

Duron[®]900 is a layer-composite wear plate made by the open-arc welding of a Flux-cored wire DIN EN 14700 and additional metal alloy powder


Appearance and standard dimensions (mm)

Duron[®]900 wear plate is designed as unique microstructure with Nano-like properties to resist the extreme abrasion and erosion with elevated Temperature Up to 800C° due to shape of complex carbides. The extremely hard Boron particles finely dispersed in between the chromium carbides reduce their spacing and ensure the best protection from abrasive and erosive media of finer size. Suitable for Impeller blades, Grit cones, chutes etc.

Hard-faced plate size (mm) ⁽¹⁾	Thickness base steel ⁽¹⁾	thickness hard-facing ⁽¹⁾	number of layers ⁽¹⁾
2.74 m x 1.22 m	3,4,5,6,8,10,12,15,20,25,30	2,3,4,5,10,12	<7 mm :1 layer
2.8 m x 1.8 m			

Deposit composition (%weight) and microstructure ⁽²⁾

Duron[®]900 deposit consist of primary carbides and complex carbides in a matrix of austenite & eutectic carbides

On carbon steel Layer	C	Cr	Mn	Nb	V	W	Ti	B	Fe	Microstructure (x 200)	carbides content (%)
	5.0	38	0.4	---	---	---	---	2%	ba		80

The Duron welding technique enables cladding of a large number of carbon steels (e.g. heat resistant, high temperature, stainless steels) + other grades upon request.

⁽²⁾ Composition and properties depend upon dilution. Single layer deposit properties depends upon base steel

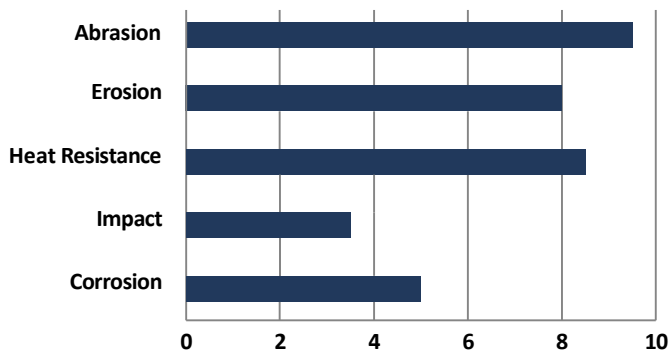
Primary: **30**
Eutectic: **50**
Overall: **80**

Properties

Hardness profile and hardness value	Workability
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66-69 HRC (850-800 HV1)

Wear resistance against:



- Machinability:** grinding only
Cut ability: with plasma using 1.5 times the power input as used with mild steel or water-jet. It is recommended to cut the plates with the base steel side up.
Fastening methods:
- Countersunk holes: incorporating a mild steel insert which
 - Stud welding: affixed to the base plate.
 - Plug welding: to the mild steel side (Cr-Ni electrodes ideally).

Bending

thickness	5+3	6+4	8+5	10+5
Min Ø (mm)	200	250	300	400

Cold or hot bending in increment with low pressure only.

Wear resistances: abrasion, erosion and heat resistance up to approx. 800°C.

Duron[®]900 increases wear life by ca. 400-500% over abrasion resistant steels

Notes:

- Typical users are the steel industry, concrete & cement industries or power plants for wear parts like: coke oven screen, pulverizer, wear blades of heavy duty fans, sinter crusher, sinter feed table, screens, hard faced tubes.
- Hard-facing alloy Duron[®]900 is also available as flux-cored wire or stick electrodes for manual welding /hard-facing