



SANDVIK HX900 WEAR PLATES

TECHNICAL SPECIFICATION

Sandvik HX900 wear plates are a unique wear protection solution combining the high wear resistance of cemented carbides with the impact resistance and ductility of nodular iron.

HX900 plates have a wear resistance that is comparable with cemented carbide and a toughness that is 80-90% of pure nodular iron. This makes HX900 a unique, high-performing wear protection material for applications with high abrasive wear as well as for applications with heavy impact, or even a combination of both.

Our HX900 cemented carbide/iron composite wear plates offer up to 20x longer wear life compared to quenched steel (500 HB) and 5x longer compared to white iron plates. Excellent in applications such as chutes, bins and hoppers extending the time between maintenance shutdown cycles. Thus suitable in difficult to access and confined maintenance areas, thereby improving worker safety.

HX900 wear plates are not recommended for use in continuous wet spray processes, applications with high speed fine particle flows and applications exceeding 600 °C.



MATERIAL PROPERTIES

During the manufacturing of Sandvik HX900 plates, a metallurgical bond is formed between the cemented carbide and the nodular iron.

NODULAR CAST IRON

Graphite	Nodular
Matrix	Nodular iron
Tensile strength, N/mm ²	800 – 900
Yield strength, N/mm ²	600 – 700
Elongation, %	2 – 5
Impact strength – CVN, J/cm ²	10
Hardness, HB	280 – 320

CEMENTED CARBIDES

Carbides	Mix of grades
Shapes	Granules and/or tiles
Hardness, HV30	900 – 1600

PLATE THICKNESS

Available in 20, 25, 30, 40- and 50-mm thicknesses. The recommended plate thickness* is determined based on the impact energy (rock size, rock weight and drop height) of the application. If the recommendation is in between two values, always choose the higher value. For applications which fall outside of these values, please contact your local Sandvik representative.

* based on a max. material density of 3 tons/m³

ROCK SIZE (MM)	50	75	100	150	200	400	600	800
WEIGHT (KG)	0.4	1.3	3.0	10	24	192	648	1,536
DROP HEIGHT (M)	RECOMMENDED PLATE THICKNESS (MM)							
0.5	20	20	20	20	25	30	30	40
1.0	20	20	25	25	30	30	40	40
1.5	20	25	25	30	30	40	50	50
2.0	25	25	30	30	30	40	50	50
2.5	25	30	30	30	30	50	50	-
3.0	25	30	30	30	40	50	-	-

PLATE DIMENSIONS AND WEIGHTS

Thickness (mm)	Width (mm)	Length (mm)	Weight (kg)
20	200	200	7
	250	250	11
	300	300	16
	246	496	21
25	200	200	8
	250	250	45
	300	300	23
	360	594	37
30	200	200	10
	200	250	13
	250	250	16
	190	390	19
	300	300	23
	300	400	31
	390	390	39
	380	490	47
40	200	200	13
	250	250	21
	300	300	30
	400	600	79
50	200	200	16
	200	250	20
	250	250	26
	300	300	37
	300	400	49
	495	495	100

To ensure proper installation, at least a 10 mm gap is required between liners. Custom made dimensions are also available upon request.

FASTENING METHODS

A minimum of two bolts or holes per plate is recommended and pre-installed studs can support diameters ranging from M12 (1/2" UNC) up to M24 (1" UNC) depending on plate thickness.

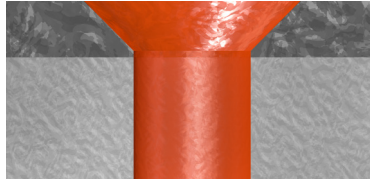


With our through hole variations - counterbore, countersink, counterdrilled - bolt diameters can be M10 and upwards.

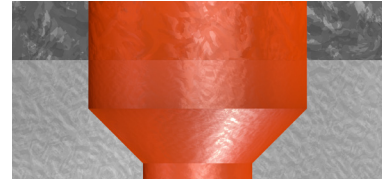
COUNTERBORE



COUNTERSINK



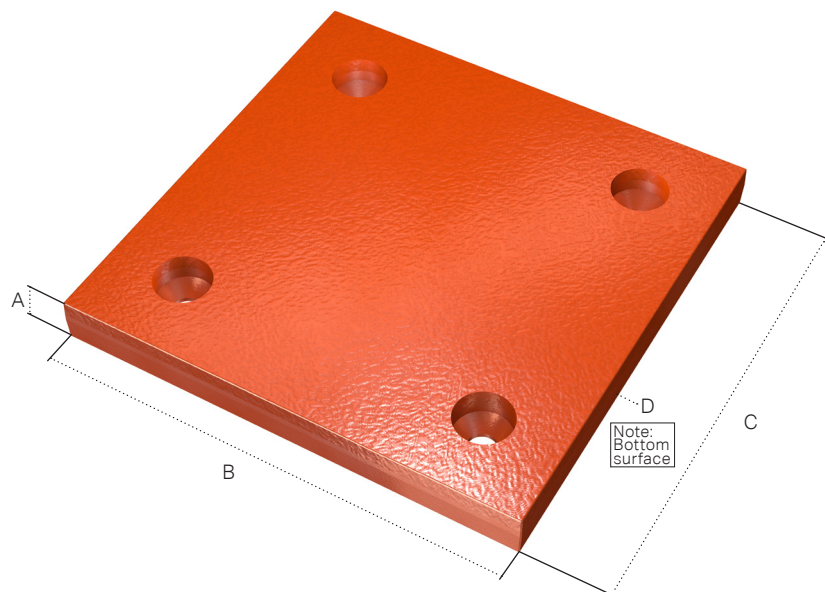
COUNTERDRILLED



MANUFACTURING TOLERANCES: DIMENSIONS

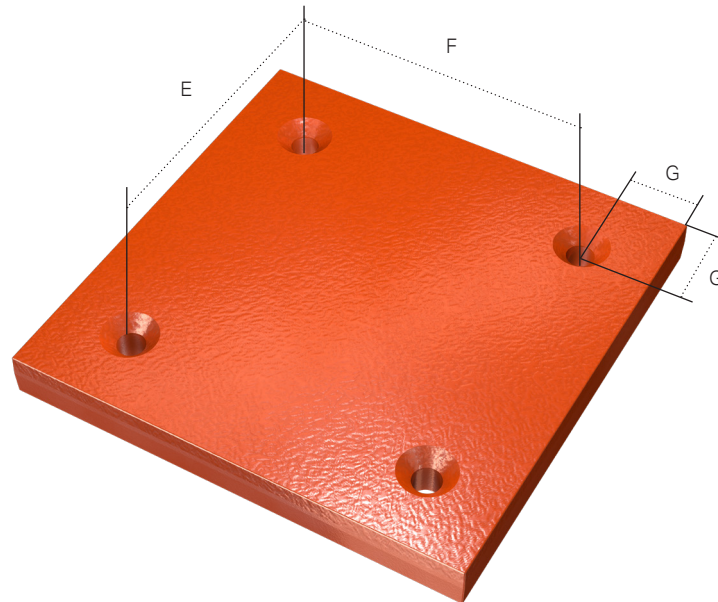
General tolerances according to ISO 8062-2 unless otherwise specified.

	DIMENSIONAL TOLERANCE				GEOMETRICAL TOLERANCE - FLATNESS			
	A				D			
Dimensions (mm)	25 ±2	30 ±2	40 ±2.5	50 ±3	25	30	40	50
>50-100	±2	±2	±2	±2	2	2	2	2
>100-200	+2/-2.5	+2/-2.5	+2/-2.5	+2/-2.5	2.5	2.5	2	2
B/C >200-300	+2/-3	+2/-3	+2/-3	+2/-3	4	4	3.5	3.5
>300-400	+2/-4	+2/-4	+2/-4	+2/-4	5	5	4.5	4.5
>400-500	+3/-5	+3/-5	+3/-5	+3/-5	6	6	5.5	5.5



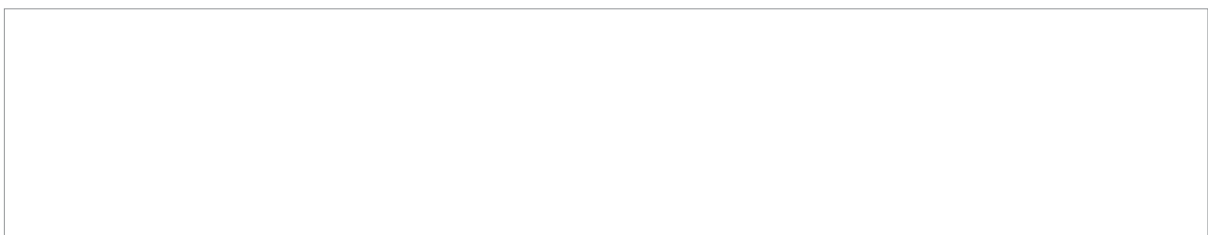
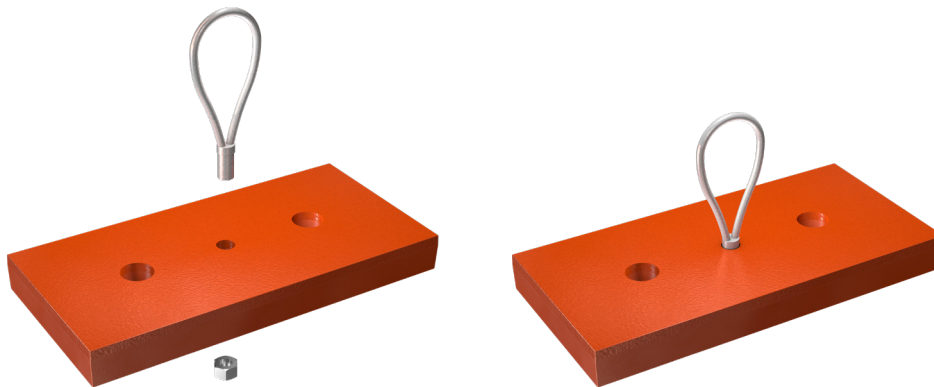
HOLE/BOLTS TOLERANCES

HOLE OR BOLT CENTER TO CENTER TOLERANCE				C-BORE/C-SINK/C-DRILL CENTER TO EDGE DISTANCE	
E/F	>16-25	±1.6	>100-160	±2.5	$40 \leq \emptyset \leq 45$ Recommended min. 50 mm
	>25-40	±1.8	>160-250	±2.8	$35 \leq \emptyset < 40$ Recommended min. 45 mm
	>40-63	±2.0	>250-400	±3.1	$25 \leq \emptyset < 35$ Recommended min. 44 mm
	>63-100	±2.2	>400-630	±3.5	$\emptyset < 25$ Recommended min. 39 mm



SAFETY CONSIDERATIONS

An extra lifting point, by way of a lug, can be easily attached to the plate for increased worker safety and safer change outs.



Sandvik Mining and Rock Technology reserves the right to make changes to the information on this data sheet without prior notification to users. Please contact a Sandvik representative for clarification on specifications and options.