3.0 m	2.4 m x 3.0 m
Metric unit			
5 mm on 8 mm	12 mm	32 mm	38 mm
6 mm on 6 mm	12 mm	32 mm	38 mm
10 mm on 10 mm	6 mm	19 mm	25 mm

For custom sizes, please consult your local sales representative or Hardox Wearparts center for flatness guarantees.

Delivery Conditions

Duroxite® 201 is normally supplied in an as-welded condition, but can also be supplied in a ground condition upon request.

Fabrication and Other Recommendations

Welding, cutting, forming and machining

Recommendations can be found in the Duroxite® Product brochure, or consult your local technical support representative.

Bendability for Duroxite® overlay plate are according to Duroxite® Bending Guarantees.

Safety precautions

When welding or cutting Duroxite® products, gases and harmful fumes are produced that are chemically complex and difficult to classify. The major toxic component in the fumes 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.