



## durostat 400/450/500

### **Wear-resistant sheets made from hot-rolled steel strip**

durostat 400, durostat 450 and durostat 500 typically achieve hardness values of roughly 400, 450 and 500 HB. The steel is optimally suited to applications with high mechanical stress and high levels of abrasion, such as those in loading and conveying machinery, dredgers, crushing plants, screening equipment, chutes and truck bodies. Their high level of hardness is adjusted by means of direct quenching after hot rolling. State-of-the-art alloying technology with low carbon content guarantees excellent welding properties.

Sheets made of durostat 400, durostat 450 and durostat 500 are well suited to cold forming in spite of their high strength. In order to maintain their hardness, durostat 400, durostat 450 and durostat 500 may not be heated to more than 200 °C.

#### **Convincing advantages:**

- » High wear resistance, low abrasion
- » Longer service life and maintenance intervals
- » Light-weight applications resulting from higher strength



Premium quality  
with reduced carbon footprint

**durostat®**  
greentec steel

### Chemical composition

Ladle analysis in weight percent and carbon equivalent

durostat®	C max.	Si max.	Mn max.	P max.	S max.	Al min.	Cr max.	Mo max.	Ti max.	B max.	CEV max.	CET max.
400	0.15	0.60	2.30	0.025	0.010	0.020	0.50	0.20	0.050	0.005	0.59	0.38
450	0.20	0.60	2.30	0.025	0.010	0.020	0.50	0.20	0.050	0.005	0.62	0.42
500	0.24	0.60	2.30	0.025	0.010	0.020	0.50	0.20	0.050	0.005	0.66	0.46

CEV = C + Mn/6 + (Cr+Mo+V)/5 + (Ni+Cu)/15  
 CET = C + (Mn+Mo)/10 + (Cr+Cu)/20 + Ni/40

### Mechanical properties: Surface hardness/tensile strength

durostat®	Hardness <sup>1)</sup> [HB]	Typical values			
		Hardness [HB]	Yield strength R <sub>p0.2</sub> [MPa]	Tensile strength R <sub>m</sub> [MPa]	Total elongation A <sub>5</sub> [%]
400	360 - 440	400	1100	1250	10
450	410 - 490	450	1200	1400	9
500	460 - 540	500	1300	1550	8

<sup>1)</sup> Hardness measurements are conducted pursuant to EN ISO 6506. Test condition HBW2.5 | 187.5 is applied to sheet thickness ≤ 3 mm

### Mechanical properties: Notch impact energy/bending radii

durostat®	Typical values Notch impact energy <sup>1)</sup> A <sub>v</sub> [Joule]		Bending radius Ri min. <sup>2) 3)</sup>	
	Test temperature -20 °C	Test temperature -40 °C	Location of bending edge in direction of rolling	
			Transverse	Longitudinal
400	70	50	3 x sheet thickness	4 x sheet thickness
450	60	40	3 x sheet thickness	4 x sheet thickness
500	40	30	3.5 x sheet thickness	4.5 x sheet thickness

<sup>1)</sup> Typical values (ISO-V, longitudinal), full samples (10 x 10 mm)

<sup>2)</sup> Smallest permissible inside radius at 90° edging, Ri min.

<sup>3)</sup> It must be taken into consideration that the quality of the cut edge has a strong influence on the achievable bending radii.

**Example dimensions**

Maximum width per thickness, minimum width 900 mm

durostat®	Thickness [mm]							
	2,0	2,5	3,0	3,5	4,0	5,0	6,0	8,0
400	1300	1400	1520	1570	1620	1620	1620	1550
450	-	upon request	1520	1570	1620	1620	1620	1450
500	-	-	1450	1550	1600	1600	1600	upon request

Thickness < 3 mm: Supplied as cut sheet with cut edge  
 Thickness ≥ 3 mm: Supplied as cut sheet with mill edge  
 Maximum sheet length: 12 m (18 m at extra charge)  
 Further dimensions upon request



Premium quality with reduced carbon footprint



Hot-rolled steel strip – greentec steel Edition

Max. carbon footprint 1.95 kg CO<sub>2</sub>e per kg of steel <sup>1)</sup>

<sup>1)</sup> per EN 15804+A2 (EPD methodology) cradle to gate

All products, dimensions and steel grades listed in each voestalpine supply range are available as greentec steel Edition.

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