



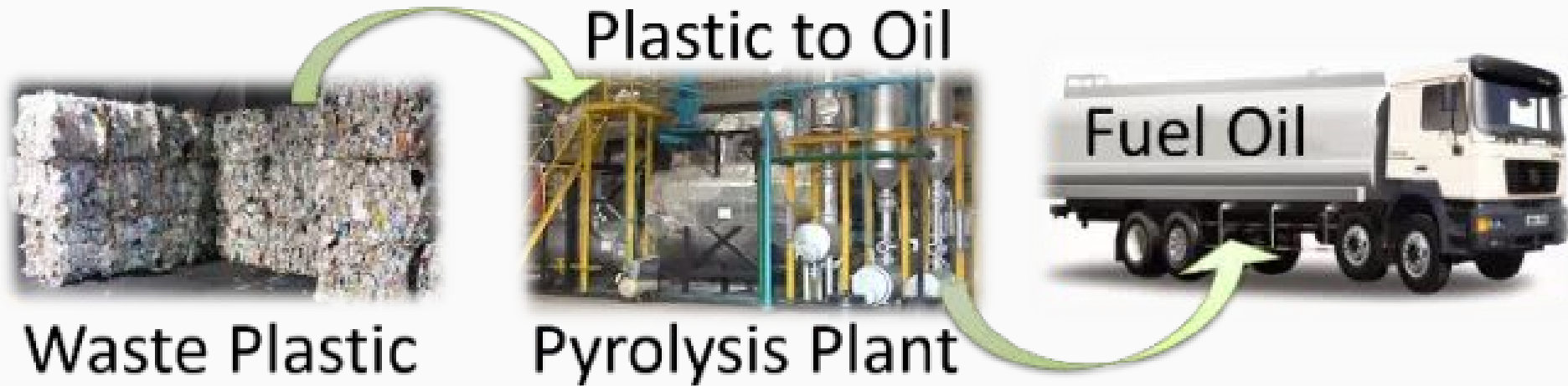
# Pyrocrat Systems LLP

Leaders in Waste Plastic/Tire to Oil Pyrolysis Plants

# Content

- ★ Overview - What is Pyrolysis
- ★ Raw Material Specifications & Sources
- ★ Finished Product Specifications
- ★ Pyrolysis Business Model
  - Manufacturing Cost
  - Sales Opportunities
- ★ Pyrocrat Credentials
- ★ Contact Us

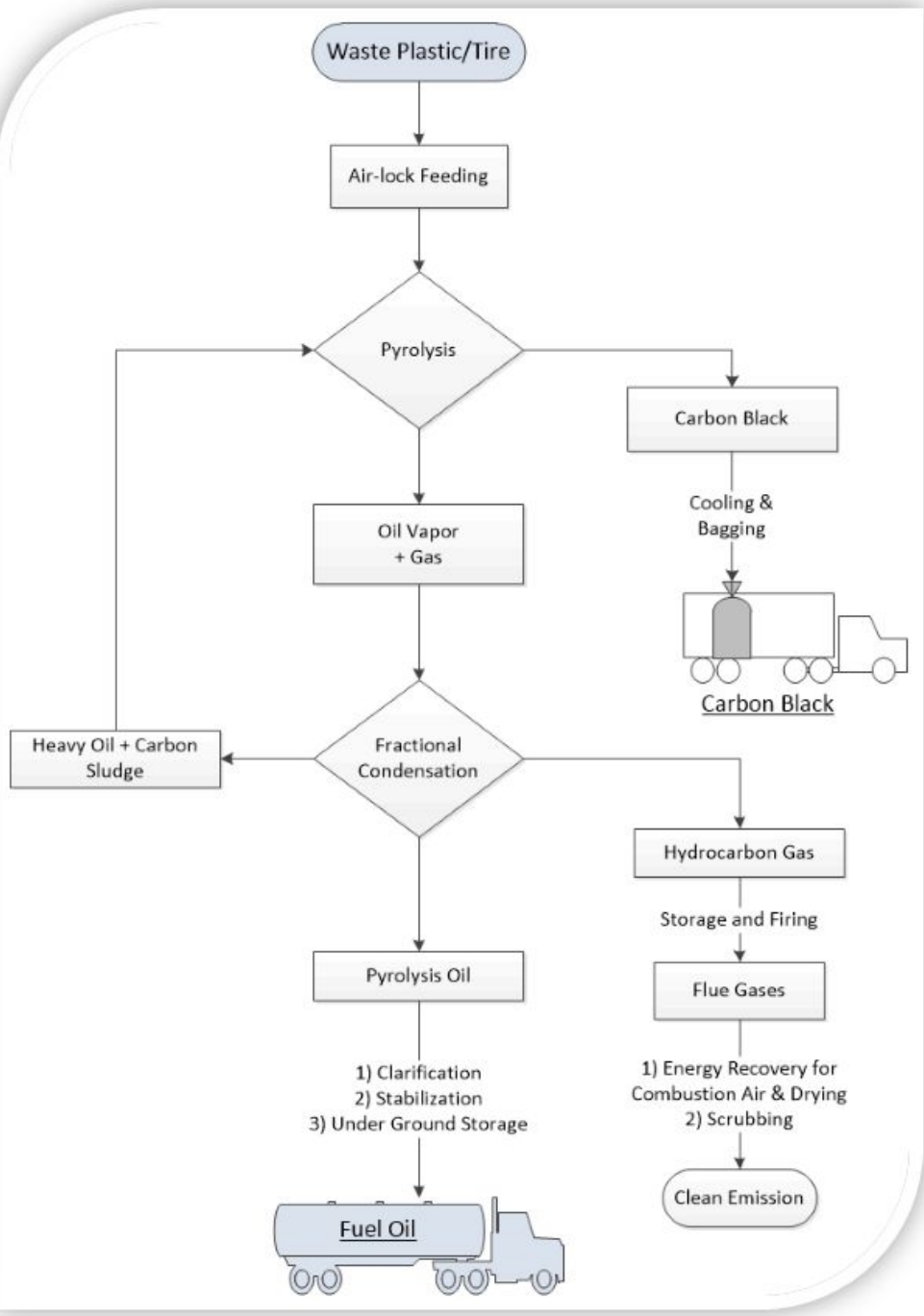
# Plastic to Oil



Raw Material	Processing	End Products
<p><b>Waste Plastic: 10,000kg</b> (Post Consumer Plastic Waste, Carry Bags, Laminates, Packaging Waste, Paper Mill Waste Plastic, Municipal Solid Waste Segregated Plastic)</p>	<p><b>Pyrolysis Reaction</b> in presence of catalyst &amp; in absence of oxygen at reaction temperature of 350 to 450°C. Hydrocarbon gas produced in processed is used to achieve reaction temperature.</p>	<p><b>Pyrolysis Oil: 7000 to 9000lit</b> (Synthetic fuel used in electricity generators, industrial burners, industrial boilers, furnaces, thermic fluid heaters, hot water/air generators, etc.)</p> <p><b>Carbon Black:</b> (Used as replacement to Coal)</p>



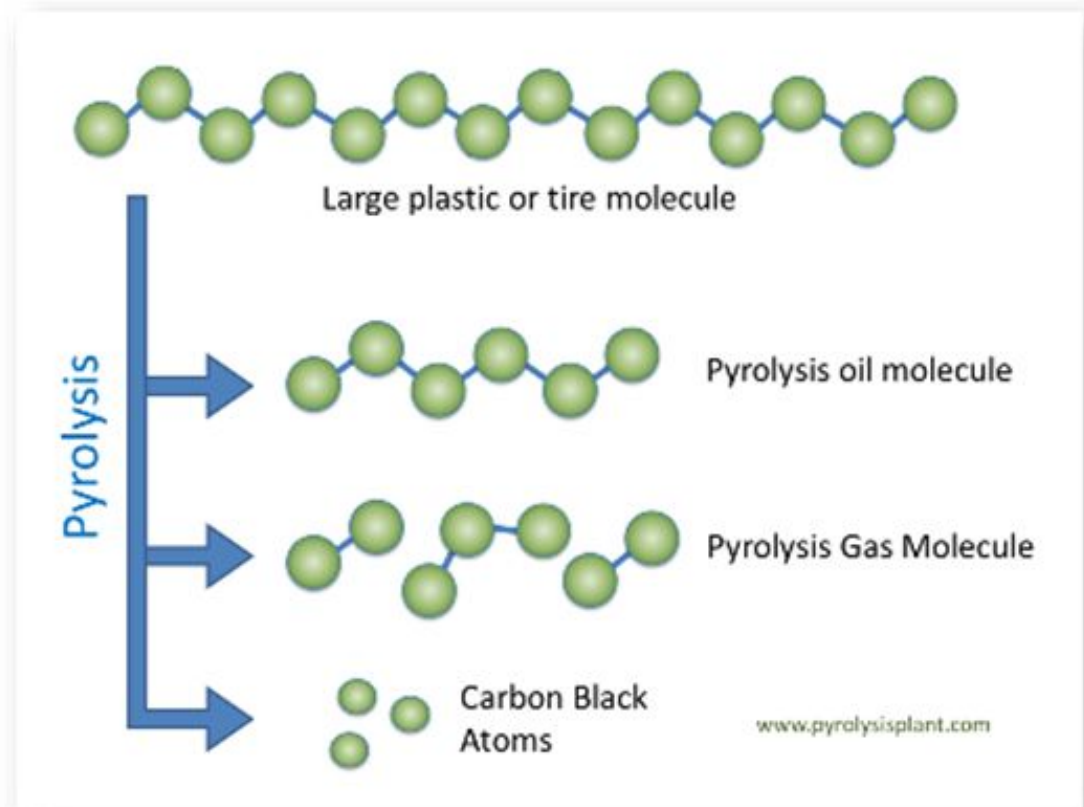
Raw Material	Processing	End Products
<b>Waste Tires: 10,000kg</b> (Nylon & Radial Tires of all sizes, rubber)	<b>Pyrolysis Reaction</b> in presence of catalyst & in absence of oxygen at reaction temperature of 350 to 450°C. Hydrocarbon gas produced in processed is used to achieve reaction temperature.	<b>Pyrolysis Oil: 4500 to 6000lit</b> (Synthetic fuel used in electricity generators, industrial burners, industrial boilers, furnaces, thermic fluid heaters, hot water/air generators, etc.) <b>Carbon Black:</b> (Used as replacement to Coal)



# Process Flow Chart

# Overview - What is Pyrolysis

- «Pyro = heat. Lysis = break down.
- «Pyrolysis is chemical reaction. This reaction involves molecular breakdown of larger molecules into smaller molecules in presence of heat.
- «Pyrolysis is also known as thermal cracking, cracking, thermolysis, depolymerization, etc.



# Raw Material Specifications

- Waste Plastic Scrap (Rs 2 to 8/kg)
- Packaging & Multilayered Plastic Waste
- Waste Tires
- PE & PP Derivatives (95% of plastic is suitable)

No need for cleaning. 5% dust & 5% Moisture is Acceptable.



# Raw Material Sources

**Paper Recycling Mill Waste Plastic** - Landing Cost Less than Rs 2 per Kg, Oil yield 50%

**Municipal Solid Waste Segregated Waste Plastic** - Landing Cost Less than Rs 2 per Kg, Oil Yield 70%





# Other Raw Material Sources

- ★ Plastic Scrap Dealers
- ★ Packaging Material Waste
- ★ Waste plastic gunny bags
- ★ Industrial packaging material waste

# Pyrolysis Oil Specifications

Intertek

:2:

LAB REPORT NO:-MUM/22334/2011

DATE RECEIVED: 01.03.2011

DATE REPORTED: 05.03.2011

Sample Label: Pyrolysis Oil

Sr. No.	Test	Method	Unit	RESULTS
1	Density@15°C	ASTM D 1298/99	g/ml	0.8108
2	API Gravity@60°F	ASTM D 1298/99	-	42.8
3	Flash point	ASTM D 93/08	°C	<40
4	Kinematic Viscosity @ 40°C	ASTM D 445/06	mm <sup>2</sup> /s	1.471
5	Appearance	Visual	-	Clear/Brown
6	Conradson Carbon Residue	ASTM D 189/06	%wt	0.062
7	Asphaltine Content	IP 143	%wt	<0.01
8	Ash Content	ASTM D 482/07	%wt	0.0028
9	Pour Point	ASTM D 97/08	°C	12
10	Calculated Carbon Aromatic Index	ISO 8217	-	785
11	Sulphur Content	ASTM D 4294/08a	%mass	0.0137
12	Water by Distillation	ASTM D 95/05	%vol	0.05
13	Calorific Value	ASTM D 240/07	cal/g	10293
14	Distillation(at 760 mm Hg)	ASTM D 85/08b	°C	64.0
	IBP		°C	96.0
	05%Recovery		°C	113.0
	20%Recovery		°C	142.0
	30%Recovery		°C	169.0
	40%Recovery		°C	193.0
	50%Recovery		°C	222.0
	60%Recovery		°C	245.0
	70%Recovery		°C	280.0
	80%Recovery		°C	329.0
90%Recovery	°C	382.0		
FBP	°C	386.0		

Naresh Pal  
Sr. Manager - Laboratory



Test report shall not be reproduced except in full with out the written approval of the laboratory. Submitted samples were not drawn by the Laboratory. The result relate only to the sample tested.

The above mentioned analysis is carried out by Intertek Laboratories, unless marked as witnessed (\* \*)

\* \* When analysis is witnessed by us, our responsibility is solely to ensure that the analysis is conducted to standard test methods in accordance with industry accepted practice. We are not responsible for apparatus, instrumentation and measuring devices, their calibration or working order, Reagents and solutions are accepted as prepared.

LADDA QA 328 ISSUE NO.-03 ISSUE DATE: 01.02.2010

- From Tyre:
  - Calorific Value: 10,150
  - Flash Point: <40 degree C
  - Pour Point: -21 degree C
- From Plastic:
  - Calorific Value: 10,000
  - Flash Point: <40 degree C
  - Pour Point: -4 degree C
- Applications: Power plants, electric generators, boilers, diesel pumps, furnaces, hot water generators, hot air generators, thermic fluid heater etc.

Note: Calorific value or Energy content is same as vehicle grade diesel.



Pyrolysis Oil buyer use it as a substitute to industrial diesel in:

- ★ Bitumen Hot Mix Plants
- ★ Boilers & Furnaces
- ★ Hot air/ Hot water generators
- ★ Power Plants - Thermal & Electric Generators
- ★ Thermic Fluid heaters

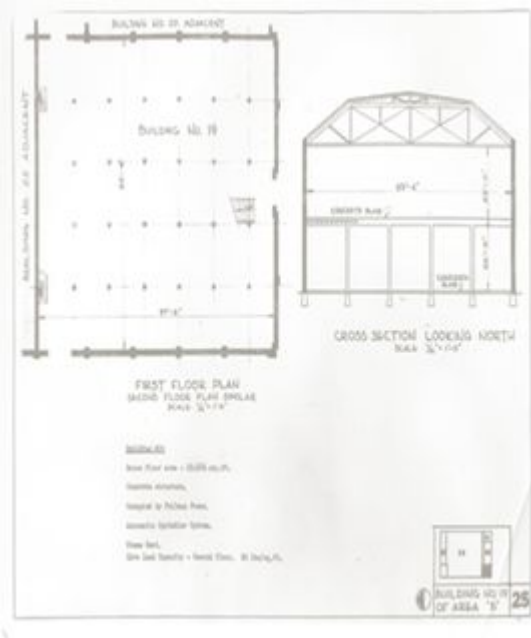
# Raw Material Testing Plant makes the business predictable

Waste Plastic  
Raw Material  
Testing:

Predict Oil Yield  
and Production  
Cost using the  
laboratory scale  
pyrolysis plant.



# Project Brief



Plant Capacity in Tons Per Day:	3	6	12
Plant Capacity in Tons Per Annum:	900	1800	3600
<b>RE SOURCE S</b>			
Raw material Plastic/Tire (kg/day)	3,000	6,000	12,000
Catalyst additive "A" consumption (kg/day) (Yr 2013 market price is USD 2.2/kg)	30	60	120
Catalyst additive "B" consumption (Kg/Day) (Yr 2013 market price is USD 4.5/kg)	3	6	12
NaOH Reagent consumption by off gas cleaning system (scrubber) (Kg/day)	0.5	1	2
Water requirement per day (lit)	200	400	600
Electrical connection (HP)	60	85	120
Personnel: Per 24 Hrs			
Plant Head	1	1	1
Unskilled workers	9	12	16
Skilled Operators	3	3	3
Land Area (m <sup>2</sup> )	600	1000	1800
Built-up Factory Shade Area (m2)	250	500	750
<b>Machinery:</b>			
Machinery Manufacturing time (Months)	3	3	4
Factory Installation time (Months)	1	1.5	1.5
<b>OUTPUT</b>			
Pyro oil output with Plastic as raw material (lit/day)	2100	4200	8400
Pyro oil output with Tire as raw material (lit/day)	1350	2700	5400
Carbon black output (Plastic as raw material) (Kg/day)	540	1080	2160
Carbon black output (Tire as raw material) (Kg/day)	1050	2100	4200

# Project Brief

Plant Input Capacity in Tons per Day:	3TPD	6TPD	12TPD
Payback Period (years)	3.5	3	2
Lead time (months)	4.5	5.5	6.5

# Financials of 12 TPD Plastic/Titre to Oil Plant

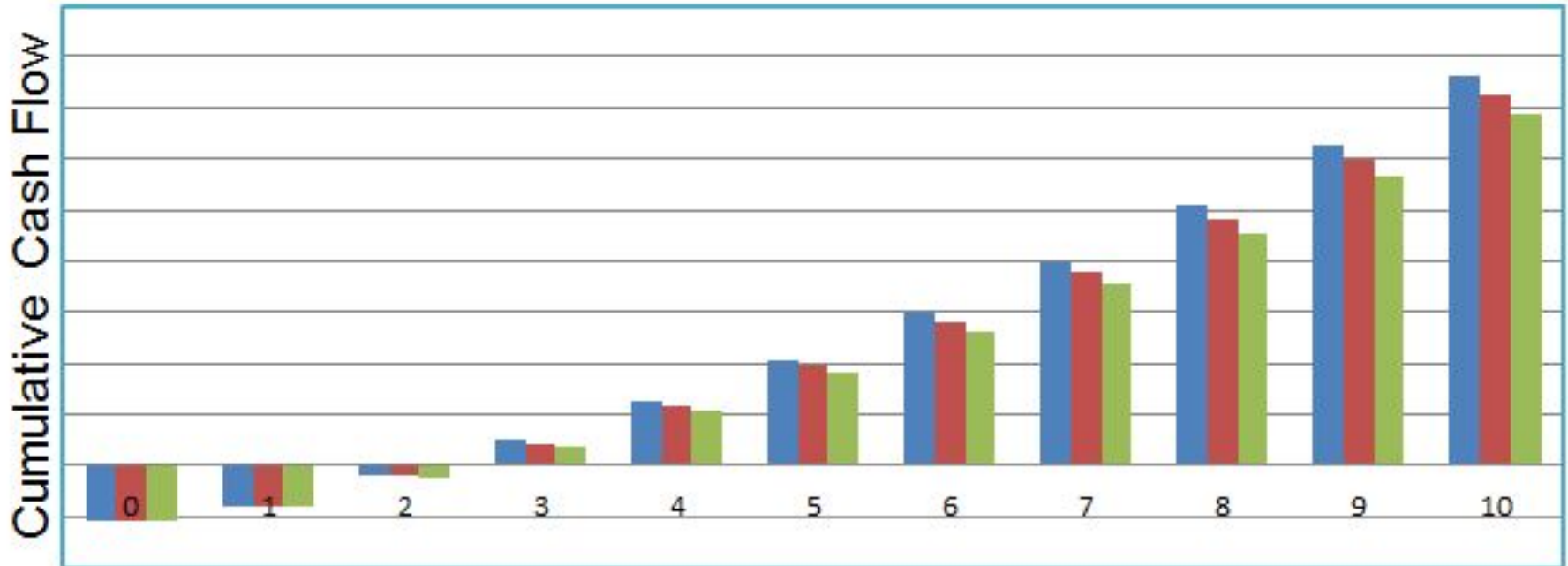
(Please contact us for detailed calculations)

		<b>INR</b>	<b>US\$</b>
1	Total Capital Investment	55,345,050	826,046
2	Annual Production Cost	32,467,107	484,584
3	Annual Revenue	63,405,000	946,343
4	Annual Profits Before Tax	30,937,893	461,760
5	Oil Production Cost per Lit	15.33	0.23
6	Break Even Capacity	29.78%	29.78%

# 12TPD Plant:

## Return on Investment: 2 to 3 Years

(Please contact us for detailed calculations)



- Raw Material & Finished Product Prices Rise at Same Rate
- Raw Material Prices Rise at Rate 20% more than Finished Product
- Raw Material Prices Rise at Rate 40% more than Finished Product

Years



Online video Link:

<http://www.pyrolysisplant.com/video/>



Pyrocrat establishes large scale waste plastic/tire to fuel oil manufacturing  
Pyrolysis Plant Pyrocrat's technology converts 1000kg of waste plastic  
& tires into 500 to 950lit of high quality fuel oil.

[www.pyrolysisplant.com](http://www.pyrolysisplant.com) [sales@pyrocrat.com](mailto:sales@pyrocrat.com)

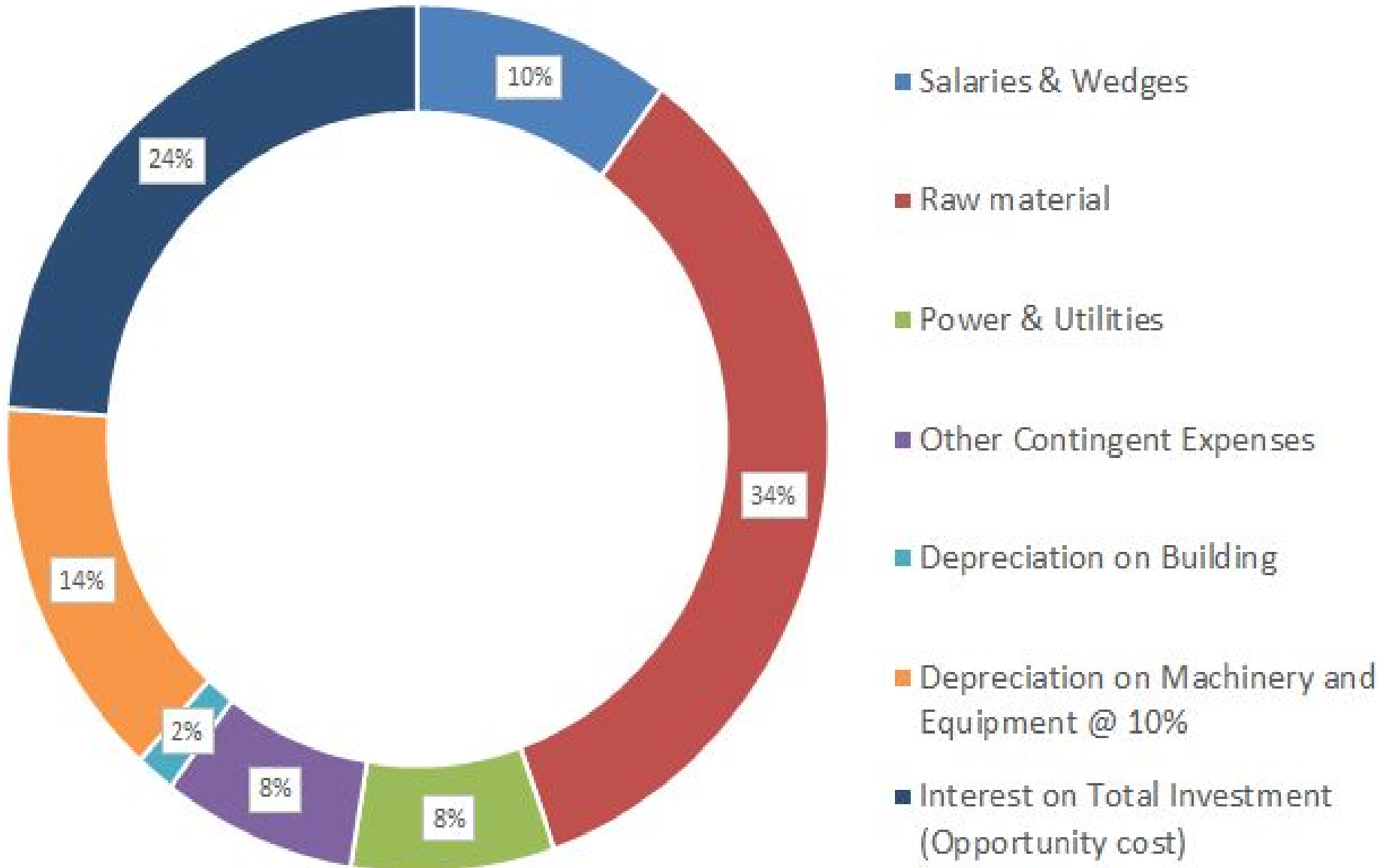
PYROCRAT



0:08 / 2:02



Breakup of Oil Manufacturing Cost (Assuming 14% Interest Rates)



# Testimonials & Achievements



## Bright Environmental Solutions Pvt. Ltd.

Plot No.77/802, Anand Villa, A-Wing,  
6th Floor, 5th Road, Khar (W),  
Mumbai - 400 052.  
Tel.: +91-22-3243 6969  
E-mail : bes@brightgroup.org

02/04/2014

### TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s **PYROCRAT SYSTEMS LLP** has designed, installed and successfully commissioned 5TPD Pyrolysis facility (Waste plastic to Fuel) on Turnkey basis at our site, Khopoli, Tal Khalapur, District Raigad, Maharashtra, India – 410203

Pyrocrat Systems LLP has exceeded our expectations of establishing 5TPD Pyrolysis Project. Their dedicated team of engineers provided us sustainable pyrolysis solution needed to convert 5MT of waste plastic daily into oil, carbon and gas. Pyrocrat Systems LLP also supported us during plant installation & commissioning by deputing their expert team of engineers and responded in time to initial start-up challenges of the plant.

Overall we are satisfied with the performance of the pyrolysis plant established by Pyrocrat Systems LLP.

For Bright Environmental Solutions Pvt Ltd

Authorised Signatory



www.brightgroup.org

“Pyrocrat exceeded our expectations of establishing **5TPD Pyrolysis Project**. Their dedicated team of engineers provided us sustainable pyrolysis solution needed to convert 5MT of waste plastic daily into oil, carbon and gas. Pyrocrat also supported us during plant installation & commissioning by deputing their expert team of engineers and responded in time to initial startup challenges of the plant. Overall we are satisfied with the performance of the pyrolysis plant established by Pyrocrat Systems LLP.”

– Mr Pritpal Bright, Director,  
Bright Environmental Solutions Pvt Ltd.



# Testimonials & Achievements



**ALTA VISTA ECO INDUSTRIES**

Date: 15-07-2012

REF: AVEI/12/312

**To: Whomsoever It May Concern**

This is to inform that M/s Pyrocrat Systems LLP have designed, installed and successfully commissioned 2.5TPD Pyrolysis Plant on turn-key basis at Vijaywada, Andhra Pradesh. We confirm that Pyrocrat has executed the project to our satisfaction and the pyrolysis plant is producing good quality of pyrolysis oil and carbon black.

Pyrocrat has also supported us during the plant start-up by deputing their experienced team and responded well to initial start-up issues of the plant. Overall, we are satisfied with the performance of the machinery and technology.

Regards,

Mr A. Kalyan,

Authorised Signatory,

Alta Vista Eco Industries

This is to inform that M/s Pyrocrat Systems LLP have designed, installed and successfully **commissioned 2.5TPD Pyrolysis Plant** on turn-key basis at Vijaywada, Andhra Pradesh. We confirm that Pyrocrat has executed the project to our satisfaction and the pyrolysis plant is producing good quality of pyrolysis oil and carbon black.

Pyrocrat has also supported us during the plant start-up by deputing their experienced team and responded well to initial start-up issues of the plant. Overall, we are satisfied with the performance of the machinery and technology.

– Mr A. Kalyan, Director, Alta Vista Eco Industries

# Testimonials & Achievements

Pyrocrat Systems LLP completed commissioning of purchased 10TPD Plastic to Pyrolysis plant on 14-8-2015 at our Rajkot site. **Pyrocrat's engineers achieved 10.2MT plant capacity during commissioning.** Pyrocrat trained our engineers Mr Mahipat, Mr Narendra & Mr Atul. Pyrocrat team handed over the plant to us for operation no 9-9-2015.

– Plant commissioning Report by Mr B Ravani, Lionel Resources Pvt Ltd

Date: 9/9/2015

## COMMISSIONING REPORT OF PYROLYSIS PLANT AT LR-12 (line 1)

Commissioning of the Pyrolysis Plant was carried out on 14/08/2015 at Lionel Resources Pvt Ltd Plot No. 17/1, 16/20 C KVVDA, Rajkot. HAG firing started at 12:15hr. While commissioning, Pyrocrat engineers checked the working of all equipment's and machinery's of plant. After performing preliminary checks, hot bolting of hot air pipe lines flanges was done at certain temperature. When raw material temperature reach than raw material feeding starts at time in hours. When the vapour were generated, then once again hot bolting of vapour pipe lines flanges and reactor flanges was done.

THE COMMISSIONING PROCESS WAS COMPLETED SUCCESSFULLY.

Plant is being run by the Mr Mahipat, Narendra, Mr. Atul under the guidance and supervision of Pyrocrat Systems LLP (14/08/2015 to 24/08/2015). Pyrocrat has also provided two days cleaning, inspection and maintenance training. (Training Period - 1st (15/8/2015 to 16/8/2015), 2<sup>nd</sup> (25/08/2015 to 26/08/2015).

Feed stock record with pneumatic feeding system.

Batch no.	DATE	Feeding (Hrs)		R M Feeding (KG)	Oil obtained approx. (Litre)	Water (Liter)	WAX (Litre)	Carbon obtained approx. (Hrs)(KG)			Gas obtained approx. (kg)
		START	STOP					START	STOP	QTY	
1	17/8/15	11:21AM	3:15PM	1410	747	70		5:10PM	6:20PM	415kg	140
2	17/8/15	6:36PM	11:05PM	1700	835	75		2:55AM	3:45AM	295kg	105
3	18/8/15	4:30AM	10:10AM	1700	873	78		12:30PM	1:50PM	622kg	105
4	18/8/15	2:00PM	6:40PM	1700	805	75		9:25PM	10:35PM	566kg	210

Feed stock record with piston feeding system.

Batch no.	DATE	Feeding (Hrs)		R M Feeding (KG)	Oil obtained approx. (Litre)	Water (Liter)	WAX (Litre)	Carbon obtained approx. (Hrs)(KG)			Gas obtained approx. (kg)
		START	STOP					START	STOP	QTY	
1	24/8/15	4:10PM	6:50PM	750	285			9:53PM	11:00PM	360kg	46.2
2	24/8/15	11:20PM	3:00AM	950	705			4:45AM	6:10AM	500kg	75.25
3.	25/8/15	6:00 PM	8:30PM	1000kg	650			11:32PM	12:55PM	360kg	105
4.	24/8/15	2:30AM	5:30AM	800kg	546			8:10AM	8:45AM	243kg	80.5

**Observations:** - Plant is running normally and achieved a capacity in Ton production of the plant within 24 Hours. Details of production are given in table. Performance of all running / rotary machineries are normal and satisfactory. **Pyrocrat** handed over the plant to us and the commissioning team had left the plant on 24/8/2015 on good note and as discussed plant operation is further continued by us.

PLANT NAME- Lionel Resources Pvt Ltd.

CLIENT SIGNATURE

*Bhushan C. Ravani*



# Testimonials & Achievements

This is to inform that M/s Pyrocrat Systems LLP have designed, installed & successfully **commissioned 2.5TPD Pyrolysis plant** on turnkey basis at Shree Sharada Industries at Khodama Industrial Area, Udaipur Kalan, Kishanghar, Ajmer, Rajasthan – 305 001 on 20-June-2014.

We are happy to inform that Pyrocrat has exceeded our performance expectations & said pyrolysis plant is producing good quality of pyrolysis oil & carbon black.

Pyrocrat has also supported us during the plant startup by deputing their experienced team and responded well to initial start-up issues of the plant. Overall, we are satisfied with the performance of pyrolysis plant commissioned by Pyrocrat.

– Saurabh Garg, Director, Shree Sharada Industries

## SHREE SHARDA INDUSTRIES

BEHIND ADINATH KATTA, MADHUBAN INDUSTRIAL AREA, SILORA, KISHANGARH

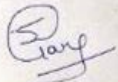
### To Whomsoever It May Concern

This is to inform that M/s Pyrocrat Systems LLP have designed, installed and successfully commissioned 2.5TPD Pyrolysis Plant on turn-key basis at Shree Sharada Industries at Behind Rishab Tyre Factory, Adinath Dharam Kata Street, Khodamata Industrial Area, Udaipur Kalan, Kishanghar, Ajmer, Rajasthan – 305 001

We are happy to inform that Pyrocrat has executed the project to our satisfaction and the pyrolysis plant is producing good quality of pyrolysis oil and carbon black.

Pyrocrat has also supported us during the plant start-up by deputing their experienced team and responded well to initial start-up issues of the plant. Overall, we are satisfied with the performance of the pyrolysis plant commissioned by Pyrocrat.

For Shree Sharada Industries



Authorized Signatory

# Testimonials & Achievements

Pyrocrat supplied us 3TPD capacity waste plastic pyrolysis plant. The plant was commissioned by Pyrocrat systems LLP between 27-12-2014 to 9-1-2015. Pyrocrat's engineers, Mr Ramadhar and Mr Vikramdas effectively trained our operators for effective operation and maintenance of the plant.

– Plant commissioning Report by Mr Arun Karanje, Eco Energy

**PYROCRAT**  
SYSTEMS LLP

'CE Certified' for manufacturing Pyrolysis Plants | ISO 9001:2008 Certified  
J-103/105, 1st Floor, Tower No. 7, Railway Station Commercial Complex, Sector 1A, C.B.D. Belapur,  
Navi Mumbai, Maharashtra State, India, PIN- 400 614.  
Ph- +91 22275 99010 | www.PyrocratPlant.com

Date :-

**COMMISSIONING REPORT OF PYROLYSIS PLANT AT ECO ENERGY (PUNE).**

Persons from *Pyrocrat systems LLP* involved in commissioning of the plant :- *Mr. Ramadhar, Mr. Vikram* and also *client's team* were involved in commissioning of the plant.

1<sup>st</sup> commissioning of plant was started on 19-12-2014. HAG firing was started at 11:11hrs. In first commissioning, Pyrocrat engineers check the working of all equipment's and machinery's of plant. Hot bolting of hot air pipe lines flanges, vapour pipe lines flanges and reactor flanges was successfully completed. Approx.7 Ton raw material feeding of successfully done. After 1<sup>st</sup> successful completion of plant commissioning, plant was taken for shutdown on 25-12-2014 for general inspection of the condensers, vapour lines, cleaning of product transfer pump & for cleaning filters.

2<sup>nd</sup> Commissioning of the Pyrolysis Plant was carried out on 27-12-2014 at Eco Energy, Sanswadi, Pune, Maharashtra after performing preliminary check-ups.

Plant is being run by the *Client's team* under the guidance and supervision of Pyrocrat Systems LLP team.

HAG firing for 2<sup>nd</sup> commissioning of the plant was started on 27-12-2014 @ 12:40 hrs. with following results –

Batch no.	Feeding started on	R M Feed Qty. approx.(KG)	Oil obtained approx.(Liter)	Wax / Carbon obtained approx.(KG)	Gas obtained approx.(Kg)	Batch completed on
1	14:40	1000	450	50/300	120	00:00
2	12:20	1000	550	50/250	140	9:00
3	9:20	1000	565	35/350	75	19:40
4	21:20	1100	550	60/350	120	7:30
5	7:45	1100	510	40/510	120	16:30

Observations :- Plant is running normal and achieve the production of plant. Details of production are given in above table. Performance of all running / rotary machineries are normal and satisfactory. *Pyrocrat Systems LLP* team left the site with good faith on 09-01-2015 @ 11:00 hrs. and as discussed plant operation is further continued by the client's team.

Pyrocrat Engineer

*Ramadhar*

Client Engineer/Client

*Arun Karanje*



# Testimonials & Achievements

Date: 03/12/2015

## COMMISSIONING REPORT OF PYROLYSIS PLANT AT PLANT CODE EOGEB-06

Commissioning of the Pyrolysis Plant was carried out on 25-10-15 at Plant Name with Address .HAG firing started at time in hrs. While commissioning, Pyrocrat engineers checked the working of all equipments and machinery's of plant. After performing preliminary checks, hot bolting of hot air pipe lines flanges was done at certain temperature. When raw material temperature reach than raw material feeding starts at time in hours. When the vapour were generated , then once again hot bolting of vapour pipe lines flanges and reactor flanges was done.

### THE COMMISSIONING PROCESS WAS COMPLETED SUCCESSFULLY.

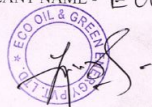
Plant is being run by the Client's employee Mr. Shiva ( ), Mr. Navin ( ) Mr ( ) under the guidance and supervision of Pyrocrat Systems LLP (25/10/15 To 03/12/15). Pyrocrat has also provided two days cleaning, inspection and maintenance training. (Training Period - 1st (01/11/15 To 02/11/15), 2<sup>nd</sup> (22/11/15 To 24/11/15) 3<sup>rd</sup> ( / / To / / ).

### Feed stock record with pneumatic feeding system.

Batch no.	DATE	Feeding (Hrs)		R M Feeding (KG)	Oil obtained approx. (Litre)	Water (Litre)	WAX (Litre)	Carbon obtained approx. (Hrs) (KG)			Gas obtained approx. (Kg)
		START	STOP					START	STOP	QTY	
1	27-11	10:32	15:45	1800	845		115	18:00	18:35	400	80
2	27-11	19:00	23:05	1800	860		70	03:10	04:10	350	100
3	28-11	16:17	20:30	1800	960		120	02:45	03:20	350	90
4	02-12	09:10	14:00	2000	1117		130	17:05	17:45	500	120

**Observations:** -Plant is running normally and achieved 5.5.Ton production of the plant within 24.Hours. Details of production are given in table. Performance of all running / rotary machineries are normal and satisfactory. *Pyrocrat* handed over the plant to us and the commissioning team had left the plant on DD-MM-YY on good note and as discussed plant operation is further continued by us.

PLANT NAME - EOGEB-06



CLIENT SIGNATURE

Rakesh

Pyrocrat Systems LLP installed and successfully commissioned **6TPD Pyrolysis plant** at our site in Bhopal, MP, India. On the day of commissioning 3-12-2015, plant performed at plastic processing capacity of 5400kg per 24 hours. Pyrocrat adequately trained our plant operators, Mr Shiva & Mr Navin for effective plant operation, cleaning & maintenance. Performance of machinery was found satisfactory.

– Plant commissioning Report by Mr Rakesh, Manager, Eco Oil & Green Energy Pvt Ltd



# Testimonials & Achievements

We are pleased to issue this Operational Certificate in respect of the 'M/S Eco Energy' Pyrolysis Plant (EE2.5), Pune which is designed, supplied and Erected by M/S Pyrocrat Systems LLP, Navi Mumbai.

This Plant was visited on 30th June 2015 by the team of CEIL Experts and various significant aspects during operation were verified. The documentation of the supplier M/S Pyrocrat Systems LLP, Navi Mumbai was also verified in their office on 1st July, 2015.

- AK Gupta, Certification Engineers International Limited (A Govt of India Undertaking, Subsidiary of Engineers India Limited)

**Operational Certification**  
Of  
**Pyrolysis Plant of 2.5 TPD**

Supplied by  
**M/S Pyrocrat Systems LLP, Navi Mumbai**

Certification By



**CERTIFICATION ENGINEERS INTERNATIONAL LIMITED**

*(A Govt. of India Undertaking, Subsidiary of EIL)*



Bureau Management Certification Pvt. Ltd.

CERTIFICATE OF EC TYPE EXAMINATION

PRESSURE EQUIPMENT DIRECTIVE 97/23/EC (MODULE - H) and MACHINERY DIRECTIVE 2006/42/EC

Manufacturer : M/s. PYROCRAT SYSTEMS LLP
Address : J 103, First Floor, Tower No. 7, Railway Station Complex, C.B.D. Belapur, Navi Mumbai - 400 614 Maharashtra - INDIA

Type of Pressure Equipment and Machinery : 2.0, 5.0 and 10.0 TPD - Depolymerisation Plant
Category : I

It is hereby certified that M/s Bureau Management Certification Pvt. Ltd. has Examined the above Equipment which meets the safety requirements of Appendix I of the 97/23/EC Directive also meets the safety requirements of the 2006/42/EC.

The results of the above examination/inspections/tests were satisfactory. Therefore the manufacturer is obliged to issue a Declaration of conformity to 97/23/EC and 2006/42/EC the European Directives and places CE Marking with his own Responsibility as follows :-



Preconditions:- It is required that the above equipment must always be accompanied with by Manufacturer's declaration of conformity and relevant instructions for its use.

The data pertaining to this certificate was gathered with every possible accuracy and thoroughness. This certificate reflects the findings of the Equipment at the time and place of the Audit for this certificate. Reproduction of this document is strictly forbidden.

CERTIFICATE NO. : BMCPL/CE/0010/12-13
Date of Issue : 24 January 2013
Valid up to: 23 January 2018

N. Sufi (Signature)

Bureau Management Certification Pvt. Ltd.

Office: 407, Vindhya Complex, Sector-11, CBD Belapur, Navi Mumbai - 400 614. Tel:+919769103355.
Web: bmcertification.com, Email: admin@bmcertification.com
Office: 5, Crediton Hill, West Hampstead, London NW6 1HT, Email: adminlondon@bmcertification.com

CE Certification of 2, 5 & 10 TPD Plant: Confirmation of European Standards



Certificate Number 9383

Date of initial registration 30 November 2012

Date of last issue 30 November 2012

Date of expiry 29 November 2015

REGISTRATION CERTIFICATE



BM TRADA certify that the Quality Management System of

Pyrocrat Systems LLP
J103, First Floor, Tower No. 7, Belapur Railway Station Complex, C.B.D. Belapur, Navi Mumbai 400614, Maharashtra, India

complies with the requirements of ISO 9001:2008

Scope of Certification
Design, Manufacture, Installation and Commissioning of Depolymerisation Plant

Signed on behalf of BM TRADA Certification Ltd
Hayden Davies, Group Director
Chilten House, Stocking Lane, High Wycombe, Buckinghamshire, HP14 4HD

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ISO9001:2008 Certificate

# Technology Patent Filed in India and Abroad

**FORM 5**  
**THE PATENT ACT, 1970**  
**(39 OF 1970)**  
**&**  
**The Patents Rules, 2003**  
**DECLARATION AS TO INVENTORSHIP**  
**[See section 10(6) and rule 13(6)]**

**1. Applicant Name:** Suhas DIXIT  
I, Applicant Name: Suhas DIXIT hereby declare that the true and first inventor of the invention disclosed in the complete specification filed in pursuance of the provisional application number 1727/MUM/2014 with Indian patent Office, Mumbai on 23<sup>rd</sup> May 2014 entitled "An apparatus for pyrolysis of polymer waste and the process thereof" is

**2. INVENTOR**



1) Name: Suhas DIXIT  
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Address: #A-7, Sukalp CHS, Plot No. 36  
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Maharashtra, India

Dated this August 2, 2014

a) Signature:

Name: Suhas DIXIT

**To**  
**The Controller of Patents,**  
**The Patent Office,**  
**At Chennai**

**PATENT OFFICE**  
**INTELLECTUAL PROPERTY BUILDING**  
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Docket No 16545

Date/Time 02/08/2014 11:52:04

User Code: bindu

To  
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Sl. No.	Ref. No./Application No.	App. Number	Amount Paid	C.B.R. No.	Fee Payment	Remarks
1	E-02171/2014/MUM	1727/MUM/2014	3400	12205	Full	
2	E-01190/2014/MUM	1727/MUM/2014	0	---	Full	

Total Amount : ₹ 3680  
Amount in Words: Rupees Three Thousand Six Hundred Eighty Only

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**POTVRZENÍ O PODÁNÍ PŘÍHLÁŠKY VYNÁLEZU**

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