Precast Concrete Manhole Cover and Frame | IS 12592:2002

Scope: This standard covers requirements for precast steel-reinforced cement concrete manhole covers and frames intended for use in sewerage and storm-water drainage.

Clause 3.1 | Grades and Types

Grades and cover shapes as listed in the supplied standard.

Grade	Designation	Type / shape of cover
Light duty	LD-2.5	Rectangular, square, circular
Medium duty	MD-10	Rectangular, circular
Heavy duty	HD-20	Rectangular (scrapper manhole), square, circular and lamphole
Extra heavy duty	EHD-35	Rectangular (scrapper manhole), square and circular

Table 1 | Dimensions of Frame

Clause 5.2 | All dimensions in millimetres. The source sketch defines A to F.



Grade	Description	Clear opening	B	C	D	E min	F min
LD-2.5	Light rectangular	450 x 450	50	50	50	50	566
LD-2.5	Light square	450 x 450	50	50	50	50	566 x 566
LD-2.5	Light square	400 x 400	50	50	50	50	516 x 516
LD-2.5	Light circular	370	50	50	50	50	486
LD-2.5	Light circular	560	50	50	50	50	676
LD-2.5	Light circular	500	50	50	50	50	616
LD-2.5	Light circular	450	50	50	50	50	566
MD-10	Medium rectangular	450 x 600	70	50	50	50	570 x 720
MD-10	Medium circular	450	70	50	50	50	570
MD-10	Medium circular	500	70	50	50	50	620
MD-10	Medium circular	560	70	50	50	50	680
MD-10	Medium circular	600	70	50	50	50	720
HD-20	Heavy rectangular (scrapper)	900 x 450	90	75	75	75	1080 x 630
HD-20	Heavy square	560 x 560	90	75	75	75	740 x 740
HD-20	Heavy circular	450	90	75	75	75	630
HD-20	Heavy circular	500	90	75	75	75	680
HD-20	Heavy circular	560	90	75	75	75	740
HD-20	Heavy circular	600	90	75	75	75	780
HD-20	Heavy lamphole	350	90	75	75	75	530
EHD-35	Extra heavy rectangular	900 x 560	100	75	75	75	1078 x 738
EHD-35	Extra heavy square	560 x 560	100	75	75	75	738 x 738
EHD-35	Extra heavy circular	450	100	75	75	75	628
EHD-35	Extra heavy circular	500	100	75	75	75	678
EHD-35	Extra heavy circular	560	100	75	75	75	738
EHD-35	Extra heavy circular	600	100	75	75	75	778

Table 1 notes: C tolerance is ±5 mm; A, B, D and E tolerances are +5 / -0 mm. For removing the cover, an upward taper not exceeding 5 degrees may be provided at the inner periphery. For removal of moulds, a taper not exceeding 5 degrees may be given at the lower inner periphery.

Source check: the light-duty rectangular 450 x 450 entry gives F as 566 (one dimension) in the source; it is retained as printed.

Table 2 | Test Load and Diameter of Block

Clauses 9.3, 12.3 and C-1.1

Grade	Type	Load (kN)	Block diameter (mm)
LD-2.5	Rectangular, square or circular	25	300
MD-10	Rectangular or circular	100	300
HD-20	Rectangular, square or circular	200	300
EHD-35	Rectangular, square or circular	350	300

Table 3 | Scale of Sampling and Permissible Number of Defectives

Clauses 11.1.3, 11.4.2 and 12.2

Covers or frames in lot	Sample size	Acceptance number	Samples for load test on cover only
Up to 100	10	1	2
101 to 200	15	1	3
201 to 300	20	2	4
301 to 500	30	3	5

Note: if the number of covers in the lot is 20 or less, the number of load-test samples is decided by mutual agreement between purchaser and manufacturer.