LLDPE PRINTED SHOPPING/CARRY BAGS

1. INTRODUCTION

Shopping & Carrier bags have recently become an integral part of retail selling in India. The advantage of these bags is not only the ease with which product can be carried but also in avoiding unnecessary show of items packed. A colourfully printed shopping bag is used for quite a long time and is taken to variety of places. Thus it acts as an advertisement media for the retail trade.

Carry bags are being used for local packaging of vegetables, groceries and stationery etc. as well as for shopping and designer bags for large departmental stores.

Blend ratios vary from 10-90% LLDPE in both HD/LLD as well as LD/LLD blends, with thickness varying from 30 microns to 100 microns.

Bags produced are of various sizes, designs and colours depending on the buyers need. Standard sizes being used are:

9" * 13", 10" * 15", 12" * 15", 12" * 18", 13" * 19", 14" * 20",
17" * 21"

The bags produced are of different sizes as well as shapes. Also various types of handles, such as:

"Rasi" handle, Suitcase handle, Suitcase with grip type handle, Half round lock type handle are used, 'D' punch handle

From single colour upto twelve colour printing is possible. Depending on the quantity, rotogravure, flexo or screen printing process is used.

Advantages of LLDPE films –

1. Excellent draw-down ability makes possible to produce thinner films
2. Very high tensile strength
3. Outstanding puncture resistance
4. Very high tear strength
5. Exceptional hot tack, sealability and resistance to ESCR.

2. MARKET POTENTIAL

There is good demand for shopping bags in view of opening of New Malls, Garments Shops, Grocery Shops, General Stores, Vegetable Shops, Sweet Shops etc. Depending upon the end products shopping bags of small and big sizes are made with aesthetic appeal. Good quality printed bags are also made for the customers especially for jewellery, cosmetics etc. with bright and attractive works. Shopping bags/carry bags has huge demand for all purpose which has replaced paper bags.

3. BASIS & PRESUMPTIONS

(i) The output capacity is taken as 350 Kgs/hr. The unit will work at 20 hrs. per day for 25 working days in a month and 300 days in a year. The output capacity may vary from machinery to machinery and the cost of machinery may also vary from supplier to supplier.

(ii) The time period for achieving the full envisaged capacity utilisation is six months

(iii) The labour wages are as per the prevailing rates in the market

(iv) The rate of interest for fixed and working capital is taken as 12 per cent

(v) The margin money requirement for this project is 30 per cent

(vi) The pay back period of this project is 5 years

(vii) The rate of land is taken @ Rs. 500/-per sq. mtr. and construction charges are taken @ Rs. 3500 per sq. mtr. This may also vary from place to place.

(viii) The present profile has to be updated taking into prevailing cost of land, building, machinery etc. at the time of implementation of the project

4. IMPLEMENTATION SCHEDULE

The Time requirement for preparation of Project report : Two months

Time requirement for selection of Site : One month

Time required for registration as Small Scale Unit : One Week

Time required for acquiring the loan : Three months

Machinery procurement, erection and commissioning

Recruitment of labourer etc. : One month

Trial runs : One month

5. TECHNICAL ASPECT

MANUFACTURING PROCESS

LLDPE or LD/LLDPE granules and colour are fed to an extruder, where they are melted and extruded in the form of tube. This tube is inflated into a bubble which is then collapsed to form a layflat film. The film is then surface treated on a corona treater and then proceeded to a winder.

The film roll is brought to a four colour flexo machine, where it is printed using rubber rolls.

The printed film is then converted into bags using a bottom or side seal bag making machine. The required handle is then attached to the bag.

6. QUALITY & STANDARD

The containers may be manufactured as per the standard specification specified by the Oil Companies.

7. PRODUCTION CAPACITY (Per Annum)

(a) Quantity (M.T.) : 2,100
(b) Value (Rs.) : 18,90,00,000.00

8. TOTAL POWER REQUIREMENT

Total connected load (KW) : 215

9. POLLUTION CONTROL MEASURES

The unit does not create any pollution. However, a proper ventilation should be made in the processing area for the better circulation of the fresh air.

10. ENERGY CONSERVATION

Entrepreneurs may select energy efficient machinery and proper planning has also to be made for saving energy in the unit.

11. FINANCIAL ASPECT

A. FIXED CAPITAL

i) LAND & BUILDING: Area sq. mtrs. Rate Rs. per Sq. mtr. (Rs.)

Land	500	500	2,50,000.00
Building	300	3500	10,50,000.00

Total : 13,00,000.00

ii) MACHINERY & EQUIPMENT:

Sr. No.	Description of machines	Qty.(Nos.)	(Rs.)
(a)	Production Unit		
	i) Extrusion Blow Film Plant	01	1,95,00,000.00
	ii) Printing machine		75,00,000.00
	iii) Bag making machine	03	25,00,000.00
	iv) Scrap Grinder	01	1,00,000.00
	v) Cooling Tower	01	1,00,000.00
	vi) Compressor	01	2,50,000.00
(b)	Testing Equipment & Other Accessories		50,000.00
(c)	Electrification & Installation @ 10% of cost & machinery (a) & (b)		30,00,000.00
(d)	Pre-operative expenses		1,00,000.00
	Total cost of machinery & equipment (a to d)		3,31,00,000.00

(e) Cost of Moulds & Dies & Mini Expesnes

1,00,000.00

(f) Cost of Office Equipment/Furniture/Computers etc.
3,00,000.00

Total:	3,35,00,000.00

Fixed Capital (i) + (ii) = 13,00,000 + 3,35,00,000 = 3,48,00,000.00

B. WORKING CAPITAL

i) Staff and Labour (Per Month)

Designation	Nos.	Salary (Rs.)	(Rs.)
Production Engineer/Manager	01	10,000.00	10,000.00
Sales Executive	01	5,000.00	5,000.00
Accountant-cum-Store Keeper	01	4,000.00	4,000.00
Watchman	02	3,000.00	6,000.00
Skilled Workers	03	3,500.00	10,500.00
Helpers	03	3,000.00	9,000.00
			44,500.00
Add perquisite @ 10% of the Salary			4,450.00
		Total:	48,950.00
		Or Say Rs.	49,000.00

ii) Raw Material (Per Month) Qty. (M.T.) Rate Rs./MT (Rs.)

LLDPE Granules 175 75,000 1,31,25,000.00

iii) Utilities (per month): (Rs.)

a) Power
(60% utilisation x 215 KW x 500 hrs. x Rs. 5 per unit)

3,22,500.00

b) Water

2,500.00

Total: 3,25,000.00

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iv) Other Contingent Expenses (Per month) (Rs.)

oo) Repairs and Maintenance

1,000.00

pp) Transportation Charges 5,000.00

c) Postage and stationery 1,000.00

d) Telephone/Fax/Computer

2,000.00

Consumable Stores 1,000.00

Advertisement & Publicity 2,000.00

Insurance

5,000.00

Miscellaneous Expenses
1,000.00

Total: 18,000.00

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12. <u>TOTAL WORKING CAPITAL</u> (Per Month)

(Rs.)

i)	Staff and Labour	49,000.00
ii)	Raw Material	
		1,31,25,000.00
iii)	Utilities	3,25,000.00
iv)	Other Contingent Exp.	18,000.00
	Total:	1,35,17,000.00
	Working Capital for 3 months	4,05,51,000.00

13. <u>TOTAL CAPITAL INVESTMENT</u>

(Rs.)

A.	Fixed Capital	
		3,48,00,000.00
B.	Working Capital for 3 months	
		4,05,51,000.00
	Total:	7,53,51,000.00

Or Say Rs. 7,53,51,000.00

14. <u>FIANCIAL ANALYSIS</u> (Rs.)

A. Cost of Production (per year) (300 days)

(a) Total Recurring Cost

16,22,04,000.00

(b) Depreciation on building @ 5%

52,500.00

(c) Depreciation on machinery& equipment @ 10%

33,10,000.00

(d) Depreciation on Dies, Moulds & office equipment @ 20%

80,000.00

(f) Interest on total Capital Investment @ 12%

90,42,120.00

Total: 17,46,88,620.00

Or say Rs.

17,46,89,000.00

B. Sales/Turn over (per year)

Item	Qty.(MT)	Rate (MT)	Value (Rs.)
LLDPE Printed Carry Bags	2,100	90,000	18,90,00,000.00

C. Net Profit (Per year)

Sales(Rs) – Cost of Production (Rs.) = Profit (Rs.)

18,90,00,000 - 17,46,89,000 = 1,43,11,000.00

D. Net Profit Ratio = $\frac{\text{Net Profit x 100}}{\text{Sales}}$

= $\frac{1,43,11,000 \times 100}{18,90,00,000}$ = 7.57%

E. Rate of Return = $\frac{\text{Net Profit x 100}}{\text{Total Capital Investment}}$

= $\frac{1,43,11,000 \times 100}{7,53,51,000}$ = 18.9%

F. Break-even Point

Fixed Cost (Per Year) (Rs.)

a) Depreciation on Building @ 5%

52,500.00

b) Depreciation on Machinery & Equipment @ 10%

33,10,000.00

c) Depreciation on Moulds/Dies & Office Equipment @ 20%

80,000.00

d) Insurance 60,000.00

e) Interest on total capital investment

90,42,120.00

f) 40% of salary and wages

2,35,200.00

g) 40% of other contingent expenses
62,400.00

Total: 1,28,42,220.00

Or Say Rs.

1,28,42,000.00
Net Profit (Per Year)

$$\text{B.E.P. \%} = \frac{\text{Fixed Cost} \times 100}{\text{Fixed Cost} + \text{Net Profit}}$$

$$= \frac{1,28,42,000 \times 100}{1,28,42,000 + 1,43,11,000}$$

$$= \frac{1,28,42,000 \times 100}{2,71,53,000} = 47.29\%$$

11. LLDPE STRETCH & CLING FILM

1. INTRODUCTION

Stretch film entered the world market in the early 1970's mainly as a replacement for shrink film used in packaging of glass bottles. Stretch cling wrapping is a process in which a pre-extruded tacky film is wrapped around any product such as bundle, roll, pallet load etc. of any shape and size to impart a firm grip to the package. The tacky characteristics of the film help in self adhesion of the film without any external aids.

Stretch film wrapping is one of the most economic modes of packaging. Stretch cling film wrapping protects the product against the environment and makes it convenient for handling, storage and shipping.

Although stretch cling film is costlier to shrink wrap film, the quantity of stretch cling used is roughly one-fourth.

Products can be wrapped in two forms:

(a) Small Packs/Bundles

Majority of food items, particularly fresh vegetables, fruits, sandwiches, are stretch wrapped in small packs.

(b) Pallets

Stretch cling film is mostly used for palletization. The products are initially packed in their primary packing and put into either cartons or cardboard trays which are then palletized together in stretch wrap.

Stretch film is primarily used as a means of secondary packaging and can substitute the use of wooden crates and corrugated cartons. The entire wooden crate and corrugated cartons are replaced with a tray either made of wood or cardboard which is used as a base on which the packed goods are stacked and stretch wrapped cutting down on the cost tremendously.

2. MARKET POTENTIAL

The demand for LLDPE Stretch & Cling film is growing at a very rapid pace due to the wide range of applications. This film is soon replacing Aluminium foil in hotel industry and in airlines. The cling properties of

this film has an edge over the conventional materials like Aluminium foil. In hotel industry LLDPE Stretch & Cling film rolls of 1 ft length and 12 inch diameter & 30 mts long(weight) are normally used. This film is mainly gaining importance in exports of garments, soft drinks, pulps, concentrates, jams etc.

Each item exported needs a very good packaging material and LLDPE Stretch & Cling film due to its high strength and stretch ability (max. upto 500% max. and 300% min.) is the most ideal material. Garments that are packed in cartons are now stretch wrapped. Another application is mineral water bottles, soft drinks, oil etc. which are packed in cartons and stretch wrapped. Food products, books, house hold items etc. are now being packed/wrapped and the demand is growing fast.

Another major application is in picture tubes of television sets.

The demand of LLDPE Stretch & Cling film in the country in 2004-05 is about 5000-6000 TPA. This is expected to grow at around 20% CARG.

3. BASIS & PRESUMPTIONS

(i) The output capacity is taken as 150 Kgs/hr. The unit will work at 20 hrs. per day for 25 working days in a month and 300 days in a year. The output capacity may vary from machinery to machinery and the cost of machinery may also vary from supplier to supplier.

(ii) The time period for achieving the full envisaged capacity utilisation is six months

(iii) The labour wages are as per the prevailing rates in the market

(iv) The rate of interest for fixed and working capital is taken as 12 per cent

(v) The margin money requirement for this project is 30 per cent

(vi) The pay back period of this project is 5 years

(vii) The rate of land is taken @ Rs. 500/-per sq. mtr. and construction charges are taken @ Rs. 3500 per sq. mtr. This may also vary from place to place.

(viii) The present profile has to be updated taking into prevailing cost of land, building, machinery etc. at the time of implementation of the project

4. IMPLEMENTATION SCHEDULE

The Time requirement for preparation of Project report : Two months

Time requirement for selection of Site : One month

Time required for registration as Small Scale Unit : One Week

Time required for acquiring the loan

Machinery procurement, erection and commissioning : Three months

Recruitment of labourer etc. : One month

Trial runs : One month

5. TECHNICAL ASPECT

MANUFACTURING PROCESS

The various factors to be taken into consideration for production of quality stretch film using a conventional monolayer blown film extruder with indigenous raw material inputs. Though a three layer stretch film gives best results for industrial

wrappings using 300% stretch, there is a vast market (like Household Wrapping, Food Wrapping, Industrial hand wrapping of pallets etc.) where monolayer stretch film serves the purpose very well. In fact, in abroad also, 40-50% of stretch films are manufactured on monolayer machines.

A) Machinery

- 100% LLDPE Extruder with L/D ratio 24:1 and above.
- Either monolayer or three layer two layer extruder gives mixed results in proper development of cling effect.
- Aerodynamic cooling ring for good bubble stability at thin gauges and good clarity.
- Uniform Gauge Control Across the die.
- Rotating Die preferable for good finish of the roll and better M.D. Tear strength.
- Addition of polymer processing aid necessary if an LDPE extruder has to be used. Using LDPE extruder with PPA will give slightly better overall mechanical properties of the film.

B) Accessories

- Banana roll/Spread roll for removing wrinkles
- Good side trimming facility with surface winders for proper winding of the film. Regular changing of trimming blades necessary since LLDPE is more abrasive than other materials.
- Since on line slitting rewinding is quite difficult while using non slip grades, use of a separate slitter rewinder always gives much better finish of the roll and reduces trimming wastage. Also it is possible to take out maximum width lay flat tubing and slit it into any number of different width rolls as per the order.

C) Raw Material

- Use 1 MI LLDPE film grade for industrial film (20-30 mic)
- Use 2 MI LLDPE film grade for household/food wrapping applications (12-15 mic film).
- Blend 10% general purpose film grade LDPE (3 – 7 mi) for better clarity.

- Otherwise blend 10% slurry HDPE film grades for better tensile and clarity (Blend of low percentage of HDPE have been found to improve the clarity of LLDPE film).
- Use PIB master batch from a good source. Otherwise the film may be more sticky but less tacky. Also more loading % may increase the cost.
- Optimum level of Addition of PIB is 6 – 8%. This may have to be altered if the master batch contains less PIB than declared. But otherwise, adding more or less PIB will both give problems in quality of film.
- Fractional MI/LLD based on higher Alpha olefins may be used for special purpose stretch film requiring better mechanicals and higher stretch.

PROCESSING

- Good blow up ratio to have a good residual M/D Elongation
- In case of sticky master batch granules, slow feeding of material to the hopper or mixing of some anti-blocking material like Talc is required.
- Lower temp in compression/mixing zone for good dispersion. Higher temperature in die and die lip for development of good cling property.
- More loading of PIB will make the film very sticky and stacked pallets may stick to one another.
- It is easy to produce one side tacky film in 3 layer plant by using slip modified grade in inner layer, non slip LLD with 10% HD in middle layer and non slip LLD with PIB master batch in the outer layer.

- In monolayer film also it is possible to produce one side tacky film by giving corona treatment. The side where corona treatment is given, will not develop tackiness.
- Always check for moisture in the material and the master batch. Pre-drying of material and master batch to about 80 Deg. C will give better results.

6. QUALITY & STANDARD

As per customers' specification.

7. PRODUCTION CAPACITY (Per Annum)

(a) Quantity (M.T.) : 900

(b) Value (Rs.) : 8,28,00,000.00

8. TOTAL POWER REQUIREMENT

Total connected load (KW) : 210

9. POLLUTION CONTROL MEASURES

The unit does not create any pollution. However, a proper ventilation should be made in the processing area for the better circulation of the fresh air.

10. ENERGY CONSERVATION

Entrepreneurs may select energy efficient machinery and proper planning has also to be made for saving energy in the unit.

11. FINANCIAL ASPECT

A. FIXED CAPITAL

i) LAND & BUILDING: Area sq. mtrs. Rate Rs. per Sq. mtr. (Rs.)

Land	500	500	2,50,000.00
Building	300	3500	10,50,000.00

Total : 13,00,000.00

ii) MACHINERY & EQUIPMENT:

Sr. No.	Description of machines	Qty.(Nos.)	(Rs.)
(e)	Production Unit		
	i) Three layer Extrusion Blown Film Plant having capacity 150 kg//hr.		58,00,000.00
	ii) Compressor		3,00,000.00
	iii) Cooling Tower		1,00,000.00
	iv) Scrap Grinder		1,00,000.00
(c)	Testing Equipment & Other Accessories		2,00,000.00
(c)	Electrification & Installation @ 10% of cost & machinery (a) & (b)		6,50,000.00
(d)	Pre-operative expenses		50,000.00
	Total cost of machinery & equipment (a to d)		72,00,000.00
(e)	Cost of Moulds & Dies		2,00,000.00
(f)	Cost of Office Equipment/Furniture/Computers etc.		3,00,000.00

Total: 77,00,000.00

Fixed Capital = (i) + (ii) = 13,00,000 + 77,00,000 = 90,00,000.00

B. WORKING CAPITAL

i) Staff and Labour (Per Month)

Designation	Nos.	Salary (Rs.)	(Rs.)
Production Engineer/Manager	1	10,000.00	10,000.00
Sales Executive	1	5,000.00	5,000.00
Accountant-cum-Store Keeper	1	5,000.00	5,000.00
Watchman	2	3,000.00	6,000.00
Skilled Workers	3	3,500.00	10,500.00
Helpers	3	3,000.00	9,000.00
			45,500.00
Add perquisite @ 10% of the Salary			4,550.00
		Total:	50,050.00
		Or Say Rs.	50,000.00

ii) Raw Material (Per Month) Qty. (Tones) Rate Rs./MT (Rs.)

LLDP Granules	75	75,000.00	56,25,000.00

iii) Utilities (per month): (Rs.)

a) Power 3,15,000.00
(60% utilisation x 210 KW x 500 hrs. x Rs. 5 per unit)

b) Water
2,000.00

Total: 3,17,000.00

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iv) Other Contingent Expenses (Per month) (Rs.)

a) Repairs and Maintenance
2,000.00

b) Transportation Charges 5,000.00

c) Postage and stationery 1,000.00

d) Telephone/Fax/Computer
2,000.00

e) Consumable Stores
5,000.00

f) Advertisement & Publicity
2,000.00

g) Insurance 10,000.00

h) Miscellaneous Expenses
1,000.00

Total: 28,000.00

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12. TOTAL WORKING CAPITAL (Per Month) (Rs.)

i) Staff and Labour 50,000.00

ii) Raw Material
56,25,000.00

iii) Utilities 3,17,000.00

iv) Other Contingent Exp. 28,000.00

Total: 60,20,000.00

Working Capital for 3 months 1,80,60,000,00

13. TOTAL CAPITAL INVESTMENT

(Rs.)

A. Fixed Capital

90.00,000.00 B. Working Capital for 3 months

1,80,60,000.00

Total: 2,70,60,000.00

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14. FIANCIAL ANALYSIS (Rs.)

A. Cost of Production (per year) (300 days)

(a) Total Recurring Cost

7,22,40,000.00

(b) Depreciation on building @ 5%

52,500.00

(c) Depreciation on machinery& equipment @ 10%

7,20,000.00

(d) Depreciation on Dies Moulds & office equipment @ 20%

1,00,000.00

(f) Interest on total Capital Investment @ 12%

32,47,200.00

Total:

7,63,59,700.00

Or Say Rs.

7,63,60,000.00

B. Sales/Turn over (per year)

Item	Qty.(MT)	Rate (MT)	Value (Rs.)

LLDP Stretch Cling Film 900 92,000
8,28,00,000.00

C. Net Profit (Per year)

Sales(Rs) – Cost of Production (Rs.) = Profit (Rs.)

8,28,00,000 - 7,63,60,000 = 64,40,000.00

D. Net Profit Ratio = $\frac{\text{Net Profit} \times 100}{\text{Sales}}$

= $\frac{64,40,000 \times 100}{8,28,00,000}$ = 7.77%

E. Rate of Return = $\frac{\text{Net Profit} \times 100}{\text{Total Capital Investment}}$

= $\frac{64,40,000 \times 100}{2,70,60,000}$ = 23.79%

F. Break-even Point

Fixed Cost (Per Year) (Rs.)

a) Depreciation on Building @ 5%

52,500.00

b) Depreciation on Machinery & Equipment @ 10%

7,20,000.00

c) Depreciation on Moulds/Dies & Office Equipment @ 20%
1,00,000.00

d) Insurance 1,20,000.00

e) Interest on total capital investment

32,47,200.00

f) 40% of salary and wages

2,40,000.00

g) 40% of other contingent expenses
86,400.00

Total: 45,66,100.00

Or Say Rs. 45,66,000.00

Net Profit (Per Year)

$$\text{B.E.P. \%} = \frac{\text{Fixed Cost} \times 100}{\text{Fixed Cost} + \text{Net Profit}}$$

$$= \frac{45,66,000 \times 100}{45,66,000 + 64,40,000}$$

$$= \frac{45,66,000 \times 100}{1,10,06,000} = 41.48\ \%$$

LLDPE ZIPPER BAG

1. INTRODUCTION

PE Zipper bags were introduced in Europe in the '70s called 'minigrip' and a patent covered in all countries protected its production. With the expiry of patent, there are now several manufacturers in South East Asia offering plants of outputs varying from 5 kg/hr. to 30 kg/hr. for assorted size bags in 40 to 50 micro thickness.

The zipper bags also referred to as magic seal bags have a projection and insertion profile at the top and side sealed on one end,. The red or any other coloured streak line provides identification particularly to distinguish product and sizes of items packed. The zipper bags can be reused several times and protect the items from ingress of moisture, gas and entry by insects.

2. MARKET POTENTIAL

The market for zipper bags remains untapped as very few manufacturers are in the business. Zipper bags are used in households and also for packing of food products. The industry also utilize zipper bags for sampling granules of powder products inclusive of colorants, chemicals, cosmetic products, hardware items and medical products.

3. BASIS & PRESUMPTIONS

(i) The output capacity is taken as 30 Kgs/hr. The unit will work at 20 hrs. per day for 25 working days in a month and 300 days in a year. The output capacity may vary from machinery to machinery and the cost of machinery may also vary from supplier to supplier.

(ii) The time period for achieving the full envisaged capacity utilisation is six months

(iii) The labour wages are as per the prevailing rates in the market

(iv) The rate of interest for fixed and working capital is taken as 12 per cent

(v) The margin money requirement for this project is 30 per cent

(vi) The pay back period of this project is 5 years

(vii) The rate of land is taken @ Rs. 500/-per sq. mtr. and construction charges are taken @ Rs. 3500 per sq. mtr. This may also vary from place to place.

(viii) The present profile has to be updated taking into prevailing cost of land, building, machinery etc. at the time of implementation of the project

4. IMPLEMENTATION SCHEDULE

The Time requirement for preparation of Project report : Two months

Time requirement for selection of Site : One month

Time required for registration as Small Scale Unit : One Week

Time required for acquiring the loan
Machinery procurement, erection and commissioning : Three months

Recruitment of labourer etc. : One month

Trial runs : One month

5. TECHNICAL ASPECT

MANUFACTURING PROCESS

LLDPE or LD/LLDPE granules and colour are fed to an extruder, where they are melted and extruded in the form of tube. This tube is inflated into a bubble which is then collapsed to form a layflat film. Zipper is formed at the time of extrusion stage. Special Zipper closing unit is provided on the take up of frame. The film is then surface treated on a corona treater and then proceeded to a winder. The film roll is brought to a four colour flexo machine, where it is printed using rubber rolls.

The printed film is then converted into bags using a bottom or side seal bag making machine.

6. QUALITY & STANDARD

The Zipper Bangs are manufactured as per customers' specification.

7. PRODUCTION CAPACITY (Per Annum)

(a) Quantity (M.T.) : 180

(b) Value (Rs.) : 1,89,00,000.00

8. TOTAL POWER REQUIREMENT

Total connected load (KW) : 58

9. POLLUTION CONTROL MEASURES

The unit does not create any pollution. However, a proper ventilation should be made in the processing area for the better circulation of the fresh air.

10. ENERGY CONSERVATION

Entrepreneurs may select energy efficient machinery and proper planning has also to be made for saving energy in the unit.

11. FINANCIAL ASPECT

A. FIXED CAPITAL

i) LAND & BUILDING: Area sq. mtrs. Rate Rs. per Sq. mtr. (Rs.)

Land	200	330	66,000.00
Building	110	3500	3,85,000.00
		Total :	4,51,000.00

ii) MACHINERY & EQUIPMENT:

Sr. No. Description of machines Qty.(Nos.) (Rs.)

(a) Production Unit

i) Extrusion Line 22,00,000.00

ii) Extruder for making Red Line 20,00,000.00

iii) Bag making machine 5,00,000.00

iv) Auto Film width Controller

2,00,000.00

(b) Testing Equipment & Other Accessories

1,00,000.00

(c) Electrification & Installation @ 10% of cost & machinery 5,00,000.00
(a) & (b)

(d) Pre-operative expenses
1,00,000.00

Total cost of machinery & equipment (a to d)
56,00,000.00

(e) Cost of Moulds & Dies L.S.
1,00,000.00

(f) Cost of Office Equipment/Furniture/Computers etc. L.S.
3,00,000.00

Total: 60,00,000.00

Total Fixed Cost (i) + (ii) = 4,51,000 + 60,00,000 = 64,51,000.00

B. <u>WORKING CAPITAL</u>

i) <u>Staff and Labour</u> (Per Month)

Designation	Nos.	Salary (Rs.)	(Rs.)
Sales Executive	01	10,000.00	10,000.00
Accountant	01	5,000.00	5,000.00
Store Keeper-cum-Clerk	01	7,000.00	7,000.00
Supervisor	02	8,000.00	16,000.00

Skilled Workers	03	5,000.00	15,000.00	
Unskilled Workers	06	3,500.00	21,000.00	
Watchman	03	3,500.00	10,500.00	
			84,500.00	
Add perquisite @ 10% of the Salary			8,450.00	
		Total:	93,950.00	
		Or Say Rs.	94,000.00	

ii) Raw Material (Per Month)

	Qty. (M.T.)	Rate Rs./MT	(Rs.)
LLDPE	15	65000	9,75,000.00

iii) Utilities (per month):

		(Rs.)
a)	Power (60% efficiency x 58 KW x 500 hrs. x Rs. 5 per unit)	87,000.00
b)	Water	1,000.00
	Total:	88,000.00

iv) Other Contingent Expenses (Per month)

		(Rs.)
qq)	Repairs and Maintenance	3,000.00
rr)	Transportation Charges	6,000.00
ss)	Postage and stationery	2,000.00
tt)	Telephone/Fax/Computer	2,000.00

uu) Consumable Stores

2,000.00

vv) Advertisement & Publicity

3,000.00

ww) Insurance 7,000.00

xx) Miscellaneous Expenses
3,000.00

Total: 28,000.00

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12. TOTAL WORKING CAPITAL (Per Month) (Rs.)

i) Staff and Labour 94,000.00

ii) Raw Material

9,75,000.00

iii) Utilities 88,000.00

iv) Other Contingent Exp. 28,000.00

Total: 11,85,000.00

Say Rs.
11,85,000.00

Working Capital for 3 months 35,55,000.00

13. TOTAL CAPITAL INVESTMENT
(Rs.)

A. Fixed Capital

64,51,000.00 B. Working Capital for 3 months

35,55,000.00

Total: 1,06,06,000.00

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14. FIANCIAL ANALYSIS (Rs.)

A. Cost of Production (per year) (300 days)

(a) Total Recurring Cost

1,42,20,000.00

(b) Depreciation on building @ 5%

19,250.00

(c) Depreciation on machinery& equipment @ 10%

5,60,000.00

(d) Depreciation on Dies & Moulds @ 20%

20,000.00

(e) Depreciation on office equipment @ 20%

60,000.00

(f) Interest on total Capital Investment @ 12%
12,01,440.00

Total: 1,60,80,690.00

87

Say Rs. 1,60,80,000.00

B. Sales/Turn over (per year)

Item	Qty.(MT)	Rate (MT)(Rs.)	Value (Rs.)
LLDPE Zipper Bag	180	1,05,000.00	1,89,00,000.00

C. Net Profit (Per year)

Sales(Rs) – Cost of Production (Rs.) = Profit (Rs.)

1,89,00,000 - 1,60,80,000 = 28,20,000.00

D. Net Profit Ratio = $\frac{\text{Net Profit x 100}}{\text{Sales}}$

= $\frac{28,20,000 \times 100}{1,89,00,000}$ = 14.9%

E. Rate of Return = $\frac{\text{Net Profit x 100}}{\text{Total Capital Investment}}$

= $\frac{28,20,000 \times 100}{}$ = 28.18%

1,00,06,000

F. Break-even Point

Fixed Cost (Per Year) (Rs.)

a) Depreciation on Building @ 5%

19,250.00

b) Depreciation on Machinery & Equipment @ 10%

5,60,000.00

c) Depreciation on Moulds/Dies & Office Equipment @ 20%

80,000.00

d) Insurance 84,000.00

e) Interest on total capital investment

12,01,440.00

f) 40% of salary and wages

4,51,200.00

g) 40% of other contingent expenses
96,000.00

Total: 24,91,890.00

Or Say Rs.

24,92,000.00
Net Profit (Per Year)

$$\text{B.E.P. \%} = \frac{\text{Fixed Cost} \times 100}{\text{Fixed Cost} + \text{Net Profit}}$$

$$= \frac{24,92,000 \times 100}{24,92,000 + 28,20,000}$$

$$= \frac{24,92,000 \times 100}{53,12,000} = 46.9\%$$

ANNEXURE – I

MACHINERY & EQUIPMENT SUPPLIERS

1) **A-ONE ENGINEERING**
71/2 Phase – 1, GIDC Vatva, Ahmedabad-382 445
Phone : 079-25834843Fax: 079-25834843
E-mail : aoneengineering@rediffmail.com
Web: www.aoneengineering.com
Products/Services : Plastic Processing machinery (Bag making machine)

2) **A ONE INTERNATIONAL**
11, Amar Estate, Anil Starch Road,
Opp: Super Bread Factory,
Naroda Road, Ahmedabad-380 025.
Phone: 079-22201482/22201861 Fax: +91-79-22203684
E-mail: aonead1@sancharnet.in Web: http: \\www.newyesh.com
Products/Services: HDPE/PP Woven Sack Machinery:
1) High speed 4,6 &8 shuttle circular looms
2) High speed magnetic type cheese winders
3) Flexographic printing machines
4) Bale Press Machines
5) Sutli Plant
6) Sutli Monofilament box strapping & all types of winders
7) Spares for all the above

3) **AMBICA PLASTIC MACHINERY MANUFACTURERS**
1-2, Kansawala Estate, Opp: Chakudia Mahadev,
Rakhial, Ahmedabad-23. (Guj.) INDIA
Phone: (O) +91-79-2274 5089, 6512 6275 Fax: +91-79-2278 2613
Cell: 098251 57891, 092274 48246
E-mail: info@ambicaplastic.com/ambica_kalpesh@hotmail.com
Web: www.ambicaplastic.com
Products/Services : Reprocessing/H.D.P.E. Monofilament/P.P. Tap Plants
Sutli Plant with “T” Die
HDPE/P.V.C. Pipe Plant
Tubing Plant
Ancillary Equipments
PP/HDPE Rope Machinery
Box Strapping Plant
Jerry Can Plant

4) **CENTRAL MACHINERY &PLASTIC PRODUCTS**
1, Lajya Estate, Mogra Road, Andheri East, Mumbai-400 069.
Phone : +91-22-28366198 Fax: +91-22-28375271
E-mail: cmp@bom3.vsnl.net.in Web : www.cmppin.com
Products/Services : Manufacturers of fully automatic blow moulding Machines for processing of PVC, HDPE, LDPE, PP materials from 5 ml. to 60 ltrs.

5) **DYNAMIC ENGINEERS (INDIA)**
B-54, Hari Nagar (Clock Tower),
New Delhi-110 064.
Phone: 011-25496293/25126188
E-mail: dynamicengineers@trade-india.com
Products/Services: Cooling Tower, Heat Exchanger, Indl. Chiller, Mould Temp. Controller

6) **FERROMATIC MILACRON INDIA LTD.**
92 Phase – I GIDC, Vatva, Ahmedabad-382 445
Phone: 079-25890081 Fax: 079-25830125
E-mail: sales@fmi-ahd.com Web: www.milacronindia.comm
Products/Services : Mfg. of plastics injection moulding machines from the
Range of 30 tons to 3000 tons and extrusion blow moulding machines.

7) **FIVE STAR ENGINEERS**
Bhagwati Estate, Opp: Bavri Kumbharwada, Idgah Road, Pratapnagar, Baroda-390 004.
Phone : (F) 0265-2581698 Telefax : 2580026 (R) 0265-2564896
(M) 098980 87865 E-mail: fivestarengineer@hotmail.com
Web : www.fivestarengineers.com
Products/Services : Double Die Extruder, Single Die Extruder

8) **FIXOPAN MACHINES PVT. LTD.**
71, Nehru Place, New Delhi-110 019
Phone: 0129-2237212/5067210-12 Fax: 0129-2237672
E-mail: roto@fixopan.net/sales @fixopan.net
Web: www.fixopan.net
Products/Services : Manufacturers of Rotomoulding machines, Pulverisers,
Molds in cast aluminium/SS/MS, finished roto parts/planters.

9) **GUJARAT MACHINERY**
Plot No. 524, GIDC Phase II, Vatva, Ahmedabad-382 445.
Phone: +91-79 25830043 Fax : 079 25332439
E-mail : intek@icenet Web: www.gujaratmachinery.com
Products/Services : Plastic machinery viz: Wide Width Lamination Plants.

10) **JAGMOHAN INDUSTRIES**
115 Sharad Industrial Estate, Lake Road, Bhandup (West), Mumbai-400 078.
Phone : 25950246 Fax: 25965434
E-mail: jagmohan@vsnl.com Web: www.jagmohan.com
Products/Services : Plastic Automatic Blow Moulding Machine from 100 Ml to 1000 Ltrs.

11) **JAI MATA ENGINEERING**
No. 734, Rajagopalanagar, B/h Maruti Theatre,
Peenya 2nd Stage, Bangalore-560 058.
Phone: 080-6763 4323 Cell. : 093437 33300, 098862 14330
Products/Services : Single Decker Cutting & Sealing Machine, Double Decker
Cutting & Sealing Machine, Point to Point Cutting & Sealing Machine, Pouch Making Machine for Carry Bags, Slide Sealing Machine, Polyethylene/PP/HM/LLDPE Extruders, reprocessing Units, Automatic Roll Winding Nes, Scrap Grinders, Colour Mixer/Driers Card Making (sutli) Machine, Rotogravure Printing Machine, Automatic Liquid – Fill & Seal Machine, Automatic Form – Fill & Seal Machine, Thermoforming Machine, Seat Plant & Die.

12) **KABRA EXTRUSIONTECHNIK LTD.**
Kolssite House, Veera Desai Road, Andheri (West), Numbai-400 053.
Phone : 26734822/24 Fax : 267335041
E-mail: sales@kolsitegroup.com Web : www.kolsite.com
Products/Services : Twin screw extruders for RPVC pipes/profiles/pellets high output single screw extruders for PO pipes raffia tape plants & cheese winders monolayer & multilayer film plants.

13) **KONARK PLASTOMECH PVT. LTD.**
Plot No. 81, GIDC, Odhav, Ambica Nagar Road, Ahmedabad-382 415.
Phone : 079-22281670 Fax : +91-79-22890874

E-mail : sales@konarkplasticmachinery.com
Web : www.konarkplastomech.com
Products/Services : Mfrs. Thermoplastic extrusion plants.

14) **LARSEN & TOUBRO ltd.**
LTM Business Unit, Mount-Poonamallee Road,
Post Bag No. 990, Chennai-600 089.
Phone: 22497360 Fax: 044-22492471
E-mail : vpb@ltmindia.com Web: www.ltmindia.com
Products/Services : Injection Moulding Machines, Auxiliary Equipment

15) **LOHIA STARLINGER LIMITED**
D-3/A, Panki Industrial Estate, Kanpur-208 022.
Phone : +91-5112-282001 Fax : +91-5112-282205
E-mail: sales@lohiagroup.com
Web : www.lohiagroup.com
Products/Services : Complete range of Machinery for manufacture of PP and HDPE Woven sacks and Fabrics comprising of – Tape Extrusion Lines – High Speed Inverter controlled Tape Winders – Circular Weaving Machines – Fabric to Bag Conversions Machines – Compact PP Multifilament Spinning Machine.

16) **MACPLAST**
49, Shreenathji Estate, Nr. Panna Estate, B/h B.O.C. Gases,
Rakhial, Ahmedabad-380 021 (Guj.) INDIA
Phone : (F) 079-22746802
E-mail : macplastbp@hotmail.com/macplastbp@rediff.com
Products/Services : Multi Layer Film Plant, Two Layer PPTQ Blown Film Plant,
Twin Head Mono Layer Blown Film Plant, Sutli Plants, Box Strapping Plants, LDPE Kisna Pipe Plants, HDPE Pipe Plants, Reprocess Plants, Woven Sacks Tape Plant.

17) **MAMATA BRAMPTON ENGINEERING PVT. LTD.**
5/1/1A/1, GIDC, Phase-1, Vatva, Ahmedabad-382 445.
Phone: 079-55309800 Fax : 079-25832026
E-mail: info@mamata.com
Products/Services : Multilayer co-ex blown film plant

18) **MAMATA MACHINERY PVT. LTD.**
5/1/1A, GIDC Estate, Phase-1, Vatva, Ahmedabad-382 445.
Phone: 079-55309800 Fax : 079-25832026
E-mail: info@mamata.com Web : www.mamata.com
Products/Services : Plastic Bag & Pouch making machine, Packaging machines.

19) **NEOPLAST ENGINEERING PVT. LTD.**
43, GIDC Estate, Phase-1, Vatva, Ahmedabad-382 445.
Phone : +91-79-25831185 Fax : +91-79-25835298
E-mail : info@neoplastindia.com Web : www.neoplasstindia.com
Products/Services : Complete compounding plant with automation, High speed heater cooler mixers, Single screw extruders, Super conical twin screw extruders, Down stream equipments for R PVC pipe, profile, pelletizing application, Under water pelletizing system, Air cooled die face pelletizing system, Material handling system, Liquid metering/Dosing system, Anti-dusting/de-gassing system, Labaoratory scale equipments like – lab mixer, single screw extruder with various attachments, two roll mill, hydraulic press.

20) **PANCHAL PLASTIC MACHINERY P. LTD.**
Plot No. 127, GIDC, Umbergaon,Dist. Valsad-396 171
Phone : 0260-2563391/92 Fax : 0260-2562892
E-mail: panchal@panchal-plastic.com Web: www.panchal-plastic.com
Products/Services : Agglomerator/Densifier machine – extruder (Single Screw & Twin Screw) – Blown Film Plant – Box strapping plant, Flat Film & Sheet – Pipe & Profiles – Grinder/shredders/Crushers – Compounding Plant – Re-processing/recycling Plant – Hot die-face cutting under air & water cooling – in-line recycling plant for film waste & lumps waste – Mixer (type-high speed, tumbler, vertical) – strand pelletizer - Screen changer (Hydraulic & manual) – Grinding, washing & drying plant for PET bottle, film waste & moulded article, PET-recycling plant-bags/sacks cutting & sealing machine.

21) **R.R. PLAST EXTRUSIONS PVT. LTD.**
B-3, Nand Jyot Ind. Estate, Safed Pool, Sakinaka, Andheri-Kurla Road, Andheri (E), Mumbai-400 072.
Phone : +91-22-2852 0396/2850 5208 Telefax : 2850 9603
Cell : 9967023161 E-mail : rrengg@vsnl.net/mkt@rrengg.com
Web : www.rrengg.com
Products/Services : RR's Drip Irrigation Pipe Plant with Auto Coiler

22) **RAJOO ENGINEERS LIMITED**

Survey No.210, Plot No.1, Industrial Area
Veraval Shapar, Rajkot-360 002.
Phone : 0091-2827-252701/2 Fax : 0091-2827-252700
E-mail : rel@rajoo.com Web. www.rajoo.com
Products/Services : FOILEX:Monolayer Blown Film Lines for PE/PP/PVC. MULTIFOIL: Multilayer Upward Extrusion Blown Film Lines. AQUAFLEX : Multilayer Downward Extrusion Blown Film Lines. LAMINA: Mono & Multilayer Sheet Lines for PS/PP/PET/LDPE. DISPOCON: Thermoformers for PS/PP/PET. TWINEX : Single and Twin Screw Lines for pipes and profiles. HDPE permanently lubricated duct plant for optical fibres including nylon rope insertion.

23) **RANA & SONS**

Plot No. 128-A, Govt. Ind. Estate, Charkop Kandivali West,
Mumbai-400 067.
Phone : 28683897/4181 Fax: +91-22-28682244
E-mail: ranasons@vsnl.com/arun@bom7.vsnl.net.in
Web: www.ranasons.com
Products/Services : Blow Moulding Machine, Injection Moulding Machines, PET Stretch Blow Moulding Machines.

24) **REMICA PLASTIC MACHINERY MANUFACTURERS**

2/AB Sardar Patel Ind. Estate, Near Gujarat Petrol Pump,
Narol, Ahmedabad-382 405.
Phone : 079-25712741 Fax: 079-25714234
E-mail : remicaad1@sancharnet.in Web. www.remicaplastics.com
Products/Services : Manufacturers of Thermoplastic Extrusion Plants for Tapeline, Circular Looms, Extrusion Lamination Plants.

25) **STAR FLEX INTERNATIONAL**

A-43, Street No. 7, Anand Parbat Industrial area,
New Rohtak Road, New Delhi-110 005.
Phone : +91-11-2876 5588 Telefax: +91-11-2876 5588
Mobile : 093111 45588, (TATA) 092135 02930
Products/Services : High Class Flexographic/Rotogravure Printing Machine.

26) **SUNRISE PLASTIC MACHINERY MANUFACTURER**

B/21-22, Ambica Estate, Ambikanagar, Nr. Hanuman Temple,
Odhav, Ahmedabad-382 415 (Guj.) INDIA.
Phone : (O) 079-65137486
Cell : 098253 58581, 098256 15776, 098793 01422
E-mail : joshi_sunriseplasticmachinery@yahoo.co.in
Web : www.sunriseplastic.tradeindia.com
Products/Services : 'T' Die Sutli Plant, PP/HDPE Mono Filament Plant, PP/HDPE Box Strapping Plant, PP TQ Blown Film Plant, HM/LD/LLDPE Mono Layer, Blown Film Plant, Multilayer Blown Film Plant, Lamination Plant, Air Bubble Sheet Plant, PP/HDPE/Rigid PVC Pipe Plant, PP/HDPE Woven Sacks Plant, Reprocess Plant.

27) **TWIST ENGINEERING WORKS**

C/1, 4410, Phase-4, G.I.D.C. Estate, B/h Indo-German Tool Room, Vatva, Ahmedabad-382 445 (Guj.) INDIA

Phone : (O) 079-25842878, 30913587 Fax: 079-25840429
E-mail : twist@sancharnet.in, twist24@rediffmail.com
Web: www.twistplasticmachinery.com
Products/Services : Extrusion Plants for – Rigid PVC, HDPE, HM/HDPE, LLDPE, LDPE and PP Blown Film Plant, Above Plants with Rotating Extruder/Rotating Die, Pipe, Casing Caping, Section & sleeve Plants for PVC/HDPE PP & PP-R, PVC Braided & Suction Hose Multilayer Co-Extrusion Film Plants, Plastic Sheet Plant with Teedie & Steel Polishing Stack, PVC Wire/Cable Plant & Spool Drum/Winder, PVC Compounding Plant with Die-Face Cutter & Reprocessing Plant, PP/HD Box Strapping Plant, Rafia Tape Plant, Scrap Grinder and Agglomerater, Special Specification Plants on request & Extruders with 'Realloy' Barrel, LD Foam Film Plant, Automatic Pipe Cutter, High Speed Mixers & Heater-Cooler Mixers.

ANNEXURE - II

RAW MATERIAL SUPPLIERS

1. **BASF STYRENICS PVT. LTD.**
RBC Mahindra Towers
5th Floor B-Wing, Dr. G.M. Bhonsale Marg
Worli, Mumbai – 400 018
Phone: 55618227 Fax: 56604073
E-mail: ramanamv@basf-india.co.in Web: www.basf.com
Products: ESCR Polystyrene, ABS, SAN, MABS, ASA Blends etc.

2. **BAYER MATERIAL SCIENCE PVT.LTD.**
Building D-527, Kolshet Road, Thane – 400 607
Phone: 91-22-25311297/285 Fax: 25455069
E-mail: plastics@bayerbms.com Web: www.bayermaterialscience.com
Products: Polycarbonate (PC) PC Films & PC Sheets, PC Blends

3. **DOW CHEMICAL PACIFIC (SINGAPORE) PTE LTD.**
260 Orchard Road, # 18-01, The Heeren, Singapore – 238855
Phone: (65) 68353773 Fax: (65) 68340320
E-mail: dowcig@dow.com Web: www.dowplastics.com
Products: Polyethylene resins, Polystyrene, Polypropylene, Engineering Thermoplastics, Elastomers and Speciality Products, and Wire & Cable Compounds.

4. **DSM ENGINEERING PLASTICS INDIA (P) LTD.**
"Ashirvad" 110/12 Erandawane
Lane No. 14 Income Tax Lane, Off Prabhat Road
PUNE – 411 004
Phone: 020-25461075/39506264 Fax: 020-25455259
E-mail: joydeep.sen-chaudhuri@dsm.com Web: www.dsmep.com
Products: Stanyl (PA 4,6) Amite (TPE-E), Akulon (PA 6, pa 66), Amite (PBT, PET and blends)

5. **GE PLASTICS INDIA**
8th Floor, Gateway Towers, DLF – III, NH – 8
Gurgaon – 122 002
Phone: 0124-5018001 Fax: 0124-5018019

E-mail: rk.arora@ge.com Web: www.geplasticsindia.com
Products: Polycarbonate – Lexan, PBT – Valox, PPO – Noryl.

6. **GHARDA CHEMICALS LTD.**
Plot No. 3525 – 26 – 27, GIDC Estate, Panoli
Dist. Bharuch, Gujarat – 394 116
Phone: 02646 – 272575 /6 Fax: 02646 – 272141
E-mail: Polymer@gharda.com Web: www.ghardapolymers.com
Products: Polymers PEEK, PEK, PES, PSS, PPSU, PSU

7. **HALDIA PETROCHEMICALS LTD.**
1, Auckland Place, Kolkata – 700 017
Phone: 033-22831640/3/5 Fax: 033 – 22831654
Web: www.haldiapetrochemicals.com
Products: LLDPE, HDPE, PP, Benzene, Butadiene, MS Euro III, LGP, PY Gas, Cyclopentane.

8. **INDIAN OIL CORPORATION LIMITED**
Scope Complex, Core-2, 7 Institutional Area
Lodhi Road, New Delhi – 110 003
Phone: 011-24360214 Fax: 011 – 24367548
E-mail: khuranavk@iocl.co.in Web: www.indianoilcorp.com
Product: PP- 600 KTA, HDPE – 300 KTA, hdpe/lldpe – 350 KTA, MEG – 300 KTA, PTA – 553 KTA.

9. **J.P. POLYMERS PVT. LTD.**
3, Shram Laxmi Industrial Est.
Opp. Indiana Bakery, Kanchpada, Ramchandra Lane Extn. Road.
Malad (W), Mumbai – 400 064.
Phone: 56998881 – 84 Fax: 56998887
E-mail: mail@jppolymers.net
Products: Polycarbonate (Dupont), Nylon'6, Nylon'66& PBT 9SRF), Acylic-PMMA (Sumitomo), K-Resin (Philips), Transparent ABS (Toray), POM, UHMW-PE, ABS & SAN

10. **RELIANCE INDUSTRIES LTD.**
Maker Chambers-IV, Nariman Point, Mumabi – 400 021
Phone: 30322100 Fax: 30322199
E-mail: tushar_roy@ril.com Web: www.ril.com
Products: Polymers, Chemicals, Fibers & Intermediates

11. **SUPREME PETROCHEM LTD.**
17/18, Shah Industrial Estate, Veera Desai Road
Andheri (West), Mumbai – 400 053.
Phone: 26736196 – 99 Fax: 26736203
E-mail: sharad_parate@spl.co. on Web: www.supremepetrochem.com
Products: Crystal Polystyrene, Impact Polystyrene, ESP, Modified Polyestyrene, Flame Retardant and Antistatic Polystyrene, Color and Additive Masterbatches, Polyolefinic Compounds.