

# Duaplate<sup>®</sup> 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 abrasion and can still be used in moderate impact applications. The phenomenal properties of Duaplate DX make it ideal for use in mass sensitive applications that require a light-weight, high performance liner material. Available in large sheet sizes, Duaplate DX can be cut to shape to meet your requirement.

## Manufacture

Duaplate DX is manufactured by fusing a specially formulated powder to a steel base plate. This creates a bi-metallic material with a layer of high performance abrasion resistant overlay combined with a ductile steel base 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

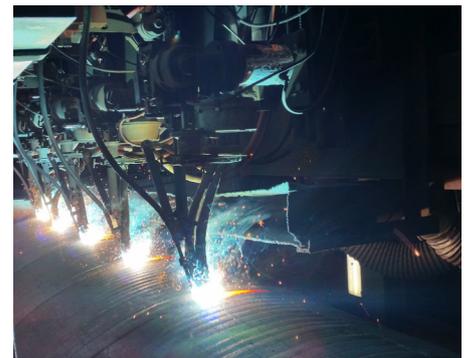
Field trials have confirmed that Duaplate DX improves asset life by 1.8-2.5 times compared to standard CCO plates of the same thickness. Bradken's Duaplate DX can achieve the same wear life with a thinner, lighter liner, opening opportunity to improve manual handling safety during liner change outs.

Typical Bulk Hardness	850 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>

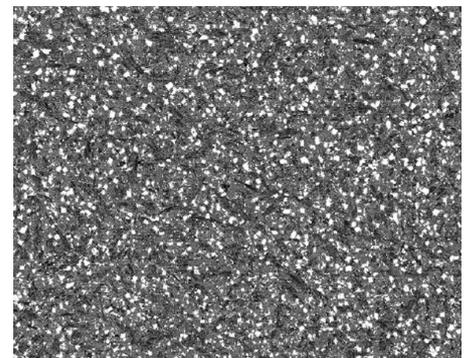
## Available Sizes

Duaplate DX can be supplied by Bradken as custom-made liner plates or as a 2360 x 2870 sheet. It is available in the following thicknesses:

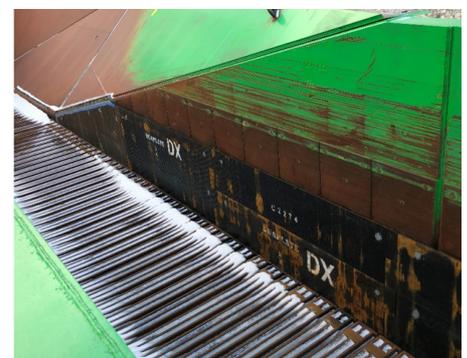
- 5 on 8
- 8 on 8
- 16 on 8



*Duaplate Manufacturing Process*



*Duaplate DX Microstructure*



*Duaplate DX in apron feeder wall liners*



**Our Innovation. Your Advantage.**

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