

# BRADKEN

## PRODUCTS

### Duaplate® D90

#### Base Material

Duaplate is a clad plate manufactured by welding an abrasion resistant material to a steel base. The standard base material is mild steel; however, this can be changed to suit your operating environment.

#### Overlay Material

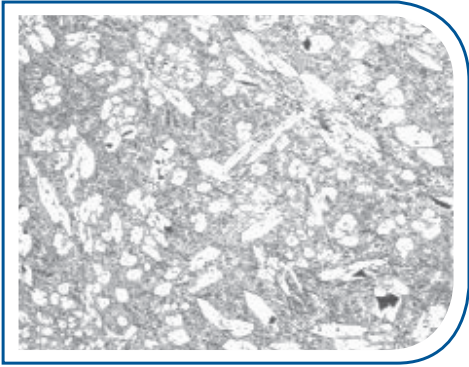
The D90 overlay material is a martensitic chromium carbide iron that is based on AS2576-2560. The microstructure of this material consists of primary  $M_7C_3$  carbides in a carbide martensite eutectic matrix. The material is resistant to fine particle abrasion due to the improved hardness of the matrix.

#### Typical Properties

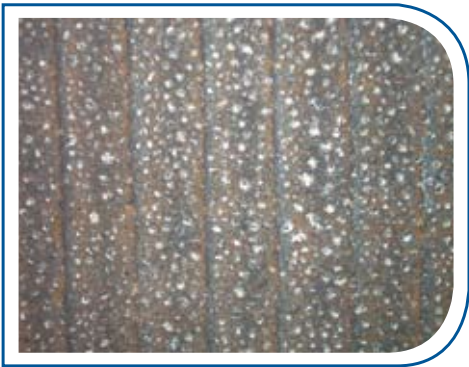
Bulk Hardness:	700HV <sub>50</sub>
Typical Carbide Hardness:	1500 HV <sub>0.5</sub>
Volume Fraction Primary Carbides:	30%

#### Welding

The base material can be welded with standard mild steel or low hydrogen welding consumables with no pre-heating required. However, care should be taken to avoid contacting the overlay material.



D90 Microstructure at 100x magnification



Typical D90 finish



Duaplate D90 cement meal duct

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### Duaplate® D90

#### Cutting, Forming and Fabrication

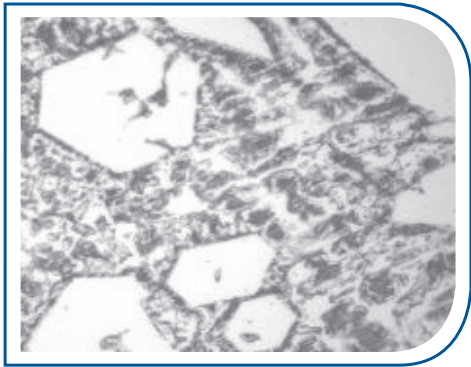
Plasma cutting is the recommended method for cutting Duaplate. It is preferable to cut Duaplate from the backing plate side to ensure a clean edge and to prevent carbide contamination. Duaplate can also be easily cold formed into almost any shape that mild steel can, by pinch rolls or hydraulic press brake.

The steel backing plate provides Duaplate with structural integrity, thus entire structures can be fabricated from Duaplate. Bradken has the capabilities to manufacture such structures or to supply cut and formed, ready-to-go wear liners.

#### Services & Applications

Duaplate D90 is suited for severe sliding abrasion or fine particle abrasion with low impact. Typical uses include:

- Cement chutes
- Cyclones
- Fan blades
- Fan casings
- Agricultural implements
- Trommel screen liners
- Sizing Screens



D90 Microstructure at 500x magnification



Duaplate D90 fan blades



Duaplate D90 trommel screen

**duaplate®**

For more information contact Bradken at [wpbsales@bradken.com.au](mailto:wpbsales@bradken.com.au)

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