

GENERAL NOTES FOR DUCTILE IRON (D.I.) MANHOLE COVERS/SURFACE BOXES

1. GENERAL

- 1.1 D.I. MANHOLE COVERS SHALL BE SUPPLIED WITH FRAMES AND SHALL CONFORM TO THE RELEVANT REQUIREMENTS OF BS EN124. D.I. SURFACE BOXES SHALL CONFORM TO THE RELEVANT REQUIREMENTS OF BS 5834 : PART 2.
- 1.2 MACHINED SURFACES ARE MARKED WITH "✓".
- 1.3 ALLOWANCE SHOULD BE MADE FOR MACHINING WHERE APPLICABLE.
- 1.4 SHARP EDGES SHALL BE REMOVED.

2. DIMENSIONS AND MARKINGS

- 2.1 D.I. MANHOLE COVERS AND FRAMES OR SURFACE BOXES SHALL BE DESIGNATED BY THE NOMINAL SIZE OF THE COVERS.

TYPE	DESIGNATION
600 SQUARE D.I. MANHOLE COVER	D.I. MANHOLE COVER CLASS E600, 600mm x 600mm
300 SQUARE D.I. SURFACE BOX	D.I. SURFACE BOX GRADE A, 300mm x 300mm
D.I. FIRE HYDRANT SURFACE BOX	D.I. SURFACE BOX GRADE B, 285mm x 200mm
180 SQUARE D.I. SURFACE BOX	D.I. SURFACE BOX, GRADE B, 180mm x 180mm
LIGHT GRADE D.I. SURFACE BOX	D.I. SURFACE BOX, GRADE C, 140mm x 115mm

- 2.2 IN ADDITION TO THE MARKINGS SPECIFIED IN THE DRAWINGS, THE MANUFACTURER'S NAME AND THE CONTRACT NUMBER SHALL ALSO BE CAST ON THE UNDERSIDE OF THE COVER.

B	NOTES 2.1, 3.1, 4.1 AND 4.3 REVISED AND RE-FORMATTED TO CSWP	W.K. CHIU	5/3/03
A	GENERAL REVISION	W.K. CHIU	20/9/00
REF.	REVISION	APPROVED	DATE

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水務署
Water Supplies Department

APPROVED	M.C. LEUNG AD/NW	DRAWING NO.	CSWP
DATE	27/8/99	WSD 7.43B (SHEET 1 OF 2)	
SCALE	NOT APPLICABLE		

3. TEST LOADS AND WEIGHT

3.1 THE D.I. MANHOLE COVERS SHALL BE DESIGNED AND TESTED ACCORDING TO CLAUSE 8 OF BS EN124 WITH TEST LOAD SPECIFIED IN THE TABLE BELOW –

DESIGNATION	DIAMETER OF TEST BLOCK	TEST LOAD	WEIGHT
D.I. MANHOLE COVER CLASS E600, 600mm x 600mm	250mm	600kN	80.90kg

3.2 THE SURFACE BOXES SHALL BE DESIGNED AND TESTED ACCORDING TO BS 5834 : PART 2 WITH DESIGN LOADS AND TEST LOADS RESPECTIVELY SPECIFIED IN THE TABLE BELOW –

DESIGNATION	DIAMETER OF TEST BLOCK	DESIGN LOAD	QUALITY CONTROL TEST LOAD
D.I. SURFACE BOX GRADE A, 300mm x 300mm	300mm	350kN	233kN
D.I. SURFACE BOX GRADE B, 285mm x 200mm	135mm	147kN	98kN
D.I. SURFACE BOX GRADE B, 180mm x 180mm	135mm	86kN	57kN
D.I. SURFACE BOX GRADE C, 140mm x 115mm	100mm	5kN	3.5kN


4. MATERIAL

- 4.1 THE MATERIAL TO BE USED FOR THE MANUFACTURE FOR IRON CASTINGS SHALL BE DUCTILE IRON (SPHEROIDAL GRAPHITE IRON OR NODULAR GRAPHITE IRON) COMPLYING WITH GRADES EN-GJS-500-7, EN-GJS-600-3 OR EN-GJS-700-2. THE MANUFACTURER SHALL, HOWEVER, DESIGN THE GRADES OF DUCTILE IRON TO COMPLY WITH THE REQUIREMENTS OF NOTE 3.
- 4.2 HINGE PINS SHALL BE OF GRADE 431S29 STAINLESS STEEL TO BS 970 : PART 1.
- 4.3 BOLTS SUPPLIED FOR COUPLING SEPARATE SECTIONS OF THE COVERS SHALL BE OF GRADE 431S29 STAINLESS STEEL TO BS 970 : PART 1. DIMENSIONS OF THE COUPLING BOLTS SHALL COMPLY WITH THE RELEVANT REQUIREMENTS OF BS 4190.

5. COATING

- 5.1 MANHOLE COVERS AND FRAMES AND SURFACE BOXES SHALL BE COATED WITH COAL TAR OR BITUMEN SOLUTION AS SPECIFIED IN CLAUSE 6.1(B) (1) OR (2) OF BS 5834 : PART 2.

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