



## DUROXITE™ 201



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### 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:

<b>Mining</b>	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
<b>Cement</b>	Cement furnace components, sinter plant parts, fan blades, mixer blades, crews, gyratory mantles, coal and cement pulverizer rolls, raw material crushing components, molding panels
<b>Power</b>	Coal discharger chutes

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

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## Standard Dimensions

Standard overlay thicknesses		Standard plate sizes	
Metric unit	Imperial unit	Metric unit	Imperial unit
6 mm on 6 mm	1/4" on 1/4"	1.2 m x 2.4 m 1.5 m x 3.0 m 1.8 m x 3.0 m	4' x 8' 5' x 10' 6' x 10'
10 mm on 10 mm	3/8" on 3/8"		
6 mm on 20 mm	1/4" on 3/4"		
6 mm on 25 mm	1/4" on 1"		
6 mm on 32 mm	1/4" on 1-1/4"		

Standard plate sizes above are available for all standard overlay thicknesses. Other plate sizes and custom thicknesses can be produced upon request.

## Mechanical Properties

### Surface Hardness

Number of overlay passes	Typical surface hardness <sup>1)</sup>
Multiple passes	60 to 65 HRC (700 to 850 HV)

<sup>1)</sup> Surface hardness is measured on machined flat surface just below overlay surface.

### Wear Properties

Number of overlay passes	ASTM G65 – Procedure A weight loss <sup>2)</sup>	
	Surface	75% depth of overlay <sup>3)</sup>
Multiple passes	0.12 g maximum	0.12 g maximum

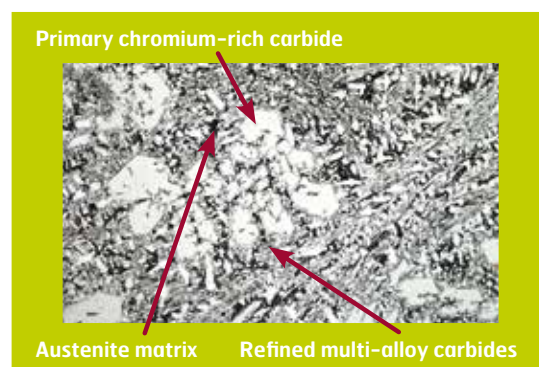
<sup>2)</sup> ASTM G65 is a standard test measuring sliding abrasion resistance using a dry sand / rubber wheel apparatus. ASTM G65 – Procedure A is the most severe test method.

<sup>3)</sup> ASTM G65 wear test is conducted at 75% depth of the overlay materials to ensure consistently good wear resistance from 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<sup>4)</sup> 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.

<sup>4)</sup> HK is the Knoop microhardness used primarily for very brittle materials or thin sheets.



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## Tolerances

### Thickness

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

### Flatness

Plate flatness tolerance can be guaranteed within  $\pm 3$  mm ( $\pm 1/8$ " ) over 1.5 m (5') plate length for plate dimensions equal to or less than 1.5 m (5') x 3.0 m (10'). For plates greater than 1.5 m (5') wide by 3.0 m (10') long, the following flatness guarantees apply.

Standard overlay thicknesses		Flatness tolerance			
		1.8 m x 3.0 m (6' x 10')		2.4 m x 3.0 m (8' x 10')	
Metric unit	Imperial unit	Metric unit	Imperial unit	Metric unit	Imperial unit
5 mm on 7 mm	3/16" on 5/16"	25 mm	1-1/4"	41 mm	1-1/2"
6 mm on 6 mm	1/4" on 1/4"	25 mm	1-1/4"	41 mm	1-1/2"
10 mm on 10 mm	3/8" on 3/8"	12 mm	3/4"	25 mm	1"

For custom sizes, please consult your local sales representative or local 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.



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