

BRADKEN

PRODUCTS

Duaplate® D100 & D100XP

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 D100 and D100XP overlay materials are complex chromium carbide irons that are based on AS2576-2460. The microstructure of these materials consists of primary M_7C_3 and MC carbides in a complex carbide austenite matrix. The high temperature abrasion resistance performance is attributable to the presence of refractory elements molybdenum, niobium and tungsten.

D100XP contains a higher amount of refractory elements than D100, which results in a greater resistance to abrasion at high temperatures.

Typical Properties

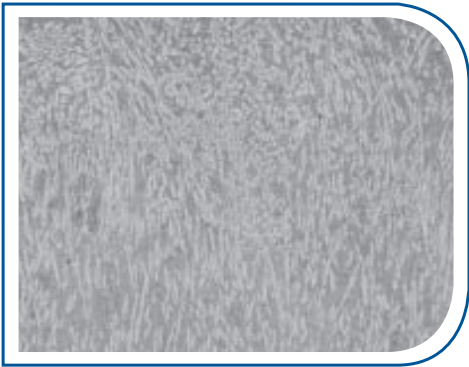
Bulk Hardness (HV_{50}):

Grade	Ambient	400°C	800°C
D100	680	620	480
D100XP	680	620	480

Typical Carbide Hardness: 1500HV_{0.5}

Volume Fraction Primary Carbide:

Grade	MC	M_3C_7
D100	3-6%	22%
D100XP	10-15%	20%



D100 microstructure at 100x magnification



Typical D100 finish



Duaplate D100 screw feeder segment

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Welding

Duaplate can generally be welded in the same manner as the base material, provided care is taken to avoid contact with the overlay material when laying down structural welds. For further information contact your nearest Bradken branch.

Cutting, Forming and Fabrication

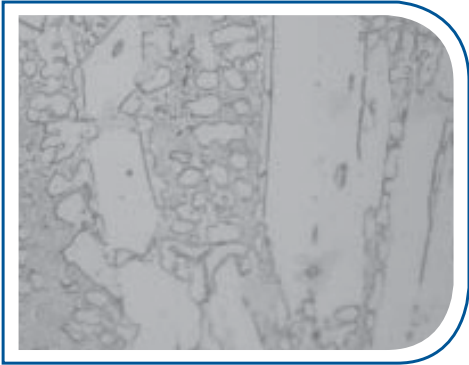
Plasma cutting is the recommended method for cutting Duaplate. It is preferable to cut Duaplate from the backing plate side to ensure a clean edge and to prevent carbide contamination. Duaplate can also be easily cold formed into almost any shape that mild steel can, by pinch rolls or hydraulic press 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 D100 and D100XP are suited for applications requiring severe abrasion resistance at elevated temperatures. Typical uses include:

- Sizing screens
- Ducts
- Sinter bins
- Paul wurth chutes
- Chute liners



D100 microstructure at 500x magnification



Duaplate D100 panels for a Paul Wurth chute



Duaplate D100 screw feeder segment

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For more information contact Bradken at wpbsales@bradken.com.au

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