

# Duaplate® DX Weld Overlay



## Overview

Duaplate DX offers a unique and superior weld overlay product that outperforms conventional Chromium Carbide Overlays (CCO). Bradken has employed the latest digital technology in order to create an overlay with a patented chemical composition that is incredibly resistant to high impacts and severe abrasive environments. The phenomenal properties of Duaplate DX are matched only by its versatility. Available in large sheet sizes and custom shapes, Duaplate DX can be cut and formed to suit customer requirements.

## Manufacture

Duaplate DX is manufactured by fusing Bradken's specially formulated powder to a mild steel base plate. This creates a bi-metallic material with superior abrasion resistance, which is also highly ductile in order to accommodate forming and welding.

## Microstructure

The unique microstructure of Duaplate DX consists of a mixture of extremely fine carbides and borides that are surrounded by a predominantly martensitic matrix material. These incredibly hard carbides and borides are approximately 10x smaller than traditional carbides in CCOs, which dramatically increases resistance to wear and further improves impact performance.

## Typical Properties

Mine site trials have confirmed that Duaplate DX has achieved 2-3 times increase in wear life over standard CCO plates and has demonstrated noticeable increase in impact resistance. The reduced liner weight of Bradken's Duaplate DX also outperforms other products in relation to manual handling and safety.

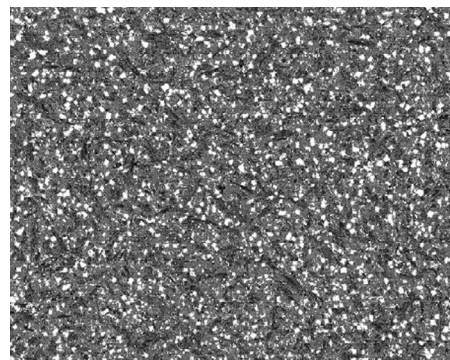
Bulk Hardness	900 HV <sub>50</sub>
Hard Particle Hardness	>1700 HV <sub>0.3</sub>
Volume Fraction of Hard Particles	~25%-30%
Density	7700 kg/m <sup>3</sup>

## Available Sizes

Duaplate DX is currently available in the following sizes:  
5on8, 8on8 and 16on8



*Duaplate Manufacturing Process*



*Duaplate DX Microstructure*



*Duaplate DX Application*



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