DESIGN OF MONOLITHIC CONCRETE SLAB

(FALSE MONOLITHIC BOTTOM)

TECHNICAL SPECIFICATION

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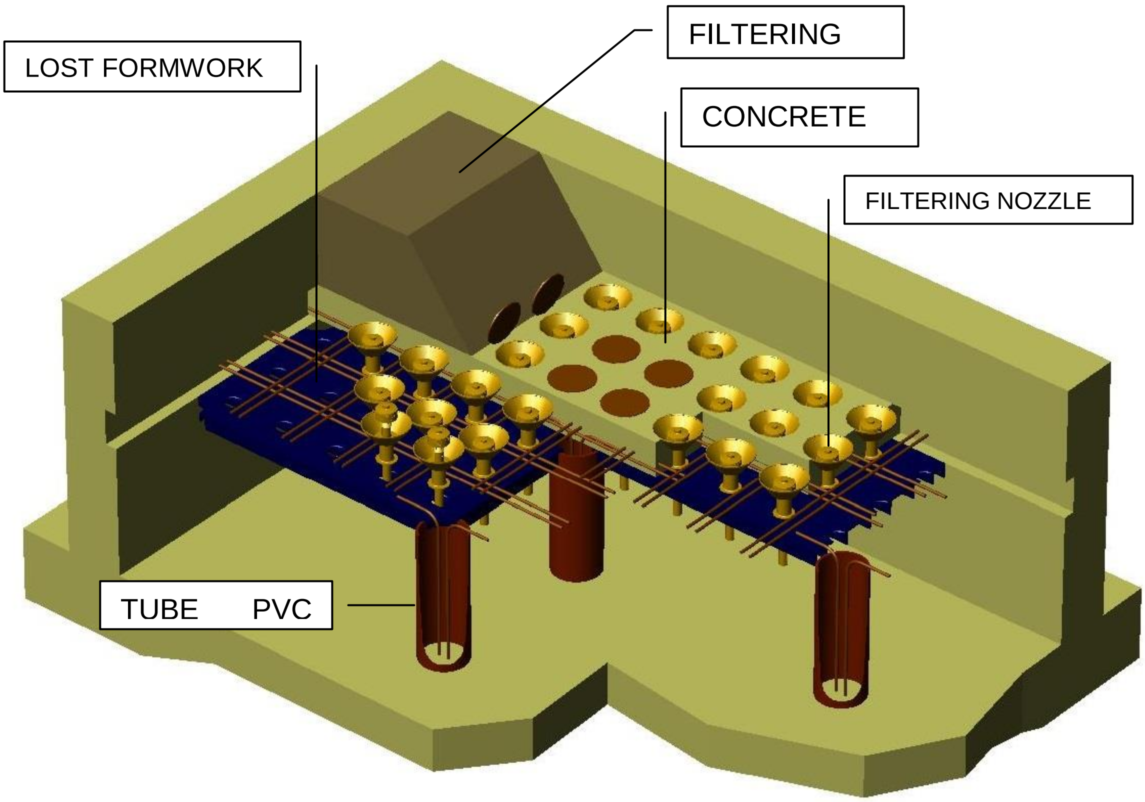
- Design analysis.
- Structural calculation report.

INTRODUCTION

Presentation

MONOLITHIC CONCRETE SLAB (FALSE CONCRETE BOTTOM) for filters is a lost formwork installed directly on the filtering box floor and over it a Monolithic Concrete Slab, steel reinforced, with filtering nozzles which easy and fast.

Construction principle



A filter with a MONOLITHIC CONCRETE SLAB (FALSE CONCRETE BOTTOM) has exactly the same working characteristics than a conventional filter (filtration velocity / backwash air / backwash water / highness / materials, types and density of filtering nozzles)

Its cost is cheaper than other False bottoms basically because of the optimization of the construction. Is interesting for all works of drinking water and it can be used in new facilities or for old plants revamping.

MONOLITHIC CONCRETE SLAB (FALSE CONCRETE BOTTOM) is particularly useful in revamping market.

- The False Concrete Bottom is, by conception easy to adjust to existent filter boxes in wide and length. This module capability allows adapting it at any filter shape.
- Its low high allows increasing the high of the filtering media without modifying total high. Is particularly interesting to change a sand filter into a combined or activated carbon bed.

- Is a False Bottom than can be visited according to the highness.

Monolithic Concrete Slab (False Concrete Bottom) meets the regulations relative to materials in contact with drinking water.

1 REFERENCES

Up to now, the Monolithic Concrete Slab (False Concrete Bottom) has been installed in a Drinking Water Plant and many essays have been made with optimal results.

Client	Filter	Flow (m^3/h)	Filtering Area (m^2)	Chanel	Beginning of operation
Plant Dique Lujan, Arg.	filtro “e”	28,80	1,20x2,00	lateral	2010
Bell Ville, Cba., Argentina	filtro “e”	216	21,60	frontal	2012
Plant Patagonia Bahía Blanca, Argentina	filtro “e”	4400	366	lateral	2013
Plant Gral. San Martín Sector “B”, Bs. As., Arg.	filtro “e”	20200	1686	lateral	2014
Rio Gallegos, Argentina	filtro “e”	1600	240	frontal	2014
Plant Juan M. de Rosas Ing. Maschwitz – Buenos Aires, Argentina	Aquazur	39000	3906	lateral	2014
Plant Granadero Baigorria. Rosario, Argentina	Aquazur	5400	538	lateral	2015
Concepción del Uruguay Entre Ríos, Argentina	filtro “e”	810	81	lateral	2015
Plant Rio Pipo, Ushuaia, Argentina	Aquazur	580	58	lateral	2015
Plant 28 de Julio, Chubut, Argentina	filtro “e”	100	16,4	lateral	2015
Plant 9 de Julio, Bs. As., Argentina	filtro “e”	600	108	frontal	2015

2 FILTERING NOZZLES.

2.1.1 Main features

At this time there is a model for the false bottom nozzles to which you can vary the passage slot if necessary. The measures available are 0.20, 0.30, 0.40 mm

- Backwash air. Unitary flow rate: 2,2 m^3/h per nozzle.
- Backwash water. Unitary flow rate: 0,28 a 0,8 m^3/h per nozzle.
- Slot of disks in nozzle heads: 0,3 mm.
- Circulating area in nozzle head: 371,24 mm^2

2.1.2 Operation

Nozzle Model		**BFP65**
Filtering media		Sand
Number per square meter	u	25
Nozzle self-cleaning		Yes
Nozzle self-purging		Yes
• Holes of air purge: - diameter - distance to installation surface	mm mm	2.2 30
Slots of air distribution during backwash. (63 x 1.25 mm)	u	1
Highness of air bed during backwash.	mm	approx. 90

3 ATTACHMENTS

- Design Analysis.
- Structural calculation report.