Toza India Pvt Enterprise

Dehradun – Uttarakhand
India – 248001
9758828989, 9058002121

Technical Details of BioFurnaX

www.SepticTank.in

WRITTEN BY ER P K GUPTA

DEHRADUN - UTTARAKHAND
9758828989, 9058002121

TECHNICAL DETAILS OF EmptiNil BioFurnaX - 51

As everyone is aware that disposal of human waste is a big challenge in developing countries, where large section of population is leaving in rural and small urban areas. Metropolitan and other big cities are too facing such problems due to lack of proper or completely absence of sewer systems. The challenge is increasing day by day as housing sector has shown significant growth during last few years. Available conventional systems like sewer treatment plant, Aeration Treatment Plants etc are too costly and many a times beyond resources of people in rural and urban communities.

There are number of solutions proposed by different experts, individuals, institutions and inventors for treatment and safe disposal of human excreta to overcome health hazards that can be caused by unsafe disposal practices. The popular sewer treatment and disposal systems are being adopted in India are conventional Brick made Septic Tank, Sewer Treatment Plants, Septic Tank made of one and half cement pipe and Sulabh Sauchalaya etc. CBRI – Roorkee has conducted a research on the subject and published a report in 1995 and compared all the systems as follows:

Sewage Treatment Plant – This is an expensive urban phenomenon. This needs huge investment, proper maintenance and care under the guidance of qualified staff to check that partially treated sewer is not passed to final disposal system to avoid any health hazard. In absence of care the system is useless.

Conventional Septic Tank – These are recommended for individual homes and re-cleaning at intervals is required. Sometimes people forget or avoid cleaning hence still scavengers required to perform the task. The underground soakage of large quantity of effluent may pollute sub soil water table.

Sulabh Sauchalaya – It has become popular due to its low cost. It has two soaking pits. One of leaching pit when filled is kept closed for one or two years before it is cleaned manually and residue which gets converted into manure is removed. CBRI – Roorkee and NEERI – Nagpur has recommended safe distance between leaching pits and drinking wells. CBRI – Roorkee recommends three leaching pits instead of two but this 3 pits system has not become popular because of its high cost.

Cement Made Septic Tank – The design is very old, developed may be on or before 1970 and generally people know it as Shankar Septic Tank. The effluent from this septic tank is discharged into open drain and it's claimed to be cheaper than conventional septic systems. As its very old design hence CBRI has recommended few improvements in it to enhance its efficiency but there is no one is available from Shankar Septic tank side to incorporate all these changes. *A test result by Roorkee University shown here in this document is of one and half cement pipe septic tank discussed above.*

EmptiNil BioFurnaX - 51 Readymade Septic Tank has incorporated all suggestions made by CBRI – Roorkee and improved its efficiency by increasing water volume, changing inter connection arrangement and attachment to effluent outlet pipe. We have made such arrangements that solid particles remain stable inside till partially anaerobic treatment and the system produce filtered effluent of good quality compare to one and half cement septic tank. The SeptiPure BioFurnaX can work better with dual soak pit system.

Working Principle of Conventional Septic Tank

In the areas where houses are spaced so far apart that a sewer treatment system would be too expensive to install or not possible to install commercially or geographically, people construct their own private treatment plants called Septic Tank. These private systems are useful for disposal of human waste like excreta in the areas or houses where public sewerage system is absent. In this situation the waste of the house can be disposed off through individual disposal system such as Septic Tank or Soak Pit etc. A conventional septic tank is simply a water tight big concrete, fiberglass or steel tank that is installed underground in yard of house.

Wastewater or sewage flows into the tank at one end and leaves tank at the other. Human excreta and other waste of the house come into septic tank and solid matters settle down at the bottom of the tank. Anything that floats rises to the top and forms a layer known as the **scum layer.** Anything heavier than water sinks to form the **sludge layer**. In the middle is called clear water layer. This body of water contains bacteria and chemicals like nitrogen and phosphorous that act as fertilizers and clear layer has less solid particles then scum or sludge.

A septic tank naturally produces gases caused by bacteria breaking down the organic material in the wastewater and these gases don't smell good. Anaerobic Bacteria convert the sewage into liquid and gases during the process of digestion. In this way there is reduction in the volume of waste and it changes into semi solid condition, which is called sludge as described above. Septic tank is covered with water tight top roof slab and generally constructed by brick masonry. As new water enters the tank, it displaces the water that's already there. This water flows out of the septic tank and seeps into a **drain field** or soakage pit connected to septic tank.

These conventional Septic Tanks have limitations and will provide unsatisfactory quality of the effluent and also face difficulty for providing proper disposal system of the effluent. It's not, sometime possible to construct brick made septic tanks due to soil conditions, like in high water table areas it become very difficult to construct such tanks. Conventional septic tanks have many challenges, few of them are listed:-

1 – Provides limited sewer treatment
2 – Bacteria get less time for digestion
3 – Untreated sewer comes out
4 – No arrangement for filtration
5 – Soak pit gets choked after few years of use
6 – Provides less retention time for treatment
7 – Takes more space and cannot be shifted

EmptiNil BioFurnaX - 51 Readymade Septic Tank innovated by us is an improved version of conventional septic tank and has eliminated all above said challenges and provides more clear effluent compare to conventional brick made septic tank. For best results it should be used with dual Soak Pit system. It's easy to install in any soil conditions, need minimum time, efforts and space to construct. The information of BioFurnaX has been discussed in detail at next page. Small deference can make big change; we have utilized this philosophy in our SeptiPure BioFurnaX design and modified the system for better results.

EmptiNil BioFurnaX - 51 Readymade Septic Tank

A larger part of population in developing countries like India has no widely adopted arrangement of safe sanitary disposal of human excreta. This is primarily responsible for human diseases like cholera, dysentery, gastroenteritis, worm and infections etc carried by contaminated food, water and ground soil. The urban and rural communities and other cities with less sewer lines need safe techniques for sewer disposal methods. EmptiNil BioFurnaX - 51 Readymade Septic Tank called Oxyless EmptiNil BioFurnaX - 51 Baffle Reactor innovated and installed by us is an improved and advance version of conventional septic tank and it is generally dual chambered unit; does not have any moving parts hence maintenance free, takes less space and little time to construct compare to other conventional brick made or other designs.

Many domestic and commercial septic tank designs are being used nowadays in our country where sewer lines do not exist; like three chamber brick made or RCC septic tank in deferent trade names. When we talk about Readymade or RCC pipe septic tank; the most common shape comes in people's mind that is circular one. The circular shape Septic Tank was developed long ago in 1970s and widely being used by many people. The circular shape septic system was tested by CBRI Roorkee in 1995 and they found some setbacks in the design and recommended some possible improvements to enhance its efficiency. A test result by Roorkee University of the same has been published here in this document.

As everyone knows that we live in technological age and technology is changing very fast so the septic tank design created on or before 1970 will not help in the present context hence we have improved the design as per the recommendation of CBRI Roorkee and innovated an Oxyless Baffle Reactor called EmptiNil BioFurnaX - 51 Readymade Septic Tank that is based on new features like SAM (Self Developed Strong Anaerobic Microorganism), inter connector, ACPC (Auxiliary Chamber cum Proficient Clarifier), Eco-T outlet and a UASC (Up flow Anaerobic Sludge Coverlet system) etc. These system work best with multi soak pits connected to septic tank.

First chamber works as settling tank, second acts as UASC and filter. We have incorporated more baffles, arrangements of solid retention from one chamber to another and filtration system. We have been in the business since 2000 and installing **EmptiNil BioFurnaX - 51 Readymade Septic Tank** in Dehradun (Uttarakhand) Delhi NCR and nearby areas. We have designs for small family to hundreds of people and the cost and details of our EmptiNil BioFurnaX - 51 Readymade Septic systems has been published at our websites mentioned here at top. Excavation, installation, supply of EmptiNil BioFurnaX - 51 Precasted Chambers and transportation cost are included. To know more about EmptiNil BioFurnaX - 51 visit our official websites mentioned at this document.

07 features and benefits of EmptiNil BioFurnaX - 51 Septic Tank:-

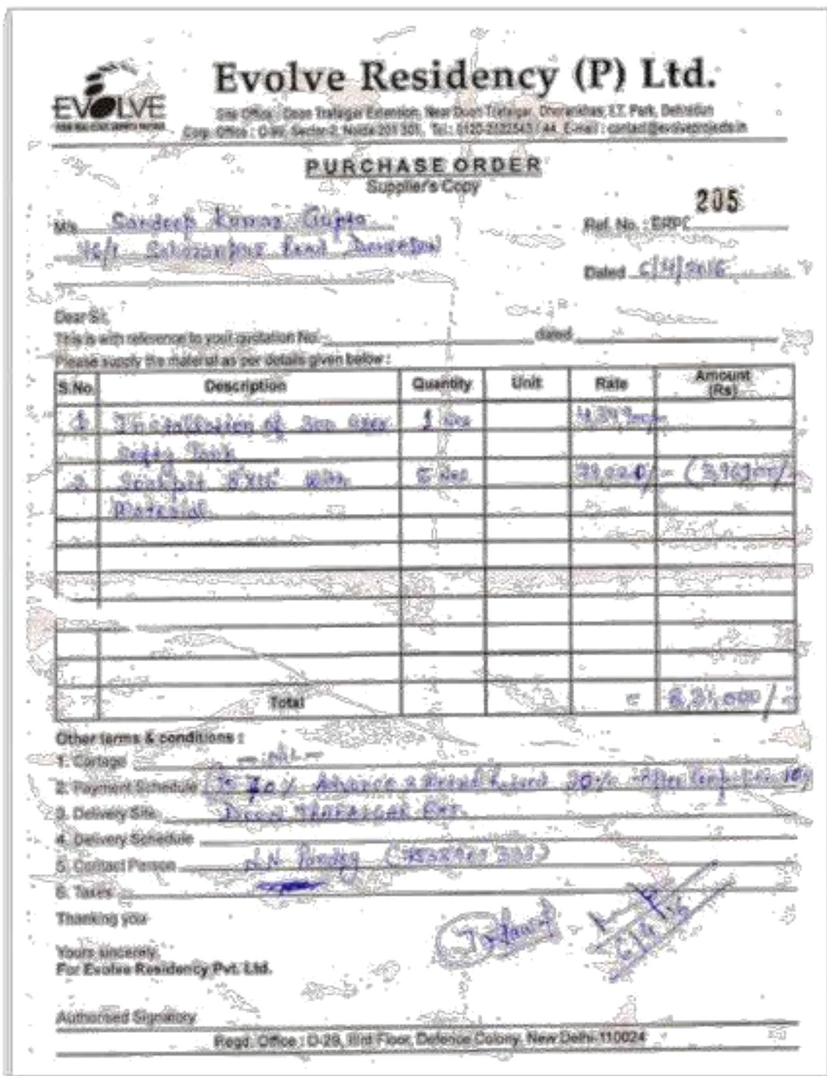
1 – No Need to Re-Clean as it is EverClean.
2 – Digest Everything - Flow Out Nothing.
3 – Compact design and can be shifted.
4 – All components are Precasted so takes little time to install.
5 – Based on up flow Anaerobic Microorganism.
6 – Install once and forget as Sludge is not accumulated inside the Septic Tank.
7 – EverClean Oxyless EmptiNil BioFurnaX - 51 works best with dual soak well system.

Comparison between Conventional & EmptiNil BioFurnaX

S.No.	Conventional Septic Tank	EmptiNil BioFurnaX
1	Has 01 to 05 chambers of Brick, Cement or plastic	It has Settling Chamber, Auxiliary cum Clarifier
2	Plenty of land and manpower is needed	Takes very little space due to its compact design
3	It cannot be shifted from one place to another	Shifting from one place to another is possible
4	It takes 10 to 15 days for septic tank construction	Takes very little time compare to conventional design.
5	Cost is high considering space & benefits	Cost wise it is reasonable considering the features
6	Capacity can't be increased if needed	Capacity can be increased by adding extra chambers
7	Re-cleaning is compulsory after few years of use	No Need to Re-Clean as It is completely EverClean
8	People avoid its construction due to limitations	Getting popularity because of its unique engineering
9	Because of its masonry leakage is possible	Very strong and heavy due to its RCC structure
10	Construction is impossible in high water table	Can be installed almost in any soil conditions
11	May damage house if constructed near building	No damage to building foundation
12	Designed and developed before 1970	Developed as per latest technological pattern
13	Particles may travel from one to another chamber	Unique attachment stops particles
14	Filtration arrangement has not been attached	Filter is attached to outlet for final filtration
15	Up flow Sludge blanket Technology is absent	UASC technology has been adopted for filtration
16	Round shape Septic system called Shankar Balram Septic Tank was tested by CBRI - Roorkee & found setbacks as follows: **A.** Modification is needed in outlet connection **B.** No Arrangements for effluent dilution **C.** Up flow filtration should be used for treatment	BioFurnaX - 51 is based on latest trend & technology and following advancements have been made to enhance its efficiency: **A.** Outlet has been modified as per advice **B.** Arrangement is present for dilution **C.** Filtration arrangement has been attached

Our few clients ....

Graphic Era University, Dehradun
Hotel Madhuban, Dehradun
Hotel Him Place, Dehradun
Doon Valley Public School, Dehradun
Indian Public School, Dehradun
Hope Town School, Selaqui – Dehradun
Many students Hostels
Opp Sun Park inn Multi story Housing Building
Trafalgar Housing Society
Industrial Area, Selaqui – Dehradun
Steel Factory – Sikandrabad
Thousands of small units for home owners



Evolve Residency (P) Ltd.

PURCHASE ORDER
Supplier's Copy

205

M/s. Sandeep Kumar Gupta [illegible] Road, Dehradun
Ref. No. : ERPL
Dated [illegible]

Dear Sir,
This is with reference to your quotation No. ______ dated ______
Please supply the material as per details given below :

S.No.	Description	Quantity	Unit	Rate	Amount (Rs)
1	Installation of [illegible] Septic Tank	1 Nos		[illegible]	
2	[illegible] with Material	5 Nos		[illegible]	[illegible]
	Total				[illegible]

Other terms & conditions :
1. Cartage – Nil –
2. Payment Schedule [illegible]
3. Delivery Site Doon Trafalgar Ext.
4. Delivery Schedule
5. Contact Person [illegible]
6. Taxes

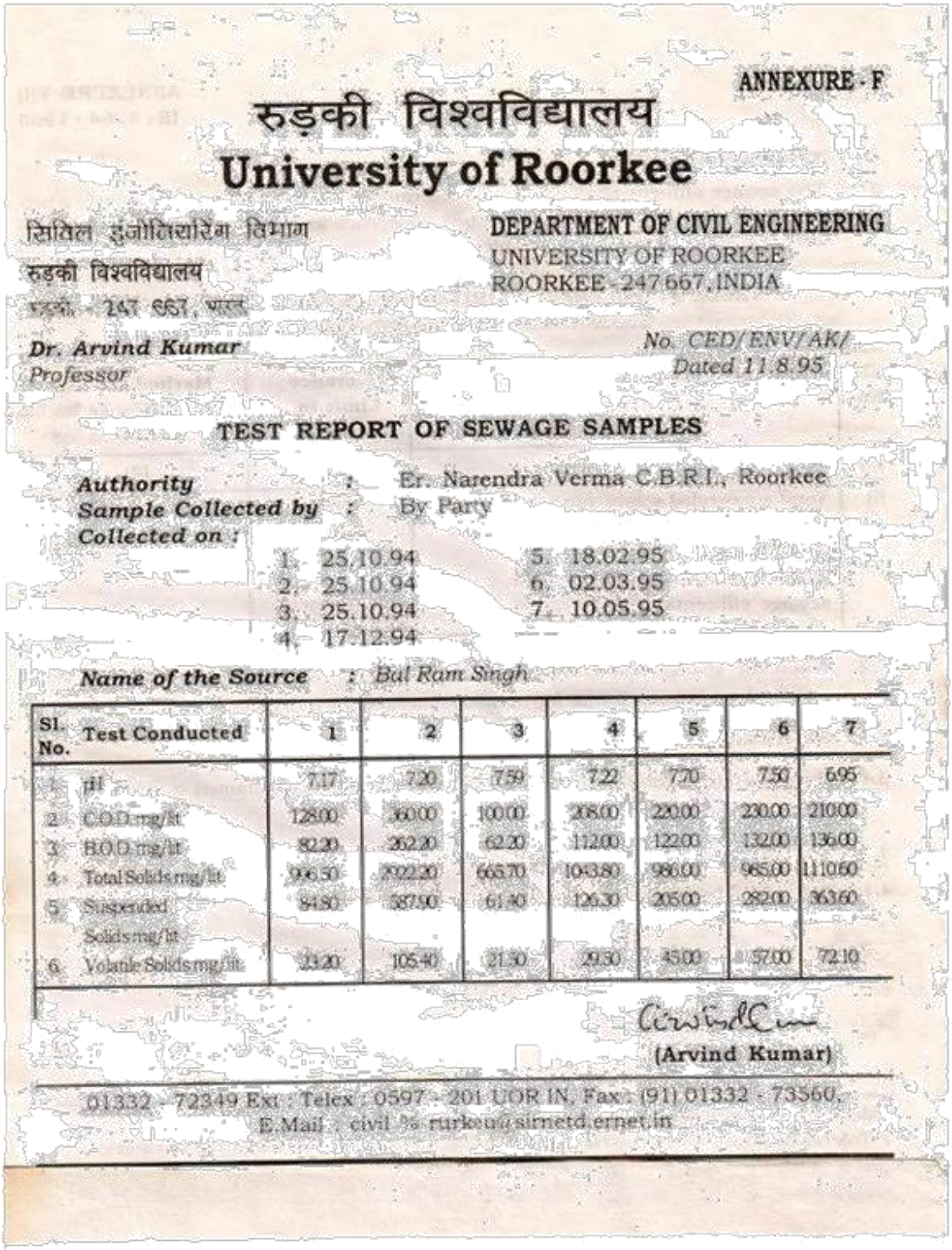
Thanking you

Yours sincerely,
For Evolve Residency Pvt. Ltd.

Authorised Signatory

Regd. Office : D-28, IIIrd Floor, Defence Colony, New Delhi-110024

Test Report



ANNEXURE - F

रुड़की विश्वविद्यालय

University of Roorkee

सिविल इंजीनियरिंग विभाग
रुड़की विश्वविद्यालय
रुड़की - 247 667, भारत

DEPARTMENT OF CIVIL ENGINEERING
UNIVERSITY OF ROORKEE
ROORKEE - 247 667, INDIA

Dr. Arvind Kumar
Professor

No. CED/ENV/AK/
Dated 11.8.95

TEST REPORT OF SEWAGE SAMPLES

Authority : Er. Narendra Verma C.B.R.I., Roorkee
Sample Collected by : By Party
Collected on :

1. 25.10.94
2. 25.10.94
3. 25.10.94
4. 17.12.94
5. 18.02.95
6. 02.03.95
7. 10.05.95

Name of the Source : *Bal Ram Singh*

Sl. No.	Test Conducted	1	2	3	4	5	6	7
1.	pH	7.17	7.20	7.59	7.22	7.70	7.50	6.95
2.	C.O.D. mg/lt.	128.00	60.00	100.00	208.00	220.00	230.00	210.00
3.	B.O.D. mg/lt.	82.20	262.20	62.20	112.00	122.00	132.00	136.00
4.	Total Solids mg/lt.	996.50	2922.20	665.70	1043.80	986.00	985.00	1110.60
5.	Suspended Solids mg/lt.	84.80	387.90	61.30	126.30	205.00	282.00	363.60
6.	Volatile Solids mg/lt.	23.20	105.40	21.30	29.30	45.00	57.00	72.10

(Arvind Kumar)

01332 - 72349 Ext : Telex : 0597 - 201 UOR IN, Fax : (91) 01332 - 73560,
E.Mail : civil @ rurkeeu@sirnetd.ernet.in

Note – Above tests were conducted by Roorkee University with one and half chambered Septic Tank. Now we have improved the old design and enhanced its efficiency and promoting it as EmptiNil BioFurnaX - 51

Our Others Services …

Rainwater Harvesting –

Rainwater harvesting is a technique of collection, ground water recharge and storage of rainwater into natural reservoirs or tanks. Method is used for infiltration of surface water into subsurface aquifers before it is lost. One method of rainwater harvesting is rooftop harvesting in domestic or commercial buildings. With rooftop harvesting, most any surface tiles, metal sheets, plastics, but not grass or palm leaf can be used to intercept the flow of rainwater and provide a household with high-quality drinking water and year-round storage. Other uses include water for gardens, livestock, and irrigation, etc. Rain water Harvesting should be mandatory for house owners and other types of buildings to retain, recharge and reuse In India. Tamil Nadu is the first Indian state to make rainwater harvesting mandatory. The harvested water can also be used as drinking water, longer-term storage and for other purposes such as groundwater recharge

We design simple yet effective Rainwater harvesting systems in Dehradun with minimal skills to automated systems that require advanced setup and installation. Our Systems are ideally sized to meet the water demand throughout the dry season since these are big enough to support daily water consumption. We design and construct water storage tank as per customer need to store rain water. For rainwater harvesting systems we use latest and simple methods to capture rainwater from rooftop, surface water or any other catchment areas. Before a rainwater harvesting system is built, it's helpful to call an expert like us for proper construction activities. If you need to estimate how much water is needed to fulfill a community's water needs our expert team may help. We can save time and money and build a project for long time use.

Water Tank Cleaning –

Do you know that more than 80% of the India's businesses and homes have private water tanks which are susceptible to contamination? Water and Water Storage is a basic requirement of life for day-to-day activities related to domestic and commercial work like bathing, cooking, washing and other industrial uses. In order to avoid an increase in dangerous bacteria and subsequent contamination, it is essential that all water tanks and their connected parts are maintained in good clean working order. Water Storage Tanks should be cleaned at least thrice annually for safety of individual health. At OrgaClean Pvt Enterprise, we ensure that our clients receive a schedule of works in order to make appropriate arrangements while Water Tanks are being cleaned and treated. We offer the full range of hygiene services from cleaning of water tank to other types of tanks like Septic Systems. After many years of experience, we have finally created OrgaClean Pvt Enterprise.

Having over the years seen the terrible condition that most drinking water tanks are in and people don't have time to clean the same; we felt that our unique system based on micro organism should be made more widely available to the general population of Dehradun - India. We soon will organize a License Agreement or franchisee system, which will allow us to set up business opportunities for suitable applicants from all walks of life in rest of India. Our domain of services includes Water Tank Cleaning in Dehradun, Overhead Tank Cleaning, Underground Tank Cleaning, Swimming Pool Cleaning, EmptiNil BioFurnaX - 51 Septic Tank Installation in Dehradun, Roorkee, Haridwar, Rishikesh, Noida, Ghaziabad, Delhi, Gurgaon, Faridabad, Agra and Mathura, Soak Pit and Septic Tank Construction in Dehradun, Yamunanagar, Ambala, Chandigarh, Shimla and Solan etc.

Government of India
Ministry of Commerce & Industry
Department of Industrial Policy & Promotion
Controller General of Patents Design & Trade Marks
Public Search of Trade Marks

Class Details | Well Known Marks | Prohibited Marks | Vienna Code Classification | International Non Proprietary Names(INN) | Help

COMPUTER GENERATED TM-SEARCH REPORT

Search Criteria : Wordmark	Search String : SeptiPure	Class : 11	Search Date : 30-Jun-2016

APPL. NO	CLASS	CONFLICTING MARK	JOURNAL No	PROPRIETOR NAME	PROPRIETOR ADDRESS	STATUS	Image
3240675	11	SeptiPure	—	LALTESH GUPTA	16, Bhagirathipuram, Engineers Enclave Extension, Near Tara Academy, G M S Road, Dehradun Pass - 248001, Uttarakhand	Formalities Chk	

APPLICATION DATE : 21/04/2016 USER DATE :

GOODS SERVICES: SANITARY INSTALLATIONS, WATER SUPPLY AND SANITATION EQUIPMENT, WATER INTAKE APPARATUS, WATER CONDUITS INSTALLATIONS, WATER SUPPLY INSTALLATIONS, WATER PURIFICATION, PURIFICATION INSTALLATIONS FOR SEWAGE, FLUSHING TANKS, SANITARY APPARATUS AND INSTALLATIONS

Print Report | Next Search | Back to Report

Government of India
Ministry of Commerce & Industry
Department of Industrial Policy & Promotion
Controller General of Patents Design & Trade Marks
Public Search of Trade Marks

Class Details | Well Known Marks | Prohibited Marks | Vienna Code Classification | International Non Proprietary Names(INN) | Help

Total No Of Matching Marks : 1 | INP Records Found : 0 | Search Type : Wordmark

Click on Show Details to display

International Non-Proprietary Names(INN)

No Record found

Matching Trademark(s)

SL No.	Document	Image
1	Wordmark: SeptiPure Proprietor: LALTESH GUPTA Application Number: 3240675 Class / Classes: 11 Status: Formalities Chk Pass Show Details	

Record No. : 1 | Application Number : 3240675

Word Mark	SeptiPure
Appl. No.	3240675 Class : 11
Appl. Date	21/04/2016
Proprietor	LALTESH GUPTA
Journal No.	- Journal Date :
Status	Formalities Chk Pass
Used Since	Valid Upto :
Goods & Services Description	SANITARY INSTALLATIONS, WATER SUPPLY AND SANITATION EQUIPMENT, WATER INTAKE APPARATUS, WATER CONDUITS INSTALLATIONS, WATER SUPPLY INSTALLATIONS, WATER PURIFICATION, PURIFICATION INSTALLATIONS FOR SEWAGE, FLUSHING TANKS, SANITARY APPARATUS AND INSTALLATIONS

Cost of **EmptiNil BioFurnaX – 51** Readymade Septic Tank

Our Scope of Work: - Excavation, Supply and Installation of Pre-casted EmptiNil BioFurnaX - 51 Readymade Septic Tank's chambers in parts with 4" diameter, 6" long inlet / outlet connection and round shape RCC covers are in our scope of work. Any other work like Plumbing, Flooring, extra soil removal, Soak Pit, sewer pipe lines etc, main hole chambers, local transportation of **EmptiNil BioFurnaX – 51** Readymade Septic Tank System, required material for construction like cement, sand, steel etc, other civil and sanitary work not included. Water filling inside tank for hydro testing shall be arranged by customer. Rates have been quoted for normal soil. For hard rock or watery conditions rates shall be quoted extra.

S. No	Uses	Cost in Dehradun / Unit	Cost in other Cities / Unit	Remarks
1	15	39900/-	49900/-	Including excavation, fitting, supply
2	30	69900/-	89900/-	Including excavation, fitting, supply
3	50	99900/-	119900/-	Including excavation, fitting, supply
4	75	139900/-	169900/-	Including excavation, fitting, supply
5	100	209900/-	253900/-	Including excavation, fitting, supply

For Big size septic tank project, multiple units may be used like for 500 uses, 05 units of 100 uses shall be installed

Other relevant Details: - The RCC round shape chambers of EmptiNil BioFurnaX - 51 Readymade septic tank of required capacity shall be supplied in parts. Complete fitting and other connections like inlet / outlet and center connections shall be done at site after exact measurement of levels. Sealing of tank bottom and top covers shall also be prepared at site during installation work. Users / customers need to fill these Readymade Septic tanks with water completely before use and always maintain water at full level as the operation / working of this system is water based. Before signing this agreement; it has been made clear to customer / client that EverClean warrantee is valid if other houses hold waste water like bathroom etc passed through filtration tank and outlet connection of this tank is connected to running drain. If drain is absent then multi soak well system shall be constructed and used alternatively and separate drainage system shall be developed for other household like bathroom/kitchen water. The inlet / center / outlet path of septic tank should be kept clear always by customer / user to achieve its full effectiveness.

Thank You

Toza India Pvt Enterprise

227 - Neelkanth Complex,
43 - Rajpur Road,
Dehradun – 248001
Uttarakhand (INDIA)
Email – info@SepticTank.in

Phone No: 9758828989, 9058002121

Other Websites

www.SewerTank.com
www.SoakPit.com
www.SkyJal.com
www.HarvestRainwater.in
www.EarningIdea.com
www.AutoCleanSepticTank.com