



**PRE-CAST** PRODUCTION  
**PRE-CAST BOX UNIT & DRAIN UNIT**



**DATA SHEET**





# PRE-CAST PRODUCTION

## PRE-CAST BOX UNIT & DRAIN UNIT - DATA SHEETS

### 01. INTRODUCTION

International Construction Consortium (Pvt)Ltd is the leading manufacturer of precast box culvert units, drain units and associated precast products in Sri Lanka. They can be manufactured as per any customer requirement.

The manufacturing of precast box culvert units, Precast drain units, Cover slabs, Precast cable trenches & Cover slabs are done with high quality controlling and quality assurance systems under engineering supervision.

This publication provides the information necessary to specify precast boxes and drains for all of these applications.



Figure 01



Figure 02

### 02. GENERAL SPECIFICATIONS

#### STANDARD SPECIFICATION

RDA Specification  
Project Specification

#### PRODUCTION SPECIFICATION

Dimensions: Refer the tables  
Concrete Strength(N/mm<sup>2</sup>): Grade 30/40  
Connecting Type : Tongue & Groove

#### RAW MATERIAL SPECIFICATION

Cement: SLS 107 : 2015  
: BS EN 197 - 1:2011  
Fine Aggregate: BS 882 - 1992  
Coarse Aggregate: BS 882 - 1992  
Reinforcement Steel : SLS 375 : 2009  
Water : BS 3148 - 1980

### 03. PRODUCTION RANGE

(a.) Precast box units.

- \*Single cell box units.
- \*Twin cell box units.
- \*Three cell box units.

(b.) Precast "U" drain units.

(c.) Precast Cover slabs.

- \*Heavy duty cover slabs (HD).
- \*Light duty cover slabs (LD).

(d.) Precast Cable Trenches.

(e.) Or as per any customized details.



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### 04. PRODUCT DETAILS - BOX UNIT

The precast box units are manufactured in accordance with RDA specifications.  
The box units are can be customized as per project requirements.

\*Single cell box units.

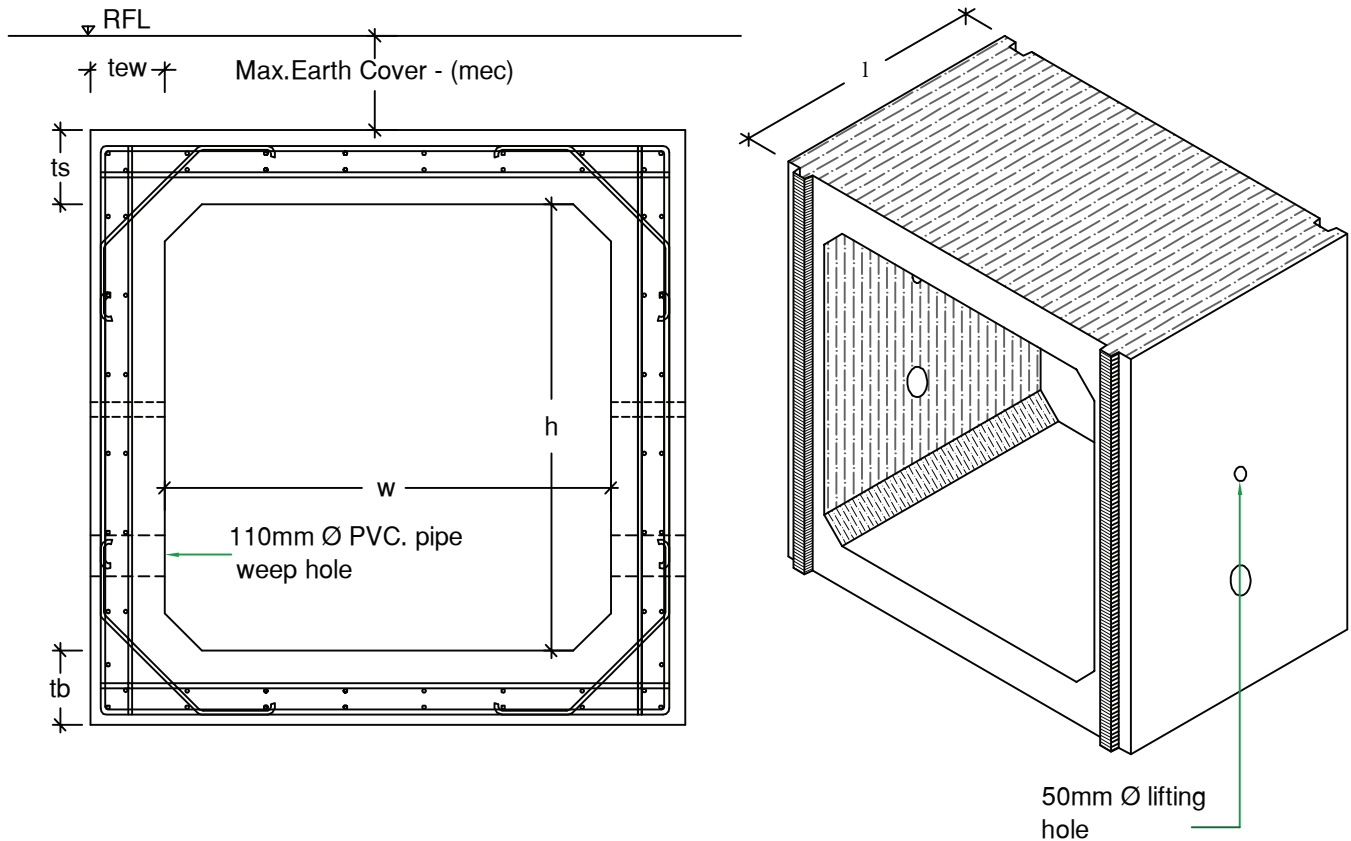


Table 01.

Box Type	Int.Dimension						Appo. Weight (kg)
	w- (mm)	h- (mm)	l- (mm)	ts- (mm)	tb- (mm)	tew- (mm)	
A	1000	1500	1000	175	175	175	2550
B	1500	1500	1000	200	200	200	3550
C	1500	2000	1000	200	200	200	3950
D	1500	2500	1000	200	200	200	4420
E	2000	1500	1000	250	250	250	5150
F	2000	2000	1000	250	250	250	5750
G	2000	2500	1000	250	250	250	6350
H	2000	3000	1000	250	250	250	7000
I	2500	1500	1000	250	250	250	5750
J	2500	2000	1000	250	250	250	6350
K	2500	2500	1000	250	250	250	7000
L	2500	3000	1000	250	250	250	7550
M	3000	1500	1000	250	250	250	6350
N	3000	2000	1000	275	275	275	7700
O	3000	2500	1000	275	275	275	8400
P	3000	3000	1000	275	275	275	9100



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\*Twin cell box units.

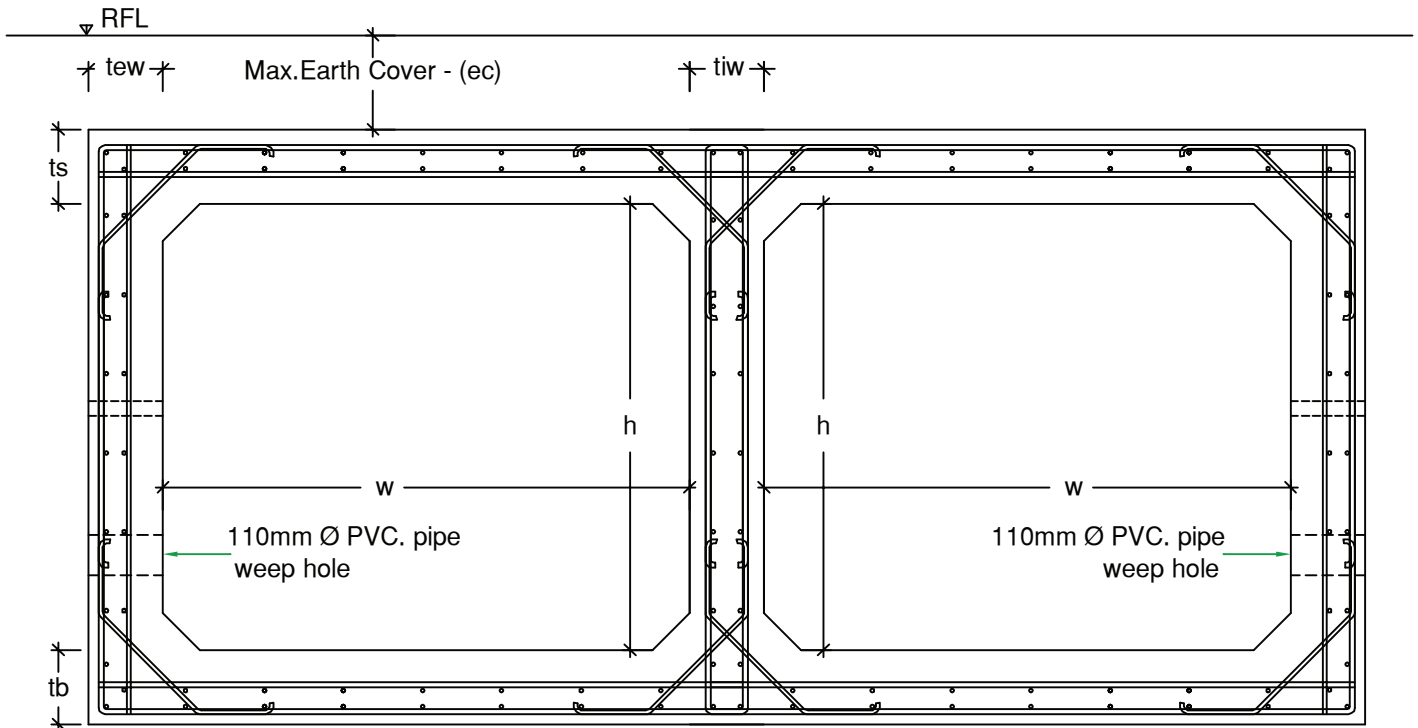


Table 02.

Box Type	Int.Dimension							Appo. Weight (kg)
	w- (mm)	h- (mm)	l- (mm)	ts- (mm)	tb- (mm)	tew- (mm)	tiw- (mm)	
A	2500	1500	1000	250	250	250	200	9400
B	2500	2000	1000	250	250	250	200	10300
C	2500	2500	1000	275	275	275	250	11100
D	2500	3000	1000	275	275	275	250	12000

\*Three cell box units.

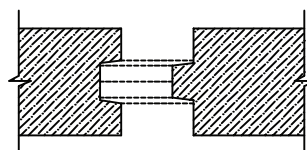
Table 03.

Box Type	Int.Dimension							Appo. Weight (kg)
	w- (mm)	h- (mm)	l- (mm)	ts- (mm)	tb- (mm)	tew- (mm)	tiw- (mm)	
A	2000	2000	1000	300	300	300	300	13300
B	3000	3000	1000	300	300	300	300	19200

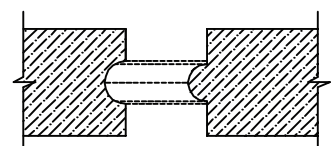
Section length is 1000mm and it may vary as per the requirements.

- w- (mm) - wideness of culvert unit.
- h- (mm) - Height/Ricer of culvert unit.
- ts- (mm) - Thickness of top slab.
- tb- (mm) - Thickness of bottom slab.
- tew- (mm) - Thickness of external wall.
- tiw- (mm) - Thickness of internal wall.
- l- (mm) - Length of culvert.

Connecting details for box segments.



Square type



Round type





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### 05. HANDLING AND TRANSPORTATION - BOX UNIT

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Boxes are to be loaded to the transporting vehicle by using suitable lifting machine.

Cantilevered edges cannot be allowed during the transportation.

Boxes should be placed up side and down side during the handling and transportation.

Ensure to lift and handle the box units through the lifting holes.

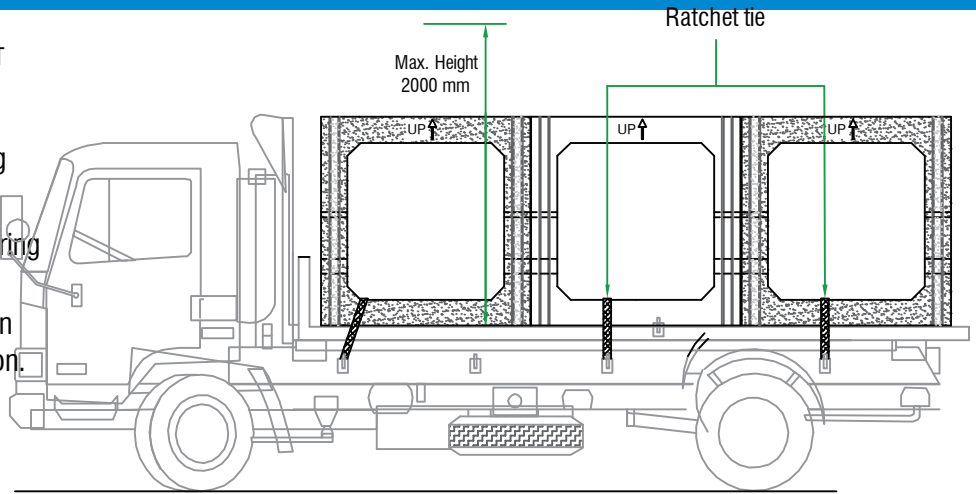


Fig.01 - Correct loading method for transportation.

Do not standing any worker & officer under the box during the lifting or handling. Always use the guiding rope for handling the product.

### 06. PRODUCT DETAILS - DRAIN, CABLE TRENCH & COVER SLAB

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Figure 04 Trench Unit

Figure 03 Heavy duty cover slabs (HD).

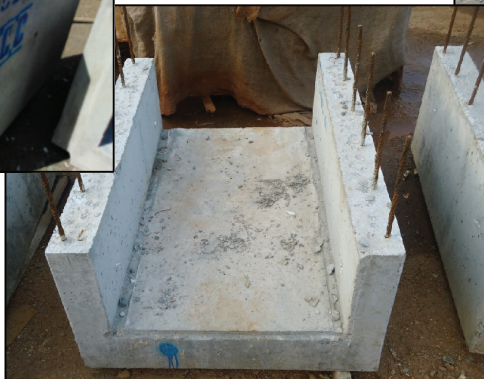


Figure 05 Drain Unit



Figure 06 Light duty cover slabs (LD).



Figure 07 Light duty cover slabs (LD).



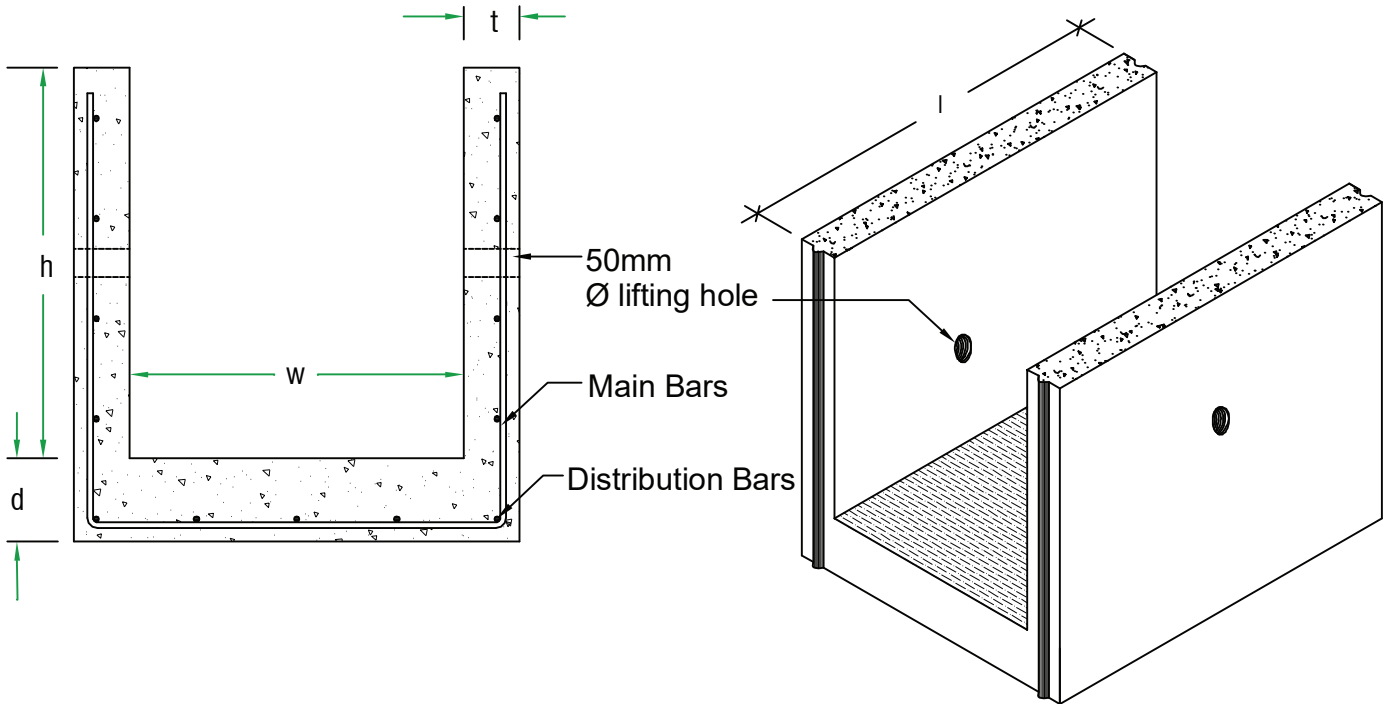
Figure 08 Cable Trench



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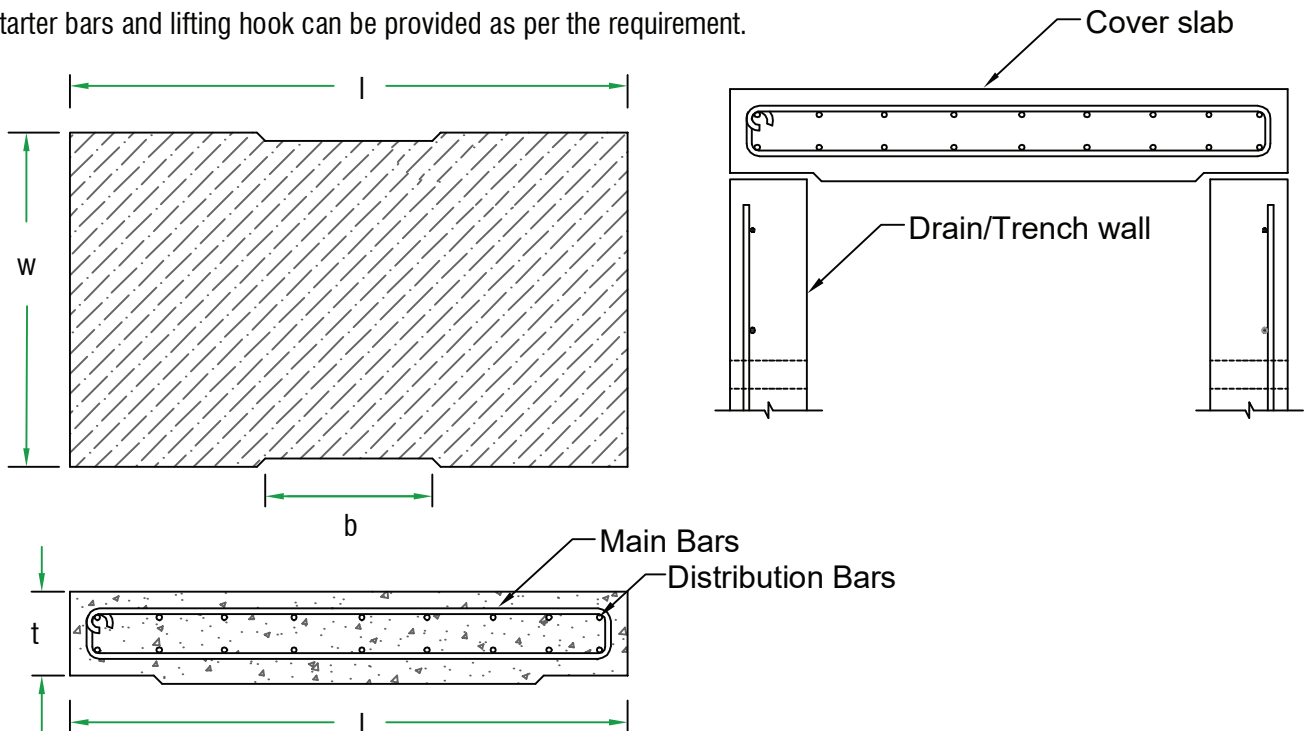
### 07. PRODUCT DETAILS - DRAIN / TRENCH & COVER SLAB



The precast drain units and cover slabs are manufactured as per customer/project specifications.

The drain dimensions ( $d, h, t, w, l, b$ ) vary as per the drain design and site condition as directed by the engineer.

Starter bars and lifting hook can be provided as per the requirement.



### 08. HANDLING AND TRANSPORTATION - DRAIN & COVER SLAB

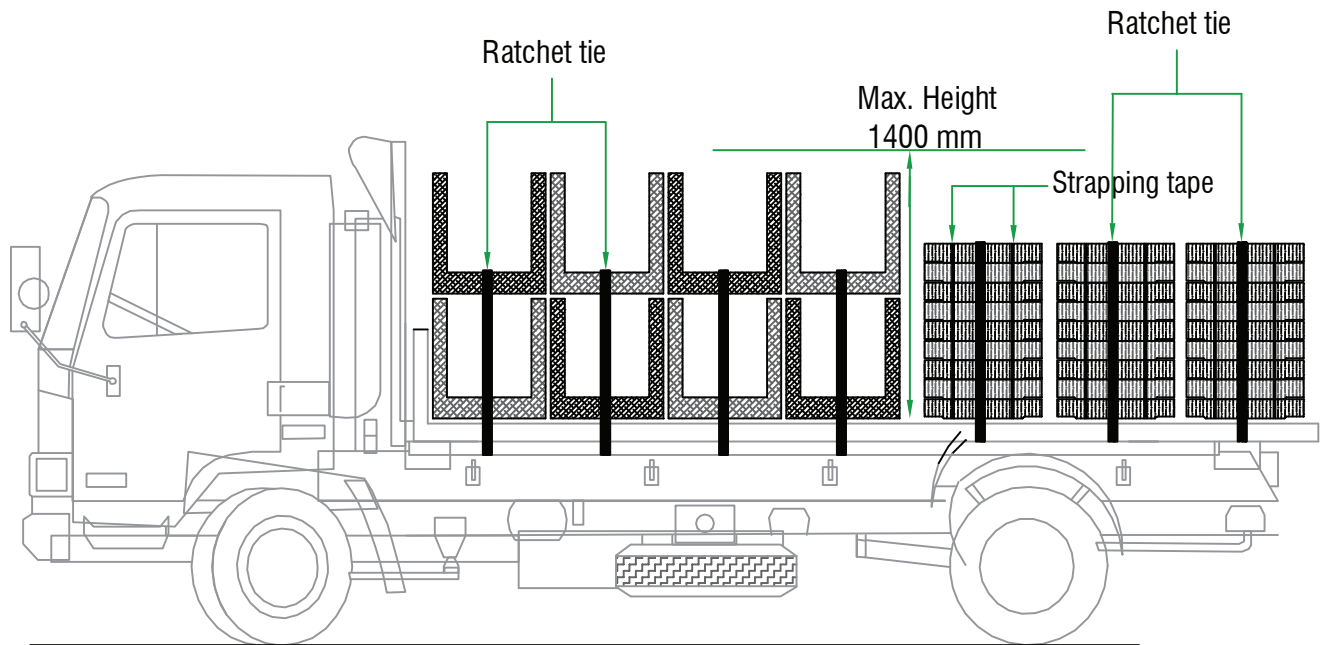


Fig.02 - Correct loading method for transportation.

Drain/Trench units & cover slabs are loaded to the transporting vehicle by using suitable lifting machine.

Cantilevered edges cannot be allowed during the transportation.

Drain units should not be stacked more than 2 layers.

### 09. TESTING & INSPECTION

Material test report and mill report.

Concrete crushing strength ( test cube strength)