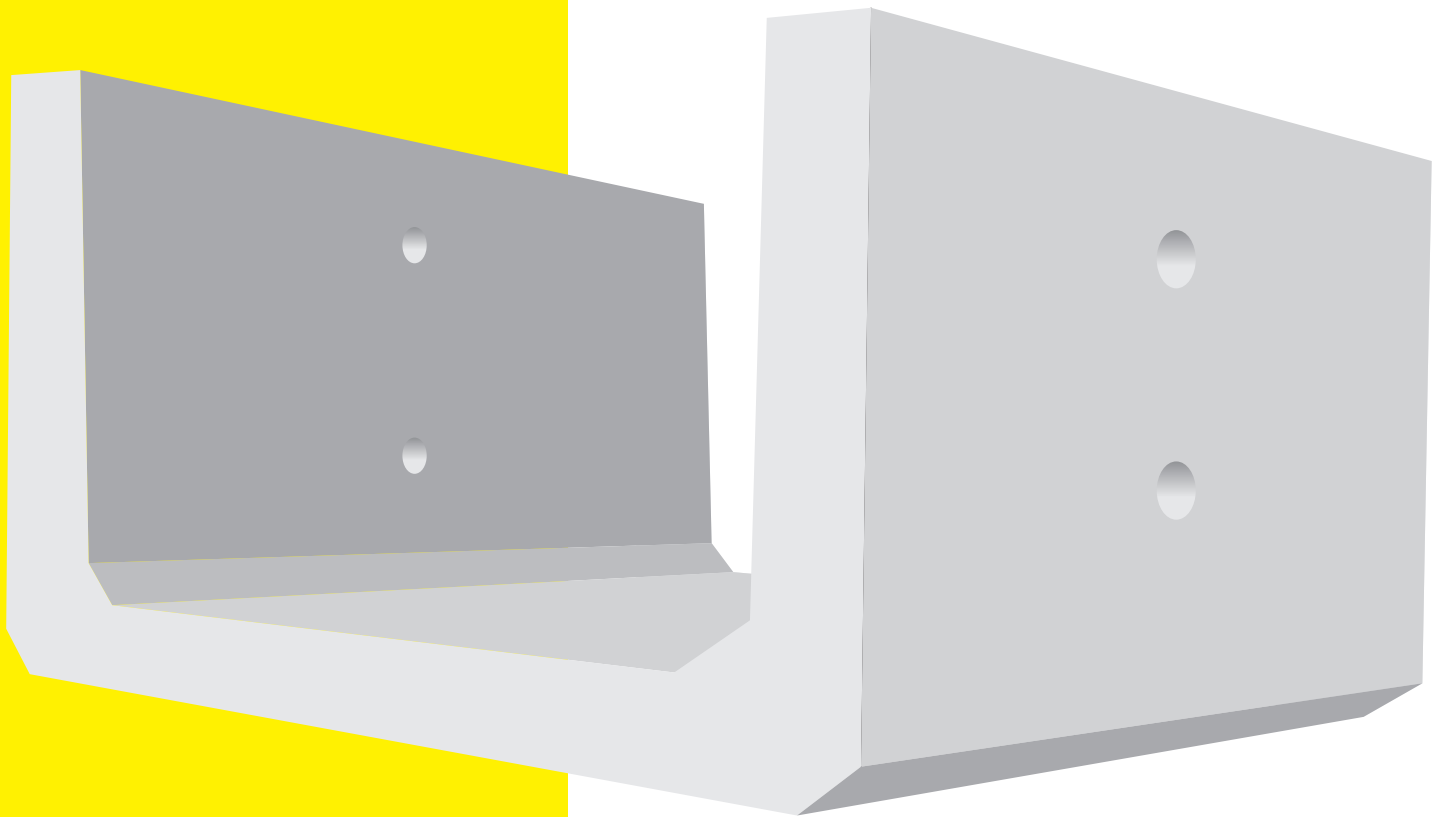




# U-DRAIN



MS ISO 9001 : 2015 REG NO AR 2824

**SEDSCO Precast Sdn. Bhd.** (328669-K)

*(A member of SEDSCO Group)*

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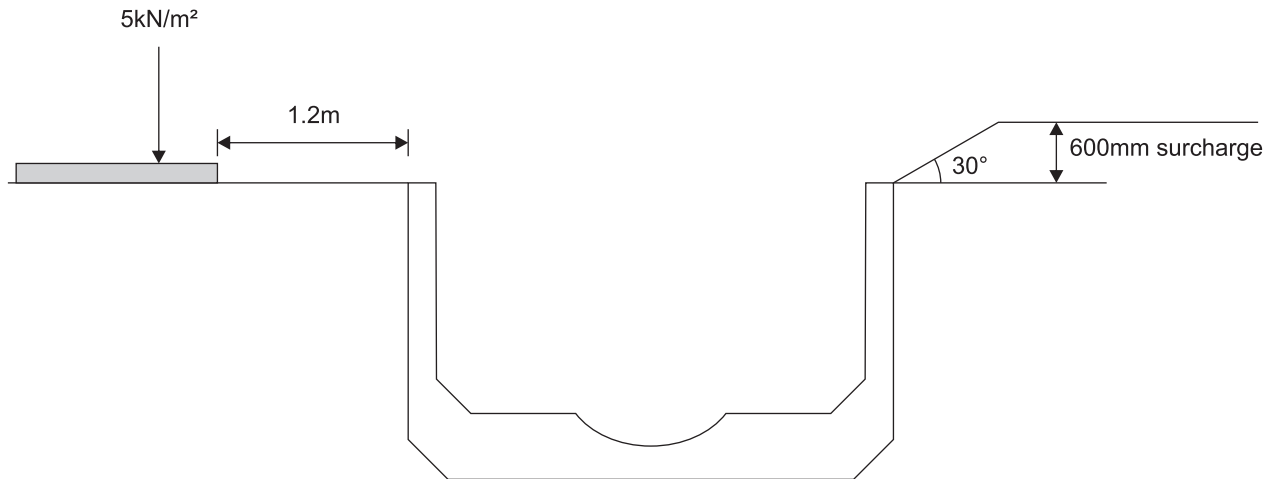
## Reinforced Concrete U-Shape Open Drain

SPSB precast reinforced concrete U-shape open drains range from 600mm to 3600mm width and various heights.

### Specification

SPSB standard U-Shape open drains are designed in accordance to BS 8110 : 1985 for the following conditions :-

- \* UDL of 5kN/m<sup>2</sup> acting behind the wall
- \* 600mm surcharge with 30° slope at the top and behind the wall.



**Loading Conditions**

SPSB can also design and produce U-shape drain to meet other requirements.

The characteristic strength of concrete at 28 days shall be 40 N/mm<sup>2</sup>.

The minimum concrete cover to reinforcement shall be 25mm.

### Joint

SPSB U-shape drains are precast with plain ends. Usually, cement mortar is used to fill the gaps between the units.

### Weephole

Weephole of 50mm in diameter are provided and they act as the lifting points during handling.

The also serve to relieve the water pressure behind the walls when the drains are in service.

### Handling

Always use a spreader bar to handle/lift a U-shape drain. DO NOT attempt to handle without the spreader bar because considerable damages may occur to the precast units.

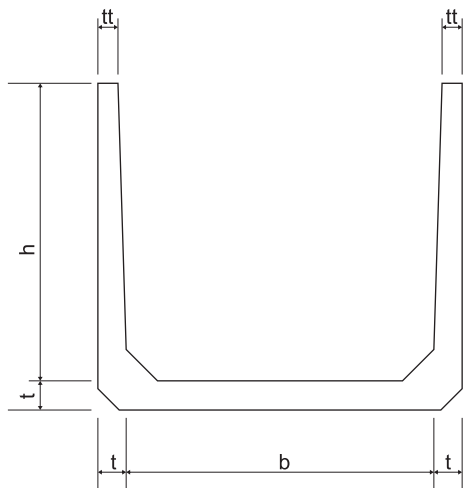
As site, stack the U-shape drains evenly on the ground.

### Uses

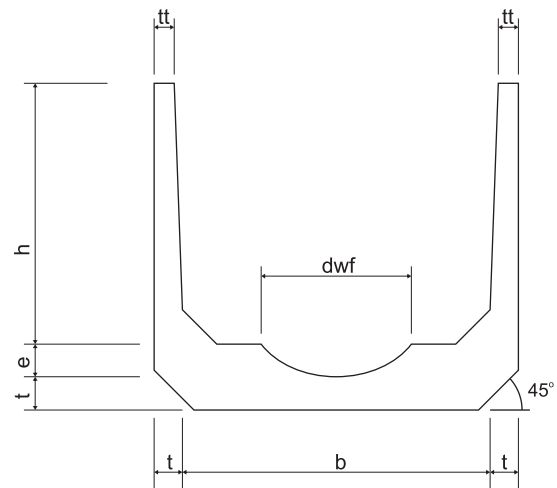
These U-shape drains are designed as open drain. DO NOT place any lids on the drain section and use them as box culverts because the design considerations are not the same.



## Reinforced Concrete U-Shape Open Drain



**U-Drain without DWF**



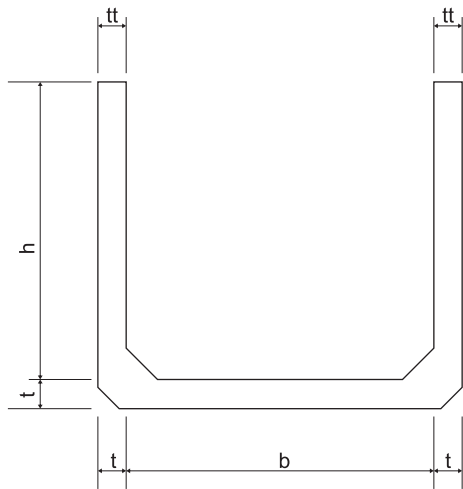
**U-Drain with DWF**

dwf =  $b/2$  for size 900mm and below  
 dwf = 1075 for size 1200 and above

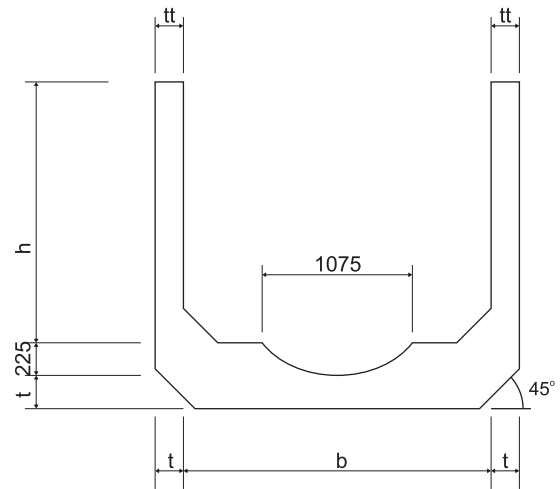
e = 70mm for size 600mm series  
 e = 75mm for size 750mm series  
 e = 80mm for size 900mm series  
 e = 225mm for size 1200mm series and above

NOMINAL SIZE	LENGTH	DIMENSION				APPROX WITHOUT DWF	WEIGHTS WITH DWF
		b	h	t	tt		
mm x mm	mm	mm	mm	mm	mm	tonne	tonne
600 x 300	1000	600	300	70	64	0.248	0.322
x 450	1000	600	450	70	59	0.302	0.375
x 600	1000	600	600	70	55	0.356	0.430
750 x 300	1000	750	300	75	68	0.321	0.416
x 450	1000	750	450	75	64	0.381	0.478
x 600	1000	750	600	75	59	0.443	0.540
x 750	1000	750	750	75	55	0.505	0.602
900 x 450	1000	900	450	80	71	0.412	0.539
x 600	1000	900	600	80	67	0.474	0.601
x 750	1000	900	750	80	64	0.536	0.664
x 900	1000	900	900	80	60	0.598	0.726
1200 x 600	1000	1200	600	95	79	0.627	0.853
x 750	1000	1200	750	95	75	0.702	0.927
x 900	1000	1200	900	95	70	0.774	1.000
x 1050	1000	1200	1050	95	65	0.845	1.072
x 1200	1000	1200	1200	95	60	0.920	1.146
1500 x 600	1000	1500	600	100	88	0.756	1.153
x 750	1000	1500	750	100	80	0.833	1.229
x 900	1000	1500	900	100	80	0.911	1.305
x 1050	1000	1500	1050	100	77	0.986	1.383
x 1200	1000	1500	1200	100	73	1.064	1.460
x 1350	1000	1500	1350	100	69	1.142	1.539
x 1500	1000	1500	1500	100	65	1.223	1.618
1800 x 600	1000	1800	600	115	115	0.968	1.554
x 750	1000	1800	750	115	115	1.057	1.642
x 900	1000	1800	900	115	115	1.146	1.730
x 1050	1000	1800	1050	115	115	1.234	1.818
x 1200	1000	1800	1200	115	115	1.320	1.906
x 1350	1000	1800	1350	115	115	1.408	1.996
x 1500	1000	1800	1500	115	115	1.499	2.086
x 1650	1000	1800	1650	115	115	1.590	2.177
x 1800	1000	1800	1800	115	115	1.681	2.269

## Reinforced Concrete U-Shape Open Drain



**U-Drain without DWF**



**U-Drain with DWF**

NOMINAL SIZE	LENGTH	DIMENSION				APPROX WITHOUT DWF	WEIGHTS WITH DWF
		b	h	t	tt		
mm x mm	mm	mm	mm	mm	mm	tonne	tonne
2100 x 1200	1000	2100	1200	200	200	2.175	2.964
x 1500	1000	2100	1500	200	200	2.393	3.182
x 1800	1000	2100	1800	200	200	2.601	3.391
x 2100	1000	2100	2100	200	200	2.799	3.589
2400 x 1200	1000	2400	1200	200	200	2.312	3.269
x 1500	1000	2400	1500	200	200	2.528	3.487
x 1800	1000	2400	1800	200	200	2.739	3.696
x 2100	1000	2400	2100	200	200	2.938	3.894
x 2400	1000	2400	2400	200	200	3.122	4.084
2700 x 1500	1000	2700	1500	200	200	2.665	3.794
x 1800	1000	2700	1800	200	200	2.876	4.003
x 2100	1000	2700	2100	200	200	3.075	4.201
x 2400	1000	2700	2400	200	200	3.260	4.391
x 2700	1000	2700	2700	200	200	3.440	4.572
3000 x 1500	1000	3000	1500	200	200	2.802	4.100
x 1800	1000	3000	1800	200	200	3.013	4.308
x 2100	1000	3000	2100	200	200	3.213	4.507
x 2400	1000	3000	2400	200	200	3.398	4.697
x 2700	1000	3000	2700	200	200	3.579	4.879
x 3000	1000	3000	3000	200	200	3.763	5.063
3300 x 1800	1000	3300	1800	200	200	3.153	4.613
x 2100	1000	3300	2100	200	200	3.353	4.813
x 2400	1000	3300	2400	200	200	3.539	5.003
x 2700	1000	3300	2700	200	200	3.720	5.185
x 3000	1000	3300	3000	200	200	3.905	5.371
3600 x 1800	1000	3600	1800	200	200	3.291	4.920
x 2100	1000	3600	2100	200	200	3.490	5.120
x 2400	1000	3600	2400	200	200	3.677	5.310
x 2700	1000	3600	2700	200	200	3.859	5.494
x 3000	1000	3600	3000	200	200	4.045	5.680