Wear Resistant Steel Plate

OMEGA STEEL CO.
Istanbul · Dilovası plant

Quenched-and-tempered abrasion-resistant plate in 400, 450 and 500 HB hardness classes (generic AR400/AR450/AR500, equivalent in properties to branded wear plates) and high-yield S690QL structural plate to EN 10025-6, 6–100 mm, cut to drawing by plasma, laser and water-jet in Dilovası; for excavator buckets, tipper bodies, crusher and screen liners, chutes, hoppers, cutting edges, crane booms and lifting equipment.

400 · 450 · 500 HB | S690QL EN 10025-6 | 6 – 100 mm | Plasma · laser · water-jet | Generic grades, certified hardness

Wear plate is quenched-and-tempered martensitic steel supplied by hardness: 400 HB for tipper bodies and general wear, 450 HB for buckets and chutes, 500 HB for crusher liners and mining. S690QL (EN 10025-6, 690 MPa yield) is the high-strength structural cousin for booms, chassis and lifting frames. We stock 6–40 mm in the 400 and 450 classes, order 500 HB and thick plate from the mill, and cut everything to DXF on o

HARDNESS CLASSES AND PROPERTIES

Class	Hardness HBW	Yield typ. (MPa)	Tensile typ. (MPa)	Impact (−40 °C)	Min. bend radius	Max. service temp.	Branded equivalents (properties)
400 HB	370–430	1 000	1 250	45 J	3t (transverse)	250 °C	Hardox 400, Dillidur 400V, XAR 400, Raex 400
450 HB	420–475	1 200	1 400	40 J	4t	250 °C	Hardox 450, Dillidur 450V, XAR 450, Raex 450
500 HB	470–530	1 300	1 550	30 J	5t	250 °C	Hardox 500, Dillidur 500V, XAR 500, Raex 500
S690QL	≈ 240–290	690 min	770–940	30 J (−40 °C)	3t	—	Weldox 700, Dillimax 690, XABO 690, Strenx 700
S890QL	≈ 300–340	890 min	940–1 100	30 J	4t	—	Weldox 900, Dillimax 890

Brand names shown for property comparison only; we supply generic grades with mill 3.1 certificates stating hardness and chemistry.

WHICH HARDNESS FOR WHICH JOB

Application	Class	Typical thickness	Why
Tipper and dump bodies	400 HB (450 floor)	4–8 mm	Best weldability/formability, 3× life of S355
Excavator and loader buckets	450 HB (500 cutting edge)	8–25 mm	Balance of wear and toughness
Chutes, hoppers, bins (sliding abrasion)	450 / 500 HB	6–20 mm	Sliding wear dominates
Crusher and mill liners, screens	500 HB	12–40 mm	Maximum hardness
Concrete mixer drums, asphalt plants	400 HB	4–6 mm	Formed shells
Crane booms, lifting frames, chassis	S690QL / S890QL	6–60 mm	Yield strength, not hardness
Shredder and recycling plant	500 HB	10–50 mm	Impact + abrasion

SIZES AND STOCK

Class	Thickness	Width	Length	Availability
400 HB	4–80 mm	1 500 / 2 000 / 2 500	6 000 / 12 000	6–40 mm stock
450 HB	4–80 mm	1 500 / 2 000 / 2 500	6 000 / 12 000	8–30 mm stock
500 HB	6–100 mm	2 000 / 2 500	6 000 / 12 000	Mill order 4–8 weeks
S690QL	6–100 mm	2 000 / 2 500	6 000 / 12 000	8–40 mm partly stock
S890QL	6–60 mm	2 000 / 2 500	6 000 / 12 000	Mill order

WEAR PLATE VS S355 VS STAINLESS VS HARDFACING

Material	Hardness	Relative life	Relative cost per m²	Note
S355J2	160 HB	1	1.0	Baseline
400 HB wear plate	400	3–4	2.0–2.4	Formable, weldable
500 HB wear plate	500	5–6	2.4–2.8	Liners, mining
Chromium-carbide overlay	600–700	8–15	5–8	Not formable; bolted liners
Stainless 304	180 HB	0.8	5.5	Corrosion, not wear
Manganese steel (Hadfield)	200 → 500 work-hardened	4–8 (impact)	3–5	Casting, impact wear

STANDARDS

EN 10025-6 (S690QL, S890QL quenched and tempered) · EN ISO 6506-1 (Brinell hardness) · ASTM A514 (S690 near-equivalent) · Wear plates: mill specifications per hardness class (no EN product standard); EN 10029 tolerances