Duron®600

Hard-faced wear plate

Duron®600 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®600 standard wear plate resisting abrasion, impact and low erosion. The resistant side of the Duron®600 wear plates appears as smooth wide (typically 10 mm) weld beading running the length of the plate. Stress relief cracks develop at right angles to the weld beads. This cross checking is desirable in the forming of the plates into curved shapes without damage to the overlay..

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			

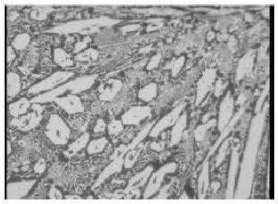
Deposit composition (%weight) and microstructure (2)

Duron®600 deposit consist of primary carbides and complex carbides in a matrix of austenite & eutectic carbides

On carbon steel	C	Cr	Mn	Nb	V	W	Ti	Fe	Microstructure (x 200)	carbides content (%)
Layer	**5.5**	**32**	**0.6**	**-**	**-**	**-**	**-**	**ba**		

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



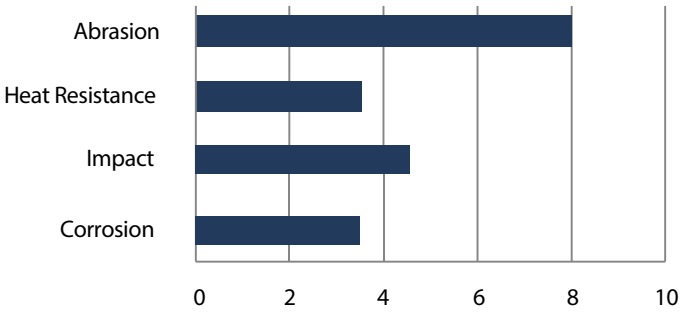
Primary: **27.4**
Eutectic: **34.7**
Overall**: 62.1**

Properties

Hardness profile and hardness value

61-63 HRc (750-800 HV1)

Wear resistance against:



Workability

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. 350°C.

Duron®600 increases wears life by ca. 300 - 500% over abrasion resistant steels

Notes:

- Typical users are the steel industry, concrete & cement industries or power plants for wear parts like: clinker chutes, armoured plates, wear blades of heavy duty fans, sinter crusher, sinter feed table, screens, hard faced tubes.
- Hard-facing alloy Duron®600 is also available **as flux-cored wire or stick electrodes** for manual welding /hard-facing

Thwainy Industries
2518 Alrawdhah St., 7970 3rd Industrial City,
P.O Box 48073, Jeddah 21572. Saudi Arabia.
Tel : 00966 12 6140441 | 920015441
info@thwainy.com | www.thwainy.com