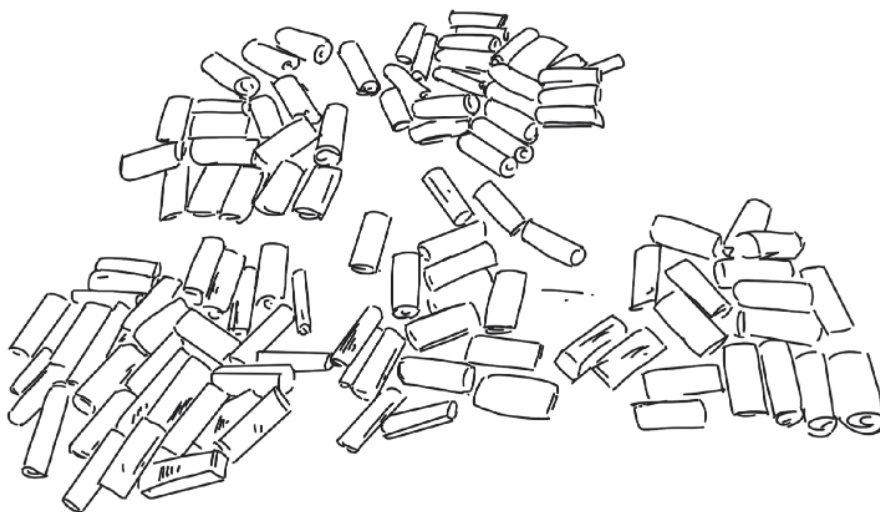


REPROCESSED PLASTIC GRANULES



1.0 INTRODUCTION

Over the years, India has made significant progress in the industrial world with healthy economic growth. Plastics, one of the fastest growing industries in India, have a vital role to play. Indian Plastic Industry is expanding at a phenomenal pace. Major international companies from various sectors such as automobiles, electronics, telecommunications, food processing, packing, healthcare etc. have set-up large manufacturing bases in India. Therefore, demand for plastics is rapidly increasing and soon India will emerge as one of the fastest growing markets in the world. The rising demand for plastic products around the world is giving a boost to the plastic industry.

The next two decades are expected to offer unprecedented opportunities for the plastic industry in India. This would necessitate industry initiatives to foster investments, grow the market, upgrade quality standards, enhance global participation, encourage Indian industry, to adopt and adapt to world class manufacturing practices.

The Indian plastic processing industry is highly fragmented and comprises 25,000 firms. Barring 10% - 15% of the firms, which can be classified as medium scale operations, all the units operate on a small-scale basis.

This project profile is for setting up of a Reprocessed Plastic Granules manufacturing unit with installed capacity of 324 MT per annum.

2.0 MARKET POTENTIAL

In India, the top 100 players account for just 20% of the industry turnover. The total number of players in the sector is more than 25,000. Despite the small size of operations of the players, they are able to operate profitably. Further, the high growth in demand ensures that the market is able to absorb the excess capacity in quick time. Thus, there is scope for setting up more small scale plastic processing units.

3.0 PROCESS DETAILS

The manufacturing process for Reprocessed Plastic Granules is described below.

- (i) Waste plastic scraps are collected and sorted as per colour and then washed in washing machine.
- (ii) Washed scrap is dried under hydro dryer machine.
- (iii) These dry scrap materials are put in the grinder machine, so that the scraps are cut down to small pieces.
- (iv) The small pieces of plastic waste are put in the mixer machine so that the moisture is removed totally.
- (v) After removing moisture, these plastics are put in the extruder machine, goes through various processes inside it and results in the output as reprocessed plastic granules (dana).

4.0 COST OF THE PROJECT

The estimated project cost is given below.

Particulars	Amount (Rs lacs)
Land & Site Development	3.00
Building & Civil Works	22.61
Plant & Machinery	17.48
Misc. Fixed Assets	13.42
Preliminary & Pre-operative Expenses	5.98
Contingencies & Escalation @ 3%	1.61
Working Capital Margin	5.79
TOTAL	69.88

4.1 Land & Site Development: No cost has been considered for purchase of land. Details of expenses on site development are given below.

Particulars	Area (Sqm)	Rate (Rs)	Amount (Rs)
Earth filling, boundary fencing, etc.	LS	LS	300000
Say (Rs. in lacs)			3.00

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqm)	Rate (Rs)	Amount (Rs)
Factory building (Open shed with CGI sheet roof, concrete floor)	450	3500	1575000
Store, office, labour quarters, etc (Brick wall, CGI sheet roof, concrete floor)	80	6000	480000
Sub total			2055000
Add: Electrification, sanitation, etc @ 10%			205500
TOTAL			2260500
Say (Rs. in lacs)			22.61

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Extruder	1	800000	800000
Scrap grinder	1	175000	175000
High speed mixer machine	1	150000	150000
Hydro dryer machine	1	95000	95000
Washing machine	1	200000	200000
Miscellaneous items	LS	LS	100000
Sub total			1520000
Add: Installation, transportation, taxes, etc @ 15%			228000
TOTAL			1748000
Say (Rs. in lacs)			17.48

4.4 Misc. Fixed Assets: Details of miscellaneous fixed assets are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Installation of Transformer (100 kva)	1	200000	200000
100 kva DG set	1	800000	800000
Weighing scale	1	20000	20000
Furniture & fixtures	LS	LS	100000
Miscellaneous items	LS	LS	100000
Sub total			1220000
Add: Installation, transportation, etc @ 10%			122000
TOTAL			1342000
Say (Rs. in lacs)			13.42

4.5 Preliminary & Pre-operative Expenses: Details of preliminary & pre-operative expenses are given below.

Particulars	Amount (Rs lacs)
Travelling expenses	1.00
Professional & other fees	1.00
Interest during implementation	3.48
Miscellaneous expenses	0.50
TOTAL	5.98

4.6 Contingencies & Escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.7 Working Capital: Details of working capital are given below.

	Period (Days)	Amount (Rs lacs)		
		Year 1	Year 2	Year 3
Raw Materials	30	3.76	4.39	5.02
Power & fuel	30	0.45	0.52	0.60
Salary	30	1.27	1.28	1.29
Finished Goods	30	5.63	6.36	7.09
Receivables	15	3.36	3.82	4.37
Total		14.47	16.38	18.36
Working Capital Margin in Year 1 (40%)	5.79			

5.0 MEANS OF FINANCE

The means of finance for the project is estimated as below.

Particulars	Percent	Amount (Rs lacs)
EQUITY		
A. Equity from Promoters	40%	27.95
B. Subsidy from Central/State Govt.	-	
DEBT		
Term Loan from Banks/FIs	60%	41.93
TOTAL	100%	69.88

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
A. INCOME							
Production capacity (MT)	324.00	324.00	324.00	324.00	324.00	324.00	324.00
Capacity utilisation	60%	70%	80%	80%	80%	80%	80%
Production at CU (MT)	194.40	226.80	259.20	259.20	259.20	259.20	259.20
Sale price (Rs/MT)	42000	41000	41000	41000	41000	41000	41000
Income from sales/annum	81.65	92.99	106.27	106.27	106.27	106.27	106.27
B. OPERATING EXPENSES							
Raw Materials	45.80	53.44	61.07	61.07	61.07	61.07	61.07
Power & Fuel	5.47	6.38	7.30	7.30	7.30	7.30	7.30
Salary	15.48	15.56	15.64	15.71	15.79	15.87	15.95
Repair & Maintenance	0.54	0.59	0.65	0.71	0.78	0.86	0.95
Selling Expenses	0.82	0.93	1.06	1.06	1.06	1.06	1.06
Miscellaneous Expenses	0.41	0.46	0.53	0.53	0.53	0.53	0.53
Total Operating Expenses	68.52	77.36	86.25	86.39	86.54	86.70	86.86

Less working expenses capitalised	5.79	0.00	0.00	0.00	0.00	0.00	0.00
Operating profit	18.92	15.62	20.03	19.88	19.73	19.58	19.41
C. FINANCIAL EXPENSES							
Depreciation	2.53	2.53	2.53	2.53	2.53	2.53	2.53
Interest on Term Loan	5.66	5.23	4.28	3.34	2.40	1.45	0.51
Interest on WC Loan	1.39	1.57	1.76	1.76	1.76	1.76	1.76
Net Profit	9.34	6.30	11.45	12.25	13.05	13.83	14.61
Net cash accruals	11.87	8.82	13.98	14.78	15.57	16.36	17.14
Principal Repayment	0.00	6.99	6.99	6.99	6.99	6.99	6.99

6.1 Estimation of Production: Production of plastic granules at installed capacity is estimated as below.

Output of plastic granules per hr (kg)	135
Hrs/day	8
Days/annum	300
Production of plastic granules per annum at installed capacity (Kg)	324000

6.2 Raw Materials: Expenses on raw materials at installed capacity is estimated as below.

Plastic scrap (kg)	324000
Calcium carbonate @ 2% of scrap	6480
Raw material utilised (kg)	330480
Average price of raw materials (Rs/kg)	22
Expenses on raw materials (Rs)	7270560
Add: Expenses on consumables, packing materials, etc @ 5%	363528
Expenses on raw materials & consumables at installed capacity (Rs)	7634088

6.3 Power & Fuel: Expenses on power & fuel at installed capacity is estimated as below.

A. Expenses on power

Connected load	100
Avg load factor	70%
Proportion running on power	80%
Hrs/day	8
Days/annum	300
Annual power consumption	134400
Rate (Rs/unit)	5
Expenses on power per annum at 100% capacity (Rs)	672000

B: Estimate of Diesel

Proportion running on fuel (diesel)	20%
Hrs/ annum	480
Diesel consumption (litres/hr)	10
Diesel Price per litre	50
Expenses on diesel per annum at 100% capacity (Rs)	240000
Expenses on power & fuel at 100% capacity (Rs)	912000

6.4 Salary: Expenses on salary in the 1st year is estimated as given below. It is assumed that salary expenses will increase @ 0.5% every subsequent year.

Particulars of Employees	Numbers	Salary/Month (Rs)	Cost/annum (Rs)
Manager	1	25000	300000
Supervisor	1	12000	144000
Accounts Officer	1	12000	144000
Technicians/machine operators	5	8000	480000
Sales staff	2	5000	120000
Unskilled workers/helpers	10	3000	360000
Expenses on salary in the 1st year (Rs)			1548000

6.5 Repair & Maintenance: Expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 10% every subsequent year.

Particulars	Cost (Rs)	Rate	Amount (Rs lacs)
Building & Civil Works	22.61	1%	0.23
Plant & Machinery	17.48	1%	0.17
Misc. Fixed Assets	13.42	1%	0.13
Expenses on repair & maintenance in year 1			0.54

6.6 Selling Expenses: Selling expenses have been assumed at 1% of sales.

6.7 Miscellaneous Expenses: Miscellaneous expenses have been assumed at 0.5% of sales.

6.8 Depreciation: Depreciation has been calculated by straight line method. The details of calculation are given below.

Description	Cost (Rs)	Rate	Amount/annum (Rs lacs)
Building & Civil Works	22.61	3.34%	0.76
Plant & Machinery	17.48	5.28%	0.92
Misc. Fixed Assets	13.42	6.33%	0.85
TOTAL			2.53

6.9 Interest on Term Loan & Principal Repayment: Interest rate has been assumed at 13.5%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	41.93	41.93	34.94	27.95	20.96	13.98	6.99
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest (13.5%)	0.47	0.47	0.39	0.31	0.24	0.16	0.08
	Closing balance	41.93	41.35	34.36	27.37	20.38	13.39	6.41
Month 2	Opening balance	41.93	41.35	34.36	27.37	20.38	13.39	6.41
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.47	0.39	0.31	0.23	0.15	0.07
	Closing balance	41.93	40.76	33.78	26.79	19.80	12.81	5.82
Month 3	Opening balance	41.93	40.76	33.78	26.79	19.80	12.81	5.82
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.46	0.38	0.30	0.22	0.14	0.07
	Closing balance	41.93	40.18	33.19	26.21	19.22	12.23	5.24
Month 4	Opening balance	41.93	40.18	33.19	26.21	19.22	12.23	5.24
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58

	Interest	0.47	0.45	0.37	0.29	0.22	0.14	0.06
	Closing balance	41.93	39.60	32.61	25.62	18.64	11.65	4.66
Month 5	Opening balance	41.93	39.60	32.61	25.62	18.64	11.65	4.66
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.45	0.37	0.29	0.21	0.13	0.05
	Closing balance	41.93	39.02	32.03	25.04	18.05	11.06	4.08
Month 6	Opening balance	41.93	39.02	32.03	25.04	18.05	11.06	4.08
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.44	0.36	0.28	0.20	0.12	0.05
	Closing balance	41.93	38.44	31.45	24.46	17.47	10.48	3.49
Month 7	Opening balance	41.93	38.44	31.45	24.46	17.47	10.48	3.49
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.43	0.35	0.28	0.20	0.12	0.04
	Closing balance	41.93	37.85	30.86	23.88	16.89	9.90	2.91
Month 8	Opening balance	41.93	37.85	30.86	23.88	16.89	9.90	2.91
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.43	0.35	0.27	0.19	0.11	0.03
	Closing balance	41.93	37.27	30.28	23.29	16.31	9.32	2.33
Month 9	Opening balance	41.93	37.27	30.28	23.29	16.31	9.32	2.33
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.42	0.34	0.26	0.18	0.10	0.03
	Closing balance	41.93	36.69	29.70	22.71	15.72	8.74	1.75
Month 10	Opening balance	41.93	36.69	29.70	22.71	15.72	8.74	1.75
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.41	0.33	0.26	0.18	0.10	0.02
	Closing balance	41.93	36.11	29.12	22.13	15.14	8.15	1.16
Month 11	Opening balance	41.93	36.11	29.12	22.13	15.14	8.15	1.16
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.41	0.33	0.25	0.17	0.09	0.01
	Closing balance	41.93	35.52	28.54	21.55	14.56	7.57	0.58
Month 12	Opening balance	41.93	35.52	28.54	21.55	14.56	7.57	0.58
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.40	0.32	0.24	0.16	0.09	0.01
	Closing balance	41.93	34.94	27.95	20.96	13.98	6.99	0.00
	Principal Repayment	0.00	6.99	6.99	6.99	6.99	6.99	6.99
	Interest	5.66	5.23	4.28	3.34	2.40	1.45	0.51

6.10 Interest on Working Capital Loan: Interest rate on working capital loan has been assumed at 16%. Details of calculation are given below.

(Rs. in lacs)

Particulars	Year 1	Year 2	Year 3
Total current assets	14.47	16.38	18.36
Bank Loan (60%)	8.68	9.83	11.02
Interest @ 16%	1.39	1.57	1.76

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6	7	TOTAL
Profit After Tax (Net Profit)	9.34	6.30	11.45	12.25	13.05	13.83	14.61	
Depreciation	2.53	2.53	2.53	2.53	2.53	2.53	2.53	
Interest	5.66	5.23	4.28	3.34	2.40	1.45	0.51	
Total	17.53	14.05	18.26	18.12	17.97	17.81	17.65	121.40
Interest	5.66	5.23	4.28	3.34	2.40	1.45	0.51	
Loan repayment	0.00	6.99	6.99	6.99	6.99	6.99	6.99	
Total	5.66	12.22	11.27	10.33	9.39	8.44	7.50	64.81
DSCR	3.10	1.15	1.62	1.75	1.91	2.11	2.35	

Average DSCR = 1.87

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	81.65	92.99	106.27
B. Variable cost			
Raw Materials	45.80	53.44	61.07
Power & Fuel	5.47	6.38	7.30
Selling Expenses	0.82	0.93	1.06
Miscellaneous Expenses	0.41	0.46	0.53
Interest on Working Capital Loan	1.39	1.57	1.76
Total variable cost	53.89	62.79	71.73
C. Contribution (A-B)	27.76	30.20	34.55
D. Fixed & Semi-fixed Costs			
Salary	15.48	15.56	15.64
Repair & maintenance	0.54	0.59	0.65
Interest on Term Loan	5.66	5.23	4.28
Depreciation	2.53	2.53	2.53
Total fixed cost	24.20	23.90	23.09
E. BREAK EVEN POINT	87.19%	79.15%	66.85%
F. BEP at operating capacity	52.32%	55.40%	53.48%
G. Cash BEP	46.85%	49.54%	47.63%

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	56.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	14.47	1.90	1.98	0.00	0.00	0.00	0.00
Total (A)	56.51	14.47	1.90	1.98	0.00	0.00	0.00	0.00
CASH INFLOW								
Profit After Tax		9.34	6.30	11.45	12.25	13.05	13.83	14.61
Add: Depreciation		2.53	2.53	2.53	2.53	2.53	2.53	2.53
Add: Interest		5.66	5.23	4.28	3.34	2.40	1.45	0.51
Add: Salvage Value								
Total (B)	0.00	17.53	14.05	18.26	18.12	17.97	17.81	17.65
NET FLOW (B-A)	-56.51	3.06	12.15	16.28	18.12	17.97	17.81	17.65

IRR = 15%

MACHINERY SUPPLIERS

- (a) Sant Engineering Industries
No. 580, Main Faiz Road, Street No.17, Karol Bagh, New Delhi - 110005, Delhi, India
- (b) Hindustan Plastic And Machine Corporation
5, Category II, D. S. I. D. C. Industrial Area Nangloi, New Delhi - 110 041, Delhi, India
- (c) Disha Machinery & Projects Pvt. Ltd.
A-303, Plot No. 2, Sector - 3, Sansad Vihar, Dwarka, New Delhi - 110 075, Delhi, India