

**Environmental Management Plan**

**EMP Compliance attached for EC: J11011/949/2008-IA II**

**Dated : 17<sup>th</sup> March, 2009**

S.No	Condition	Complied Status
	<b>Air Environment</b>	
1	Chrysotile Fiber, Fly ash, Cement and other additives will be used as raw materials.	We use the following as our raw material Cement, Fly ash, Chrysotile fibre and other additives.
2	Raw materials like asbestos fibre and cement shall be transported in closed containers.	a) Our Raw material asbestos fiber is being packed in impermeable bags and is being transported in closed container only b) Another Raw material cement and fly ash is being transported in bulker/ Closed containers only.
3	Asbestos fibre shall be brought in palletized form in impermeable bags and under compressed condition.	Asbestos fibre is brought in palletized form and packed in impermeable bags under compressed condition. Photos enclosed for your kind information. (Annexture I)
4	There shall be no manual handling/opening of asbestos fiber bags. The Unit shall install fully automatic asbestos fiber debagging system before commissioning the unit.	We have fully automatic fibre bag opening device, where in all our fibers are opened and processed in closed condition.
5	Bag filters followed by wet washer shall be provided at automatic bag opening machine, bag shredder and fiber mill to collect the dust and recycle into the process.	We have a dust collector with bag filter connected to bag opening machine as a process with wet washer, shredder and Edge runner mill to collect the dust and recycle into the process.
6	Bag filters will be provided to stacks attached to cement/fly ash circuit, fiber circuit and rejected sheet and pipes pulverizer, silo of cement & fly ash.	We have dust collectors with bag filter attached to Cement/fly ash circuit, fiber circuit and Pulverizer machine. Also we have bin filters attached to our raw material Silos to collect all dust and recycle into the process.
7	Dust extraction and dust suppression system shall be provided to all transfer points.	We have dust extraction hood connected to all raw material transfer points and the same is connected to the dust collectors.
8	All efforts shall be undertaken to maintain the SPM emission levels from the main stacks within 20mg/Nm <sup>3</sup> .	All our stacks are being maintained and measured at regular frequency by PCB approved third party. Fiber mill stack - <2mg/Nm <sup>3</sup> , Cement/fly ash stack - <50mg/Nm <sup>3</sup> , DG Set stack - < 50mg/Nm <sup>3</sup> (Annexure II)
9	Asbestos emissions due to storage, transportation, etc. and spillages shall be continuously monitored and controlled as per CPCB Norms & Guidelines.	Asbestos fiber emission at stack and workplace are being monitored by in house every month and third party every six months and found to be well within norms of 0.1f/cc at workplace and 0.2f/cc at fiber stack. Emission report for the same is enclosed for your kind reference. (Annexture III)

10	The unit shall adhere to the prescribed BIS standards and laws regarding use and handling of asbestos, safety of employees etc.	The raw materials are transported in closed containers. Asbestos is brought in impermeable bags under compressed conditions, stretch wrapped with polythene covers. These are stacked in wooden pallets and are handled with fork lift only and no manual handling is involved.
11	The periodical evaluation for the efficiency performance of Bag filters shall be carried out.	Manometers are connected to all our dust collectors and same are monitored daily for efficiency of Dust Collectors. (Annexure IV)
12	Rejected and broken sheets along with bag filter dust shall be reused in the manufacturing process.	We have pulverizer machine to powder the rejected and broken sheets and the same will be consumed in the process along with dust collected from bag filter.
13	All the internal roads shall be concreted and black topped to reduce fugitive emissions.	All our internal roads are made with concrete and black topped, there by no dust emissions due to vehicle movement.
14	Periodical Monitoring Reports on Ambient Air Quality, Stack Emissions, Fugitive emissions, Noise Levels, etc. Shall be submitted to the Statutory Authorities.	All our Periodic monitoring reports on air quality, Stack emission & noise levels are submitted once in 3 months to the board.
	<b>Noise Levels</b>	
1	All rotating items are well lubricated and provided with enclosures as far as possible to reduce noise termination.	All our rotating parts are lubricated and provided with safety guards to minimise noise levels.
2	Extensive vibration monitoring systems are provided to check and reduce vibrations.	All our machines are subjected to preventive maintenance once in a fortnight and ensure repaired parts are changed to ensure no vibrations.
3	Provisions of silencers are made wherever possible.	We have provided silencers for all noise generating equipment.
4	Green Belt will also act as noise reducers.	We have developed more than 33% of greenbelt in our factory area.
5	Proper lubrication and house keeping are maintained to avoid excessive noise generation.	Housekeeping work is being carried out on a daily basis.
	<b>Water Environment</b>	
1	No waste water discharge from the Plant and Zero Discharge practice shall be adopted.	All our process waste water are 100% reused in our process itself and thereby we adopt Zero discharge system in our Plant.
2	Water control measures shall be undertaken.	We take water from SIPCOT for our daily usage. We have water meter to monitor usage on a continuous basis. Also we have adopted water disposal measures of domestic waste water are connected to septic tank, followed by soak pit.
3	The domestic sewages shall be treated in a septic tank so as to meet the TNPCB	Domestic waste water generation is very low hence, all our domestic sewages are connected to septic tank, followed by soakpit.

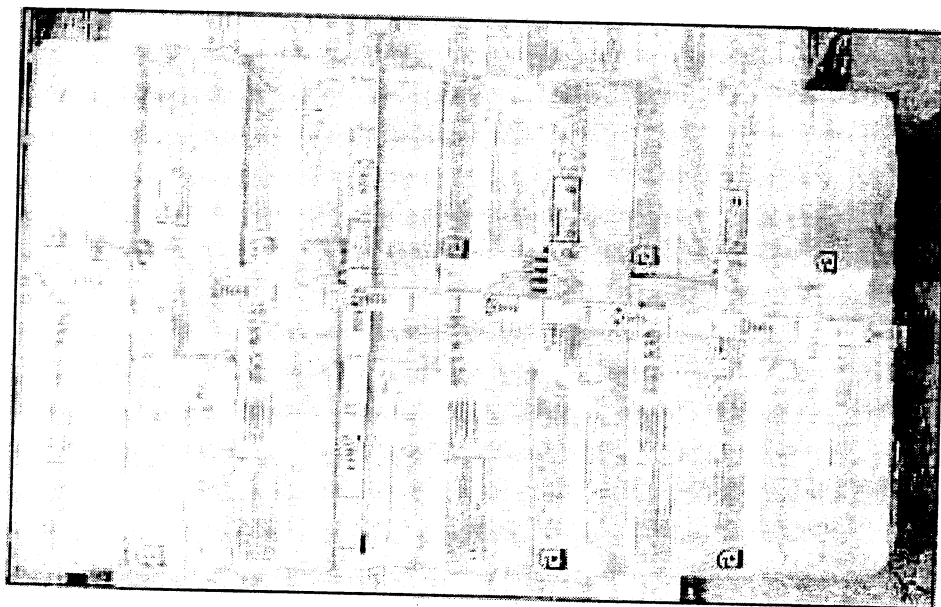
	Discharge Norms and the treated sewage shall be used for Green Belt.	
4	No percolation of treated sewage to the ground water table shall be done.	Our domestic waste water generation is very minimal. The domestic waste water is generated mainly from three points, Restroom near factory, Administrative building and Canteen. Since all the above points are being generated from different place, the per hour discharge from each point will be very minimal. This quantity is very minimal and we are having 3 separate septic tank to handle. There is no possibility of sewage percolating to the ground.
5	Periodical monitoring of Raw & Treated Sewage shall be undertaken for the TNPCB Consent Norms.	Domestic waste water generation is very low hence, all our domestic sewages are connected to septic tank, followed by soak pit.
6	Rain Water Harvesting shall be undertaken as proposed from the Roof Tops of Plant to supplement the raw water supply.	We have provided 2 nos of rain water harvesting structure where all the run offs rain water will be harvested. Photos of the same enclosed. (Annexure V)
	<b>Land Environment</b>	
1	Dust collected from various Air Pollution Control Measures like Bag Filters etc. are totally recycled in the process.	Dust collected from dust collectors are consumed along with raw materials in the process on a daily basis.
2	No solid wastes/hazardous wastes generation from the plant.	There is no solid/Hazardous waste generation from the plant as all our process wastes are completely recycled back into the process.
	<b>Green Belt</b>	
1	An effective Green Belt of about 33% of the total area shall be maintained with trees of local species having a thick canopy cover.	We have provided 33% of the total area for green belt development. Local species and trees are planted all across the plant premises.
2	The treated sewage shall be used fully for the Green Belt development.	We are Utilising all our treated domestic waste for the development of green belt
3	A mixture of fruit , fuel, fodder and quick growing timber tree saplings, predominantly local flora/vegetations shall be preferred by keeping in view the agro-ecological and edaphic conditions of the areas.	Following are the list of trees & Plants developed for green belt. (Annexure VI)
4	Green Belt maintenance contract may be awarded to the Women Self Hel Groups and Local Panchayats of the nearby villages.	We have provided manpower from nearby area for the maintenance of green belt.

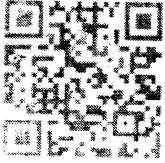
For **Ramco Industries Limited**

  
(T. Vijayakumar)

Deputy General Manager

**Impermeable bag compressed condition**



**TEST REPORT**

Accredited by NABL ( Chemical &amp; Biological )

Report No :	ECI-SM-2024/03/008	Report Date :	08.03.2024
Customer Name & Address	M/s. Ramco Industries Ltd Plot No.12A, Sipcot Industrial Growth Centre Gangaikondan Tirunelveli Dist-627352		
Customer Reference :	IWO Date: 04/03/2024	Sample Reference No :	ECI-SM-2024/03/008
Sample Drawn By :	ECI	Sample Received On :	05.03.2024
Sample Collected Date :	04.03.2024	Test Commenced On :	05.03.2024
Qty of Sample Received :	Thimble & 50 ml Soln	Test Completed On :	08.03.2024
Sample Description :	Stack	Sampling Method :	IS 11255 :Part 01
Sample Mark:	Fibre Mill Dust Collector - (Chimney)		

**Stack Details:**

S. No	Details	Unit	Value
1	Port hole Height from G Level	m	5.0
2	Stack Diameter at port hole	m	0.35
3	Stack Height from G Level	m	26.0
4	Ambient Temperature	°C	32

S. No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Max. Permissible TNPCB norms for General Emission Standards
1	Stack Temperature	°C	111	IS 11255 Part 03	NA
2	Carbon dioxide (as CO <sub>2</sub> )	% (v/v)	< 0.2	IS 13270	NA
3	Carbon Monoxide (as CO)	% (v/v)	< 0.2	IS 13270	1.0
4	Flow rate	Nm <sup>3</sup> /hr	2584	IS 11255:Part 03	NA
5	Flue Gas velocity	m/sec	9.4	IS 11255:Part 03	NA
6	Oxides of Nitrogen (as NO <sub>x</sub> )	mg/Nm <sup>3</sup>	< 1.0	IS 11255:Part 07	NA
7	Particulate Matter (PM)	mg/Nm <sup>3</sup>	1.8	IS 11255:Part 01	2.0
8	Sulphur Dioxide (as SO <sub>2</sub> )	mg/Nm <sup>3</sup>	< 1.0	IS 11255:Part 02	NA

**Opinion :** In the above mentioned Parameter meets the requirements of TNPCB standards  
NA - Not Applicable.

&lt;--- End of Report ---&gt;

Verified By			For ENVIRO CARE INDIA PRIVATE LIMITED (Laboratory Division) 
-------------	--	--	--

#43, 2nd Street, Harvey Nagar, Arasaradi, Madurai - 625016 / Tel: 0452 4355103  
Email: lab@envirocareindia.com | Web: www.envirocareindia.com

- Note:**
- The results relate only to this item tested.
  - Any Correction not attested shall invalidate this report.
  - Report shall not be reproduced anywhere except in full and in the same format without the permission of the laboratory.
  - Unless informed by customer, the test items will not be retained for more the 15 days from date of issue of test report.
  - Total liability of our laboratory is limited to the invoice amount.
  - Any dispute arising out of this report is subjected to Madurai Jurisdiction Only.





# TEST REPORT

Accredited by NABL ( Chemical & Biological )

Report No :	ECI-SM-2024/03/007	Report Date :	08.03.2024
Customer Name & Address	M/s. Ramco Industries Ltd Plot No:12A, Sipcot Industrial Growth Centre Gangaikondan Tirunelveli Dist-627352		
Customer Reference :	IWO Date: 04/03/2024	Sample Reference No :	ECI-SM-2024/03/007
Sample Drawn By :	ECI	Sample Received On :	05.03.2024
Sample Collected Date :	04.03.2024	Test Commenced On :	05.03.2024
Qty of Sample Received :	Thimble & 50 ml Soln	Test Completed On :	08.03.2024
Sample Description :	Stack	Sampling Method :	IS 11255 :Part 01
Sample Mark:	Cement Fly Storage (Chimney)		

**Stack Details:**

S. No	Details	Unit	Value
1	Port hole Height from G Level	m	5.0
2	Stack Diameter at port hole	m	0.35
3	Stack Height from G Level	m	23.5
4	Ambient Temperature	°C	32

S. No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Max. Permissible TNPCB norms for General Emission Standards
1	Stack Temperature	°C	57	IS 11255:Part 03	NA
2	Carbon dioxide (as CO <sub>2</sub> )	% (v/v)	< 0.2	IS 13270	NA
3	Carbon Monoxide (as CO)	% (v/v)	< 0.2	IS 13270	1.0
4	Flow rate	Nm <sup>3</sup> /hr	2923	IS 11255:Part 03	NA
5	Flue Gas velocity	m/sec	9.1	IS 11255:Part 03	NA
6	Oxides of Nitrogen (as NO <sub>x</sub> )	mg/Nm <sup>3</sup>	< 1.0	IS 11255:Part 07	NA
7	Particulate Matter (PM)	mg/Nm <sup>3</sup>	35.8	IS 11255:Part 01	50
8	Sulphur Dioxide (as SO <sub>2</sub> )	mg/Nm <sup>3</sup>	< 1.0	IS 11255 Part 02	NA

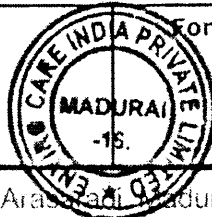
**Opinion :** In the above mentioned Parameter meets the requirements of TNPCB standards  
NA - Not Applicable.

<--- End of Report --->

For ENVIRO CARE INDIA PRIVATE LIMITED  
(Laboratory Division)

Verified By

*S. d.*



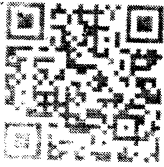
Authorized Signatory

*Domie*

#43, 2nd Street, Harvey Nagar, Arasikudi, Madurai - 625016 Tel: 0452 4355103  
Email: lab@envirocareindia.com | Web: www.envirocareindia.com

- Note:**
1. The results relate only to this item tested.
  2. Any Correction not attested shall invalidate this report.
  3. Report shall not be reproduced anywhere except in full and in the same format without the permission of the laboratory.
  4. Unless informed by customer, the test items will not be retained for more the 15 days from date of issue of test report.
  5. Total liability of our laboratory is limited to the invoice amount.
  6. Any dispute arising out of this report is subjected to Madurai Jurisdiction Only.





# TEST REPORT

Accredited by NABL ( Chemical & Biological )

Report No :	ECI-SM-2024/03/010	Report Date :	08.03.2024
Customer Name & Address	M/s. Ramco Industries Ltd Plot No.12A, Sipcot Industrial Growth Centre Gangaikondan Tirunelveli Dist-627352		
Customer Reference :	IWO Date: 04/03/2024	Sample Reference No :	ECI-SM-2024/03/010
Sample Drawn By :	ECI	Sample Received On :	05.03.2024
Sample Collected Date :	04.03.2024	Test Commenced On :	05.03.2024
Qty of Sample Received :	Thimble & 50 ml Soln	Test Completed On :	08.03.2024
Sample Description :	Stack	Sampling Method :	IS 11255 :Part 01
Sample Mark:	DG 750 KVA - (Chimney)		

**Stack Details:**

S. No	Details	Unit	Value
1	Port hole Height from G Level	m	5.0
2	Stack Diameter at port hole	m	0.30
3	Stack Height from G Level	m	15.0
4	Ambient Temperature	°C	32

S. No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Max. Permissible TNPCB norms for General Emission Standards
1	Stack Temperature	°C	186	IS 11255:Part 03	NA
2	Carbon dioxide (as CO <sub>2</sub> )	% (v/v)	0.5	IS 13270	NA
3	Carbon Monoxide (as CO)	% (v/v)	0.3	IS 13270	1.0
4	Flow rate	Nm <sup>3</sup> /hr	1807	IS 11255:Part 03	NA
5	Flue Gas velocity	m/sec	10.7	IS 11255:Part 03	NA
6	Oxides of Nitrogen (as NO <sub>x</sub> )	mg/Nm <sup>3</sup>	30.5	IS 11255:Part 07	NA
7	Particulate Matter (PM)	mg/Nm <sup>3</sup>	38.2	IS 11255:Part 01	50
8	Sulphur Dioxide (as SO <sub>2</sub> )	mg/Nm <sup>3</sup>	11.4	IS 11255:Part 02	NA

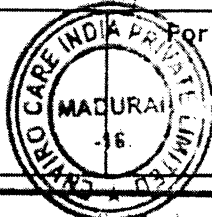
**Opinion :** In the above mentioned Parameter meets the requirements of TNPCB standards  
NA – Not Applicable.

<--- End of Report --->

For ENVIRO CARE INDIA PRIVATE LIMITED  
(Laboratory Division)

Verified By

*S. d.*



*[Signature]*

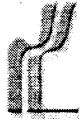
Authorized Signatory

#43, 2nd Street, Harvey Nagar, Arasaradi, Madurai - 625016 Tel: 0452 4355103  
Email: lab@envirocareindia.com | Web: www.envirocareindia.com

**Note: 1.** The results relate only to this item tested.

- Any Correction not attested shall invalidate this report.
- Report shall not be reproduced anywhere except in full and in the same format without the permission of the laboratory.
- Unless informed by customer, the test items will not be retained for more the 15 days from date of issue of test report.
- Total liability of our laboratory is limited to the invoice amount.
- Any dispute arising out of this report is subjected to Madurai Jurisdiction Only.





# RAMCO INDUSTRIES LIMITED

**Assistant General Manager Production,  
Ramco Industries Limited,  
SIPCOT Industrial Area,  
Gangaikondan,  
TIRUNELVELI, Tamil Nadu.**

Arakkonam

Date: 29.03.2024

We are giving below the count report of fibre dust samples received from Gangaikondan factory for the month of March 2024.

Ref.No.	Date of sampling	Location	S/P	Flow Rate (ml/min)	Sampling duration (min)	Fibre Count (nos)	Fibre concentration (f/cc)
1	02.03.2024	ASBESTOS STORAGE GODOWN	S	1000	240	10	0.022
2	01.03.2024	BAG OPENING DEVICE / ERM	P	1000	240	12	0.026
3	05.03.2024	SLURRY MIXER	S	1000	240	7	0.015
4	08.03.2024	SHEETING MACHINE	P	1000	240	6	0.013
5	10.03.2024	CORRUGATOR	P	1000	240	8	0.018
6	04.03.2024	MOULDING AREA	P	1000	240	6	0.013
7	01.03.2024	LABORATORY	P	1000	240	#	#
8	06.03.2024	LOADING AREA	S	1000	240	8	0.018
9	03.03.2024	NEAR MAIN GATE(OUT SIDE)	S	1000	240	5	0.011
10	07.03.2024	SEGREGATION	P	1000	240	8	0.018
11	03.03.2024	SALVAGE	S	1000	240	7	0.015
12	06.03.2024	PULVERIZER	P	1000	240	9	0.020

Remarks:-

\*P-Personal

\*S-Static

# Un able to process

for S. Jayar

SENIOR MANAGER QUALITY

Hard copy of report along with sample boxes will be sent through courier





# RAMCO INDUSTRIES LIMITED

Assistant General Manager Production,  
Ramco Industries Limited,  
SIPCOT Industrial Area,  
Gangaikondan,  
TIRUNELVELI, Tamil Nadu.

Arakkonam

Date: 29.03.2024

We are giving below the count report of fibre dust samples received from Gangaikondan factory for the month of March 2024.

Ref.No	Date of sampling	Location	Sampling status	Duration in minutes	Volume of Air in CC/Min	No of Fibres	Fibre Concentration (F/CC)
13	04.03.2024	Fiber De-Stack	*	10	10000	4	0.0212
14	04.03.2024	Pulverizer De-Stack	*	10	10000	3	0.0159

Remarks:-

\*P-Personal

\*S-Static

# Un able to process

Hard copy of report along with sample boxes will be sent through courier

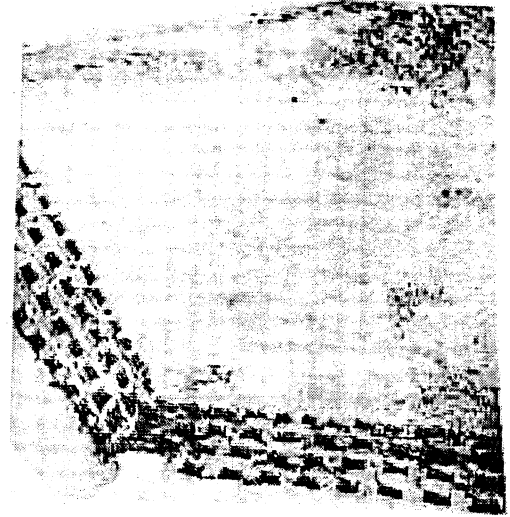
*for S. Jayan*  
SENIOR MANAGER QUALITY

# Manometer

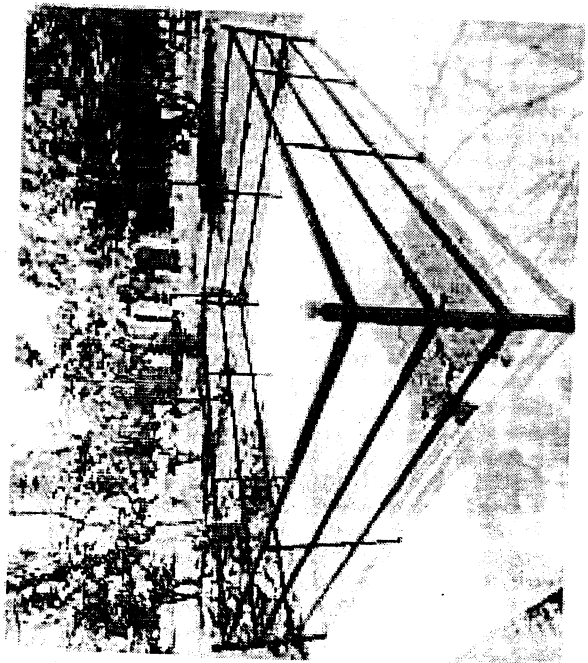


# RAIN WATER HARVESTING

Rain water 1



Rain water 2



Sheet1

Factory Name			
Factory Greenery details			
Sl No	Location	Name of Tree	No of Trees
1	Admin/Quarters Block Side	Pungai	42
		Vaagai	49
		Coconut	3
		Naval	5
		Teak Wood	46
		Sappotta	2
		Mango	6
		Neem	29
		Tamarind	32
		Badam	26
		Others	14
		Goa	6
		Manjanethi	9
		Poovarasam	4
		Mango	2
		Bikas	20
		Jackfruit	1
Royal Palm Tree	30		
2	Gate Block	Vaagai	52
		Manjanethi	4
		Naval	11
		Others	18
		Tamarind	11
		Neem	18
		Pungai	12
		Suvapul	100
		Teak Wood	48
		Arasamaram	1
		Nilavaagai	2
3	Stripping Dept.Front	Bikas	10
		Neem	95
		Flower Tree	10
		Royal Palm Tree	6
		Tamarind	1
		Vaagai	4
		Naval	78
		pongamia tree	50
		magizham	75
chem maram	25		
illupai	50		

## Sheet 1

		Marutham	75
4	Workmen Quarters	Poovarasam	2
	(Upto Factory Wall)	Malai Poovarasam	2
		Netlingam	2
		Vaagai	45
		Naval	12
		Arali Yellow	2
		Suvapul	550
		Others	10
		Neem	5
		Teak Wood	7
		Vavval Maram	5
		Tamarind	1
		Manjanethi	2
5	Plant - North Side	Savukku	30
		Vaagai	11
		Others	7
		Suvapul	15
		Arasamaram	1
6	Staff Quarters Area-West	Pungai	38
		Vaagai	82
		Savukku	100
		Teak Wood	55
		Tamarind	3
		Drumstick	3
		Others	10
		Badam	7
		Arali Yellow	2
		Naval	58
7	Staff Quarters Area-Myawaki	Pungai	50
		Neem	30
		Eetti	20
		Vaagai	32
		Amla	5
		Mayil Vaagai	20
		Curry Leaves	3
		Naval	20
		Arappu	20
8	Plant Entrance-Bio Matric Area	Jackfruit	1
		Neem	2
		Others	5
		Bikas	5
9	Loading Area	Suvapul	165

## Sheet1

10	Border Saplings		1000
11	North to South compound wall Area	Savukai	600
12	Environmental Saplings	Pungai	50
		Naval	20
		vagai	20
		guova Tree	10
13	East Compound wall area	Marutham	50
		Naval	50
		Pungai	90
		Conocarpes	45
		Magilam	50
		Palamo forest	20
		Berthodio	40
		Dopio rosiya	45
		leksdaniya	35
14	West Compound wall area	Poovarasam	80
		Kumil	50
		Pungai	25
		Cherry	20
		koyyamaram	50
		savukku	250
15	East Compound wall area	Pungai	20
		Guava tree	10
		Goose berry tree	10
		Neem	10
16	Workmen Quarters west compound	ilavam panju	25
		kodukkapuli	25
		palamaram	25
		vilvam	25
		savukku	250
	Total		5527

