HARDOX®
WEAR PLATE

HARDOX TUBES, THE INSIDE STORY

Hard and tough on wear, easy in the workshop

- Perfect for pumping wet concrete
- Uniform properties in the entire tube
- Field test shows 4–5 times extended service life



Field test*	Wear rate mm/1000 m³ (inches/1308 cubic yards)	Relative service life Mild steel = 1	Service life for a 4 mm (0.156") thick tube, m³
Mild steel tube	0.6 (0.024)	1	5,000–10,000
Hardox® 500 Tube	0.12 (0.005)	4–5	30,000–40,000
Twin pipe chromium carbides	0.07 (0.003)	8–9	50,000–70,000

* In the field test, Hardox® 500 Tube was installed in two sections of a concrete pump truck (1 and 2 above) to measure the wear rate. Particle fractions were 16–25 mm and 25–32 mm, rock type granite. In total, 17,000 m³ (22,200 cubic yards) of concrete were pumped.

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SSAB

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FAMILIAR HARDNESS IN CIRCULAR SHAPE

SSAB has developed a range of wear-resistant steel tubes that are suitable for transporting wet concrete, soil, gravel, ore slurry and other abrasive materials.

Despite their hardness, Hardox® 400 and 500 Tube can be welded, cut, milled and drilled using standard workshop practices. They are usually a more cost-efficient alternative to products such as overlay tubes.

PRESSURE RESISTANT

Hardox® 400 and 500 Tube have been subjected to extensive pressure tests. When testing Hardox® 400 Tube, all dimensions could withstand the peak pressure of 60 MPa (8.70 ksi). In static tests, the tubes could withstand 30 MPa (4.35 ksi) for at least six hours. In a preliminary test of Hardox® 500 Tube a peak pressure of 85 MPa (12.33 ksi) was reached.

STOCK AVAILABILITY

Hardox® 400 Tube is available in diameters of 88.9 and 133 mm (3.5" and 5.24") with a wall thickness of 4.0 mm (0.156"). In diameters of 139, 168.3 and 219.1 mm (5.472", 6.626" and 8.622") Hardox® 400 Tube is available with a wall thickness of 6.00 mm (0.236").

Hardox® 500 Tube is available in diameters of 76.1, 88.9, 101.6, 108, 114.3 and 133 mm (3", 3.5", 4", 4.25", 4.5" and 5.24") with a wall thickness between 3.0 and 6.0 mm (0.118-0.236").

UNIFORM PROPERTIES

Hardox® 500 Tube is roll formed and plasma welded before quenching. This guarantees that the mechanical properties in the weld are the same as in the rest of the material.



Properties	Hardox® 400 Tube	Hardox® 500 Tube
External diameter	76.1-219.1 mm (3-8 ⅝")	76,1-133 mm (3-5.24")
Cross section	Circular	Circular
Wall thickness	3.0 / 4.0 / 5.0 / 6.0 mm (0.118"/ 0.157" / 0.197" / 0.236")	3.0 / 4.0 / 5.0 / 6.0 mm (0.118"/ 0.157" / 0.197" / 0.236")
Standard length	≥ 6000 mm (19' 8")	≥ 6000 mm (19' 8")
Hardness	360-440 HBW	470-530 HBW
Dimension tolerances and testing	According to EN 10219	According to EN 10210
Typical carbon equivalent	CEV 0.52	CEV 0.62

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