

durostat®

Wear-resistant steels

durostat®

High Hardness.

Ultra-high wear resistance.

Wear-resistant steels with excellent processing properties.

DUROSTAT® grades are wear-resistant steels with excellent processing properties from voestalpine Grobblech.

DUROSTAT® is mainly used for structural components exposed to high mechanical stress and heavy abrasion. Hence typical applications of **DUROSTAT®** comprise crushers, screens, conveyors, chutes, cutters, dredging components and superstructures for trucks.





The advantages

Longer Life

As a result of their high hardness, DUROSTAT® steels have a wear resistance many times higher than that of conventional steels.

Less weight

Due to the high hardness compared to conventional steels, the thickness of DUROSTAT® plates can be reduced significantly. This leads to lower dead – weights and thus higher payloads.

Excellent cold formability

Despite of their high hardness, DUROSTAT® steels are suitable for cold forming due to their homogeneous and fine-grained structure.

Best welding properties

DUROSTAT® can be welded without problems. Due to the relatively low carbon content, pre-heating temperatures as low as 70° C are sufficient in inert gas welding with solid wires for crack-free welded joints. No preheating is needed for DUROSTAT400 plates up to 20 mm thickness and DUROSTAT 500 plates up to 10 mm thickness.

Production process

DUROSTAT® steels are melted according to the LD process (oxygen top blowing process). The high hardness is achieved by accelerated cooling after hot rolling or by conventional hardening.

Chemical composition

DUROSTAT® grades are characterised by modern, low carbon alloy concepts. Low carbon equivalent values indicate excellent welding properties.

Heat analysis (guaranteed values)

Steel grade	mass in %									
	C max.	Si max.	Mn max.	P max.	S max.	Al min.	Cr max.	Mo max.	B max.	Ti max.
DUROSTAT 400	0.18	0.60	2.10	0.025	0.010	0.020	1.00	0.50	0.005	0.050
DUROSTAT 500	0.30	0.60	2.10	0.025	0.010	0.020	1.00	0.50	0.005	0.050

The steel is fine grain melted and can contain microalloying elements such as Nb and V.

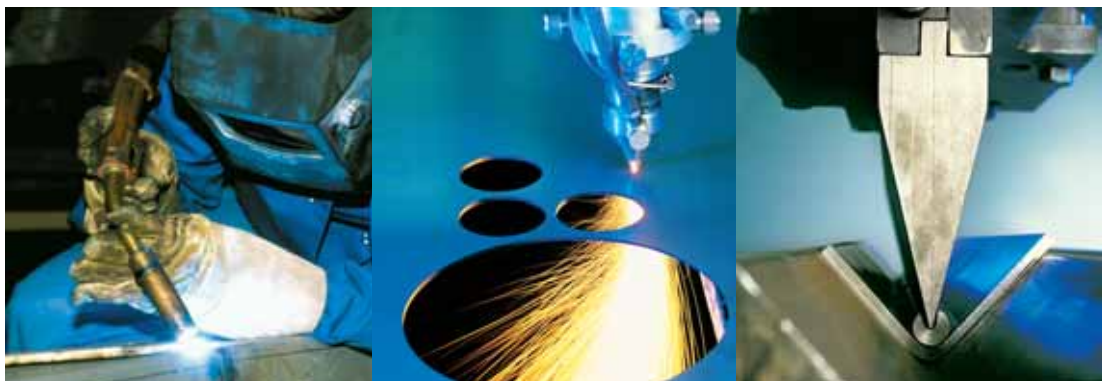
Carbon equivalent

Standard values

Steel grade	mass in %		
	CEV ¹⁾		CET ²⁾
DUROSTAT 400	0.47		0.30
DUROSTAT 500	0.53		0.41

¹⁾ $CEV = C + Mn/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15$, according to IIW

²⁾ $CET = C + (Mn + Mo)/10 + (Cr + Cu)/20 + Ni/40$, according to SEW 088



Hardness

Guaranteed values

Steel grade	Hardness Brinell HB
DUROSTAT 400	360 - 440
DUROSTAT 500	460 - 540

Mechanical properties

Standard values (plate thickness 20 mm)

Steel grade	Yield strength N/mm ²	Tensile strength N/mm ²	Fracture elongation $L_0 = 5,65 \sqrt{S_0}$ %
DUROSTAT 400	1,000	1,250	10
DUROSTAT 500	1,200	1,550	8

Dimensions

Available dimensions

Steel grade	Thickness [mm]	Max. width [mm]	Max. length [mm]
DUROSTAT 400	6 ≤ 100	2,500	12,000
DUROSTAT 500	10 ≤ 50	2,500	12,000

Other dimensions on request.

More information you will find in our technical terms of delivery. Subject to change pursuant to further development. The current version is available in internet: www.voestalpine.com/grobblech



voestalpine Grobblech GmbH

voestalpine-Straße 3
4020 Linz, Austria
T. +43/50304/15-9260
F. +43/50304/55-9260
grobblech@voestalpine.com
www.voestalpine.com/grobblech

voestalpine

ONE STEP AHEAD.