



Divya International

6, Shiv Shakti Nagar,
Nr. Sola Over Bridge, S. G. Highway,
Sola, Ahmedabad-3860 60, (GUJARAT), INDIA.
Phone : +91 9909277999, +91 8000006555.
E-mail : info@divyaint.com, Web : www.divyaint.com.

Company Profile

Divya International is a leader in pyrolysis technologies that enable utility and industry customers to improve performance while lowering environmental impact. Divya International has developed & is continuously developing the machineries which are techno-commercially proven, that provide high quality & quantity of industrial fuel oil from tyres and plastics.

Divya International brings together a group of technocrats to execute the concept of pyrolysis. Our 2.5 years of experience in running our own three plants in Ahmedabad, Gujarat and our delivering techno-commercial proven machinery in pyrolysis field offers our customers the prime solutions available in the field pyrolysis in India and makes us best technical solutions provider enterprise in the field of Tyre Pyrolysis Equipment & Machines in India. Our strong quality focused attitude, delivering the customer focused solutions and the continuous thirst to achieve world-class quality have allows us to implement & deliver the quality based machinery of Waste Tyre recycling plant.

Divya International is a leading manufacturer of Tyre recycling pyrolysis plant in India on turnkey basis.

We are into the manufacturing world since last 20 years & since 2007 we are into the pyrolysis field. Our Director Mr. Ashvin Patel has studied Pyrolysis & Plasma technology. We have 2.5 years of practical experience to run our own pyrolysis plant & since 2011 we are engaged into manufacturing of this plant. Since our inception into manufacturing world, we have setup many plants across India & have several upcoming projects.

Our manufacturing unit & workshop is in Ahmedabad (Gujarat) which is spread over 54000 sq feet area.

Our team consists of 55 employees.

Production Team - 40 Employees.

Installation Team - 10 Employees.

Marketing & HR Team - 5 Employees.

Our technocrats have vast theoretical & practical experience & are highly qualified in the field of pyrolysis. We deploy pyrolysis project on turnkey basis. Our involvement in the project starts from **Designing to Commissioning of the pyrolysis plant along with operator training.**



Divya International

6, Shiv Shakti Nagar,
Nr. Sola Over Bridge, S. G. Highway,
Sola, Ahmedabad-3860 60, (GUJARAT), INDIA.
Phone : +91 9909277999, +91 8000006555.
E-mail : info@divyaint.com, Web : www.divyaint.com.

Photographs of our Manufacturing Unit-





Divya International

6, Shiv Shakti Nagar,
Nr. Sola Over Bridge, S. G. Highway,
Sola, Ahmedabad-3860 60, (GUJARAT), INDIA.
Phone : +91 9909277999, +91 8000006555.
E-mail : info@divyaint.com, Web : www.divyaint.com.



The above snapshots shown are of manufacturing unit. Our workshop is spread around 54000 sq. fts. In the workshop reactor, various tanks, condensers, reactor coves & reactor base are manufactured.

Our work starts from-

1. Civil Design- Plant Layout.
2. Machinery Manufacturing.
3. Procurement of the machinery. (Transportation)
4. Installation of machinery.
5. Operator Training.
6. Service (1 year warranty of technical defects)



Divya International

6, Shiv Shakti Nagar,
Nr. Sola Over Bridge, S. G. Highway,
Sola, Ahmedabad-3860 60, (GUJARAT), INDIA.
Phone : +91 9909277999, +91 8000006555.
E-mail : info@divyaint.com, Web : www.divyaint.com.

7. Technical support & guidance for lifetime.

To achieve this, highly educated technocrats and techno-commercial experts have come together forming the Management of this organization.

Plant Machinery Design-

Divya International designs the machinery according to the customer requirements & specifications. We encourage our customers to review each & every process of the system & according to their specifications we develop the preliminary design. After assuring that each & every client's specifications & requirements are met we develop the final design.

During design process a constant communication is maintained with our clients to ensure their involvement in the design process & to make sure their specific requirements are met in the final design. Our experts are widely experience to analyze the customer requirement & make sure to develop machinery which meets the client's specifications & requirements along with the high performance, less maintenance & longer life.

Technical Guarantee-

A business relationship requires a lot of work and commitment that you can expect from us.

To provide our customers the best technology available in modern times Divya International is committed to develop & improve its machineries & also diversified its product line. Experts, at Divya International are constantly working on the current technology platform to improve the efficiency of the plant on technical and commercial terms.

Experts at Divya International are striving hard to provide our valuable customers with services. We determined to provide our customer with services to ensure that we not only develop a healthy business relationship but also nurtured it.

Our Mission Statement---

Provide our customers with best pyrolysis solutions, services & develop healthy business relations.

Operator Training-

Prevention is better than cure.

We extend our services to the next level by ensuring that proper operator training is provided from our experts after the installation & commissioning of the plant.

Our Operator Training Program is divided into five segments-

1. Introduction to various Machinery Parts & its functions.
2. Machine Operation.
3. Raw Material Selection.
4. Handling Maintenance.
5. Risk Management.



Divya International

6, Shiv Shakti Nagar,
Nr. Sola Over Bridge, S. G. Highway,
Sola, Ahmedabad-3860 60, (GUJARAT), INDIA.
Phone : +91 9909277999, +91 8000006555.
E-mail : info@divyaint.com, Web : www.divyaint.com.

Getting qualified in operating the machinery avoids accidents & thus saves life. Constant communication is maintained between our services engineers & our client's representatives to ensure prevention of any hurdles in the machinery before it rises to the next level.

Thus our proper operator training program & our after sales services ensures safety & prevents dangerous mistakes.

Why Customer choose us?

Our research and development team is constantly working on pyrolysis technology since 2007 to provide our customers with best solutions & technology. Mr. Ashvin Patel director of Divya International has studied & researched about Pyrolysis plant and he has more than 2.5 years of practical experience to run the plant.

Main reason to deal with us as below:

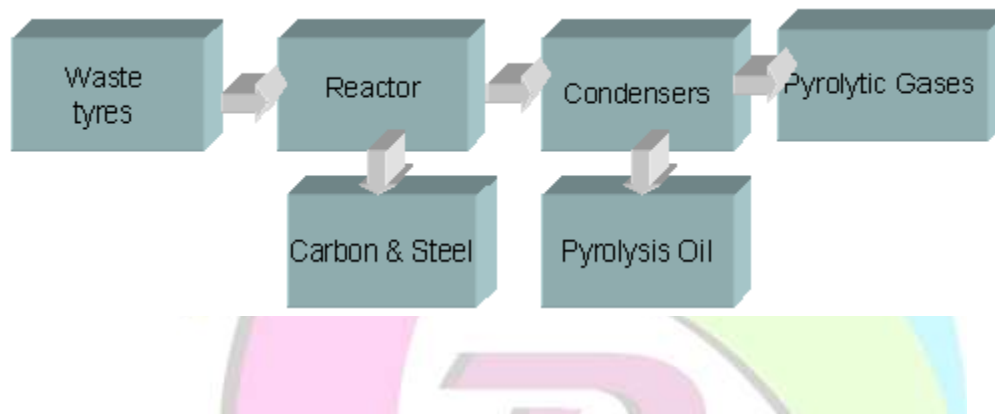
- ❖ **Our team has practical, technical as well as theoretical knowledge of pyrolysis machine and provides our customer with best & latest technology.**
- ❖ **Our technocrats have developed the machinery which is techno-commercially proven, that provides high quality & quantity of industrial fuel from tyres.**
- ❖ **Designing of the machinery is done in such a manner that ensures less maintenance, greater life & safety of the plant.**
- ❖ **Less investment in equipment, efficient performance and smooth production process are the biggest advantage of our machine.**
- ❖ **According to the actual site situation, weather conditions & requirement of the customers, we design the automation of pyrolysis plant.**
- ❖ **Company takes responsibility from designing, engineering, procurement, installation & operator training of the machine.**
- ❖ **We take the responsibility from machinery side to make your machine function properly and to provide our customers with great services at any time.**
- ❖ **Company is providing extra safety equipment with PLC controller and computerized controlling system with the plant.**
- ❖ **Provide our customers with best pyrolysis solutions, services & develop healthy business relations.**
- ❖ **A business relationship requires a lot of work and commitment that you can expect from us.**
- ❖ **Our technocrats have vast theoretical & practical experience & are highly qualified in the**



field of pyrolysis.

- ❖ We are giving guarantee of plant will be running at least more than 25-days/month.

Pyrolysis Process



Pyrolysis is a thermo chemical decomposition of organic material at elevated temperatures in the absence of oxygen. Pyrolysis typically occurs under pressure and at operating temperatures about 430 °C (800 °F).

Pyrolysis is a special case of thermolysis, and is most commonly used for organic materials, being, therefore, one of the processes involved in charring.

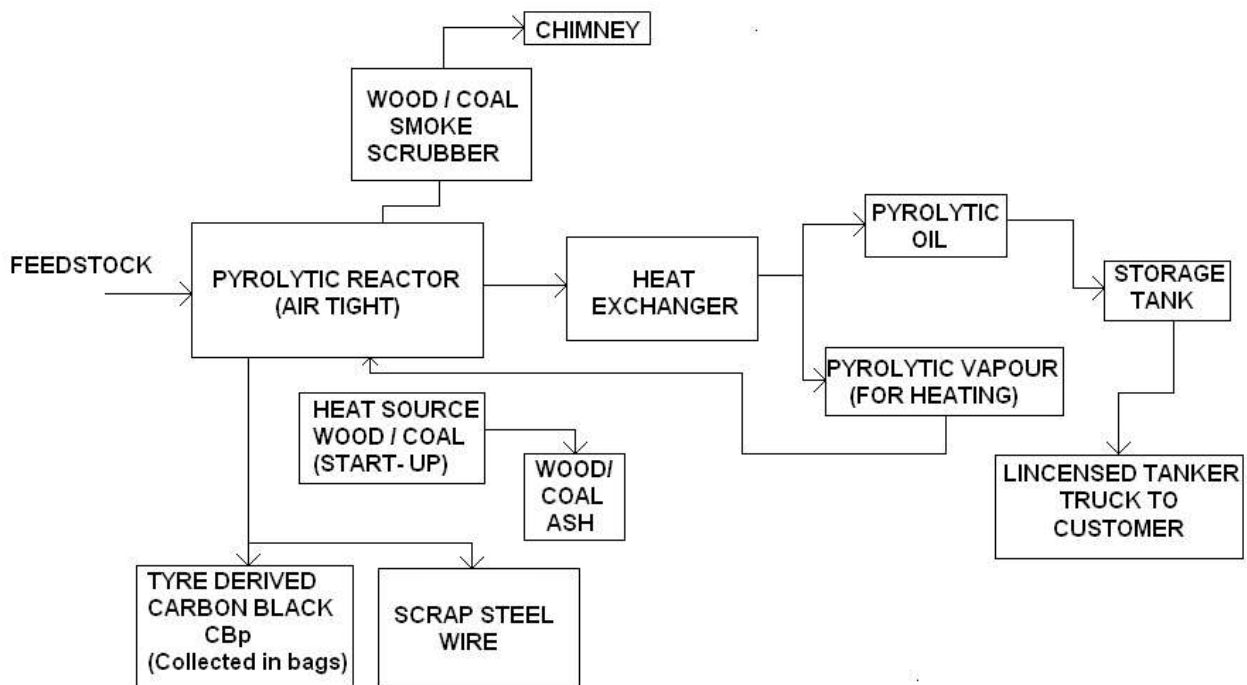
In general, pyrolysis of organic substances produces gas and liquid products and leaves a solid residue richer in carbon content. Extreme pyrolysis, which leaves mostly carbon as the residue, is called carbonization.

The process is used heavily in the chemical industry, for example, to produce charcoal, activated carbon, methanol, and other chemicals from wood, to convert ethylene dichloride into vinyl chloride to make PVC, to produce coke from coal, to convert biomass into syngas, to turn waste into safely disposable substances, and for transforming medium-weight hydrocarbons from oil into lighter ones like gasoline.

These specialized uses of pyrolysis may be called various names, such as dry distillation, destructive distillation, or cracking.



Machine Process



Process Details-

Machine Type	- Batch Process System.
Feeding Material	- Scrap Tyre or Plastics.
Fuel	- Wood, Gas, Coal or Oil.
Reactor Capacity	- 5/10/12 tons.

Process-

The waste Tyre or plastic are feed into the reactor vessel and initial heat is provided with the help of wood, gas, coal or oil under controlled conditions of temperature and pressure. The process will bring about molecular restructuring of the rubber and convert into the vapors and gases. This vapors and gases will flow into vapor gas separating tank. Then, these vaporized gases are passed through heat exchanger and convert that vapor into liquid in the form of Tyre oil. During the process we also get pyro gases, so we use this gases for heating of reactor in the later stage of



Divya International

6, Shiv Shakti Nagar,
Nr. Sola Over Bridge, S. G. Highway,
Sola, Ahmedabad-3860 60, (GUJARAT), INDIA.
Phone : +91 9909277999, +91 8000006555.
E-mail : info@divyaint.com, Web : www.divyaint.com.

the process and we burn the exceed gases in the burning room.

During the process, carbon black and steel are also generated. The heat exchanger use water for cooling as a condensing medium and this water is re-circulated through process. We pull-out carbon black from reactor and put into packing bag. The oil automatically collects in the machine storage tank. At the end we pull out steel wires.

Why we need pyrolysis plant?

On one hand, with the modernization of the society, rubber industry is developing at a rapid speed, rubber manufactures products are widely used, on the other hand, the pollutant of waste rubber is increasing day by day and its decomposing is very difficult, which is called as "Black Contamination". This has become a big threat to the environment. Compared to the developed countries, we are still lack of experiences in treating the pollution; the capital and the market are also big problems.

Nowadays, the output of tire in India is more than 1.3 billion, i.e. the third in all over the world. The scrap tires for each year are 65 million, and are increasing steadily year by year. So to set up a factory in each town, which could extract black carbon and tire oil from 65-million scrap tire, it is easy to find the raw material.

Product and Raw Material Market

Since along with world economics progressing by leaps and bounds, the petroleum scarce tendency has grown day by day, the energy has become the primary factor that restricts various economy development of various countries, as the research says, the petroleum on global land will be exhausted within 15 years. Seeking the need of new energy has become the matter of concern for various countries.

In our country, we have massive land, large population, with the rapid development of Market Economy, Auto Industry and Machinery Industry, the requirement of oil market unceasingly grows, our country have become petroleum-import country from petroleum-export country. Under such circumstances pyrolysis plant gives tire oil which is a substitution to furnace oil which is derived from crude. Thus, it creates the valuable things out of waste.

Our final motto is to make a Green Society.



Divya International

6, Shiv Shakti Nagar,
Nr. Sola Over Bridge, S. G. Highway,
Sola, Ahmedabad-3860 60, (GUJARAT), INDIA.
Phone : +91 9909277999, +91 8000006555.
E-mail : info@divyaint.com, Web : www.divyaint.com.

Waste Tyre Pyrolysis Plant Advantages

- ❖ For the waste Tyre pyrolysis plant the main raw materials are waste tyres & plastic scrap, which can be easily available in any part of the world.
- ❖ The raw material is cheaper.
- ❖ We get valuable outputs from the process and that are fuel oil, carbon black powder, scrap steel & gas.
- ❖ It is feasible technology with small amount of investment, high availability of raw materials, short recovery period and with our guidance, is the ideal choice of investing.
- ❖ There is 100% recycling of waste tires, no disposable materials are left at the end of the process.
- ❖ The output products have its demand in the market.
- ❖ No catalyst used in our machine during process.
- ❖ Access to best technology available in India at best price.
- ❖ It is a pollution free process, thus making eco-friendly environment.



Pyrolysis Product Details

FUEL OIL (40% TO 45%):-

The main product produce by pyrolysis plant is Tyre oil (industrial fuel oil). This is used in many industries as a fuel. There are 2 types of oil we get from the process, one is normal Tyre oil and other is heavy oil. Heavy oil is about 5% to 7% of Tyre oil. The final percentage of oil is about 40% to 45% depends on Tyre quality. Nowadays there is a great demand of fuel oil in the market, as every industry requires fuel for heating purpose.

Applications of pyrolysis oil- (Used in the industries where burning process is required.)

1. Steel Industries.
2. Rolling Mill Industries.
3. Chemical Industries.
4. Used in the Boilers for the heating purposes.

Potential Buyers- Manufacturers of above mentioned industries.
Traders.

Carbon Black (30% TO 35%):-

The second product of Tyre pyrolysis plant is carbon black. The quantity of carbon black is about 30% to 35% according to Tyre quality. The carbon black can be used as a chemical strengthener in rubber industries and coloring agent in pigment industries. This carbon black price is very competitive compare to petroleum carbon black, so our pyrolytic carbon black is good option instead of petroleum carbon black.

Applications of carbon black-

1. Used in steel industries for burning process.
2. Used in footwear industries to make rubber souls.
3. Used in polish industries.
4. Used in ink industries.
5. Used in color industries as pigment.
6. Used in Iron industries.

Potential Buyers- Manufacturers of above mentioned industries.
Traders.

Steel Wire Scrape (10% TO 15%):-

The third product of Tyre pyrolysis plant is steel wire, the quantity of steel wire is about 10% to 15% according to Tyre quality. It's very easy to sell steel wire scrape in local market.

Pyrolytic Gases (About 10 %):-

We get pyrolytic gases during process about 10% of waste Tyre. The main component of these gases is methane (CH₄), so we can not condense and store these gases. We use this gases to heat the reactor and we can use exceed gases for other heating application.



Divya International

6, Shiv Shakti Nagar,
Nr. Sola Over Bridge, S. G. Highway,
Sola, Ahmedabad-3860 60, (GUJARAT), INDIA.
Phone : +91 9909277999, +91 8000006555.
E-mail : info@divyaint.com, Web : www.divyaint.com.

Technical Specifications

5-tons per day		
Sr. No	Details	Specification
1	Equipment Model	DBM/5/01
2	Raw Materials	Waste Tyres & Plastics
3	Reactor Type	Horizontal Rotary
4	Reactor Size	2200*6000 mm
5	Cooling Type	Water Cooled- Cell & Tube Type Condensing System
6	Heating Type	Direct Heating
7	Heating Material	Wood, Coal, Gases, Oil etc
8	Required Power	30 HP
9	Working Pressure	0.05 to 1 Bar
10	Control System	0.4 rpm
11	Reactor Rotation Speed	Computerized PLC / Manual
12	Reactor Weight	Approx. 8.5 Tons
13	Machine Weight	Approx. 27 to 30 Tons
14	Process Timings	24 hours/batch*



Divya International

6, Shiv Shakti Nagar,
Nr. Sola Over Bridge, S. G. Highway,
Sola, Ahmedabad-3860 60, (GUJARAT), INDIA.
Phone : +91 9909277999, +91 8000006555.
E-mail : info@divyaint.com, Web : www.divyaint.com.

10-tons per day

Sr. No	Details	Specification
1	Equipment Model	DBM/10/01
2	Raw Materials	Waste Tyres & Plastics
3	Reactor Type	Horizontal Rotary
4	Reactor Size	2600*6600 mm
5	Cooling Type	Water Cooled- Cell & Tube Type Condensing System
6	Heating Type	Direct Heating
7	Heating Material	Wood, Coal, Gases, Oil etc
8	Required Power	30 HP
9	Working Pressure	0.05 to 1 Bar
10	Control System	0.4 rpm
11	Reactor Rotation Speed	Computerized PLC / Manual
12	Reactor Weight	Approx. 12 Tons
13	Machine Weight	Approx. 40 to 42 Tons
14	Process Timings	24 hours/batch*



Divya International

6, Shiv Shakti Nagar,
Nr. Sola Over Bridge, S. G. Highway,
Sola, Ahmedabad-3860 60, (GUJARAT), INDIA.
Phone : +91 9909277999, +91 8000006555.
E-mail : info@divyaint.com, Web : www.divyaint.com.

12-tons per day

Sr. No	Details	Specification
1	Equipment Model	DBM/12/01
2	Raw Materials	Waste Tyres & Plastics
3	Reactor Type	Horizontal Rotary
4	Reactor Size	3000*7500 mm
5	Cooling Type	Water Cooled- Cell & Tube Type Condensing System
6	Heating Type	Direct Heating
7	Heating Material	Wood, Coal, Gases, Oil etc
8	Required Power	35 HP
9	Working Pressure	0.05 to 1 Bar
10	Control System	0.4 rpm
11	Reactor Rotation Speed	Computerized PLC / Manual
12	Reactor Weight	Approx. 15 Tons
13	Machine Weight	Approx. 50 to 53 Tons
14	Process Timings	24 hours/batch*



Divya International

6, Shiv Shakti Nagar,
Nr. Sola Over Bridge, S. G. Highway,
Sola, Ahmedabad-3860 60, (GUJARAT), INDIA.
Phone : +91 9909277999, +91 8000006555.
E-mail : info@divyaint.com, Web : www.divyaint.com.

Other Details: -

Requires Land	: -	2000 SQ. Yard. (Around 20,000 Sq.feet.)
Electricity Consumption.	: -	35 Hp.
Water requires Approx.	: -	1000 Liters / Day.
Man power require	: -	Management person: 1 Technical Skill: - 1 Unskilled worker: - 5





Divya International

6, Shiv Shakti Nagar,
Nr. Sola Over Bridge, S. G. Highway,
Sola, Ahmedabad-3860 60, (GUJARAT), INDIA.
Phone : +91 9909277999, +91 8000006555.
E-mail : info@divyaint.com, Web : www.divyaint.com.

Pyrolysis Oil Specification Report

SR. NO	SPECIFICATIONS	UNITS	TEST RESULTS	STANDARD VALUE (LDO) BIS:1460
1.	KINEMATIC VISCOSITY AT 40°C	CST	9.00	2.4- 15.7
2.	ACIDITY, TOTAL	mgKOH/gm	0.01	NIL
3.	ASH	% BY WT	0.005	0.02
4.	FLASH POINT, COC	°C	40	66 MIN.
5.	WATER CONTENT	% BY WT	NIL	1.0 MAX.
6.	POUR POINT	°C	+ 6	12 - 18
7.	DENSITY AT 27°C	gm/cc	0.907	TO REPORT
8.	SEDIMENTS	% BY MASS	0.02	0.10
9.	TOTAL SULPHUR	% BY MASS	0.65	1.80
10.	COPPER STRIP CORROSION TEST FOR 3 HRS AT 100°C	NO UNITS	1b	1 MAX.
11.	GROSS CALORIFIC VALUE	KCAL/KG	10,200	ABV.10000



Divya International

6, Shiv Shakti Nagar,
Nr. Sola Over Bridge, S. G. Highway,
Sola, Ahmedabad-3860 60, (GUJARAT), INDIA.
Phone : +91 9909277999, +91 8000006555.
E-mail : info@divyaint.com, Web : www.divyaint.com.

Carbon Black Specification Report

Total (condition)	Method	Unit	Specified Value	Observed Value
Ash Content	ASTM D 1506	%	--	9.44
Pour Density	ASTM D 1513	Kg/m ³	--	244
pH Value	ASTM D 1512	--	--	6.60
Loss on Heating	ASTM D 1509	%	--	0.41
Solvent Extractable	ASTM D 4527	%	--	7.60
Iodine Adsorption	IS 7498	gm / Kg	--	81.14
Surface Area by BET Method	ASTM D 1993	m ² / gm	--	27.51
ICP Analysis				
Cu	IRMRA/CHEM/	PPM	--	11
Fe	SOP/08			954
Mn				14



Divya International

6, Shiv Shakti Nagar,
Nr. Sola Over Bridge, S. G. Highway,
Sola, Ahmedabad-3860 60, (GUJARAT), INDIA.
Phone : +91 9909277999, +91 8000006555.
E-mail : info@divyaint.com, Web : www.divyaint.com.

Contact Details-

Office Address:-

Divya International

6, Shivshakti nagar, NR sola over bridge, Near Audi showroom,
S.G.Highway, Sola, Ahmedabad - 386060.

GUJARAT, INDIA.

+91-9978944111

+91-9925766111

E-mail: sales@divyaint.com
info@divyaint.com

Web: www.divyaint.com
www.divyaint.co.in