#### **HDPE/LLDPE SYNTHETIC PAPER**

# 1. <u>INTRODUCTION</u>

Synthetic papers are ones, which couple the characteristics of plastics and paper. Generally speaking, synthetic paper is obtained by processing synthetic polymers, as the prime material, into paper like substrate intended for end uses. Typical synthetic paper is the one, which has many of the visual and tactile properties of paper, particularly those papers used for writing or printing applications or those used for bags and wrappings.

Synthetic papers are such substrates which retain the plastic characteristics such as non-tearability, water, weather, stain and termite resistance, excellent folding endurance, good barrier to water vapour and gases, good printability and in certain cases, heat sealability also. Additionally, these synthetic papers provide the benefits of normal paper, viz. writability, printability, appearance, feel, whiteness, opacity etc.

The synthetic papers are versatile and generally can be scored, sheet, die-cut, embossed, foil stamped, stitched, perforated, coated, laminated, etc. Its excellent printability, optical, physical and thermal properties coupled with above stated versatilities, render the synthetic papers, the right choice for specific value added applications. They find use mainly for their novelty, durability and performance.

# 2. MARKET POTENTIAL

The demand for synthetic paper is increasing day by day in view of making envelopes for despatch of magazines, books etc. Because of its strength, good printability, weather resistance, synthetic papers/envelopes are preferred. They are also used for making posters, banners, sign boards etc.

#### 3. BASIS & PRESUMPTIONS

(i) The output capacity is taken as 36 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 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 percent
- (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.
- (ix) 3% material loss has been considered for calculating raw material requirement.

#### 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

#### 1. Blown/Cast Films

Either monolayer or multilayer films are proruced out of this processing Technique. Generally, polymers like LLDPE, HDPE, PS, HIPS and even PVC are used to produce synthetic papers by this process. Fillers such as calcium carbonate, titanium dioxide, silica, china clay, etc. are used to render the polymers receptive to inks and coatings. In certain cases, polymer blends/alloys are used to enhance the printability.

# 2. Monoaxial Orientation

In this process, a thick sheet either mono or multilayered is extruded over a chill roll and then stretched 3-6 times in the machine direction. Polymer mainly used in this process is polypropylene though HDPE can also be used. Advantages of this process are that maximum amount of fillers and pigments can be loaded. By certain unique techniques, micro voids can also be incorporated into the bulk of the film.

# 3. Monoaxial Orientation followed by Coating and Stretching

This combines two operations – orientation and coating. The basic technology includes extruding a polymer containing fillers such as clay, talc, barium sulphate, gypsum, zinc oxide into a thick sheet in the machine direction to about 5-6 times. Over the monoaxially oriented film, a blend of polymers, fillers and pigments is coated either by calendering or extrusion on one or both surfaces. This step may or may not be preceded by an anchor coat for better adhesion of the coated layer onto the base layer. After coating, the coated laminate is subjected to orientation in the transverse direction. Thus

the base layer is biaxially oriented while the surface layer is monoaxially oriented.

monoaxiany oriented.

Printable and physical properties of synthetic papers produced by this

process are excellent and also possess high tear initiation strength,

stiffness, good dimensional stability, less elongation. Optical

properties such as opacity, whiteness are also good. Disadvantages

are comparatively high production cost and limitation on minimum

possible thicknesses.

Other processes are Baxial Orientation, Coating, Cross Lamination etc.

5. **QUALITY & STANDARD** 

The Synthetic Paper may be manufactured as per the standard specification specified by

the Customers.

6. PRODUCTION CAPACITY (Per Annum)

(a) Quantity (M.T.) : 210

(b) Value (Rs.) : 2,20,50,000.00

7. TOTAL POWER REQUIREMENT

Total connected load (KW) : 40

8. 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.

9. ENERGY CONSERVATION

143

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

# 10. FINANCIAL ASPECT

A. <u>FIXED CAPITAL</u>

i) <u>Land & Building:</u> <u>Area Sq.Mtrs</u>. <u>Rate per Sq.mtr</u>.

Value (Rs.)

Land 500 300

1,55,000.00

Building 170 3500

5,95,000.00

Total: 7,45,000.00

-----

\_\_\_

ii) MACHINERY & EQUIPMENT

<u>Sr.No.</u> <u>Description of machines</u> <u>Oty. (Nos.)</u> <u>Value</u>

(Rs.)

(a) Production Unit

i) Extrusion Blown 16,00,000.00 Film Plant (45 mm)

ii) Cooling Tower 2,00,000.00

54

iii) Compressor 3,00,000.00

iv) Scrap Grinder 1,00,000.00

(b) Testing Equipment & Other Accessories

1,00,000.00

(c) Electrification & Installation @ 10% of cost & machinery (a) & (b)

1,70,000.00

	(d)	Pre-operative expenses					
50,000.00		Total cost of machinery & equipment (a to d)					
19,20,000.	00						
	(e)	Cost of Moulds & Die	S		50,000.00		
	(d)	Cost of Office Equip 2,30,000.00	etc.				
	22,00	0,000.00		Total:			
	Total	Fixed Cost (I + II)	= 7,45,0	00 + 22,00,000	=		
29,45,000.	00						
	WORKING CAPITAL						
	i) Staff and Labour (P.M.)						
		Designation (Rs.)	Nos.	Salary (Rs.)	Total		
	20,00	Production Engineer/ 00.00 Manager	01	20,000.00			
		Sales Executive	02	10,000.00			
	20,00	00.00					
		Accountant	01	10,000.00			
	10,00	00.00					
		Store Keeper-cum-C	erk 01	8,000.00			
	8,000	,000.00					
		Watchman	03	3,000.00			
	9,000.00						
		Supervisor	03	6,000.00			

18,000.00

	12,000.	00					
	Uı	nskilled Workers	06	3,000	0.00		
	18,000.	00		·			
	10,000.						
	Add perquisite @ 10% of the salary 11,500.00						
				Total:	1,26,500.00		
	-						
				Or Say Rs	<b>.</b>		
	1,26,00	0.00		o. day no	•		
	ii) <u>Ra</u> (Rs.)	aw Material (P.M.) (	Oty.(Tons)	Rate Rs./M	I		
		JDDE # DDE 0	10	75.000			
		HDPE/LDPE Granules	18.	75,000			
	13,50,0	00.00					
	iii) <u>U</u>	tilities (per month):					
	(Rs.)						
	( - )						
	i) 60	i) Power 60,000.00 (60% utilization x 40 KW x 500 hrs. x Rs.5 per unit)					
	;;)						
	•	Water 000.00					
				Total:	65,000.00		
(Rs.)	iv) <u>O</u>	ther Contingent Exper	ises (per m	onth)			
4 000 00	a)	Repairs and Maint	enance				
4,000.00	b)	Transportation ch	arges		5,000.00		
		146					
		140					

03

4,000.00

Skilled Workers

		,	5		•
		d)	Telephone/Fax/Computer		
		2,00	00.00		
		e)	Consumable Stores		
		2,00	00.00		
		f)	Advertisement & Publicity		
		5,00	00.00		
		g)	Insurance		4,000.00
		h)	Miscellaneous Expenses		1,000.00
				Total:	25,000.00
<b>11</b> . (F	: Rs.)	TOTAL WO	RKING CAPITAL (PER MO	ONTH)	
	i)	Staff and	Labour		1,26,000.00
	ii)	Raw Mate			1,20,000.00
	•	50,000.00	1101		
	iii)	Utilities			65,000.00
25,0	iv)		ontingent Exp.		33,333.33
				Total:	15,66,000.00
		Working C	Capital for 3 months		46,98,000.00
12.	<u> 1</u>	OTAL CAP	ITAL INVESTMENT		
	A. 29,4	Fixed Cap 5,000.00	ital		
	B.	Working (	Capital for 3 months		46,98,000.00
				Total:	76,43,000.00

Postage and stationery

c)

2,000.00

# 13. <u>FINANCIAL ANALYSIS</u>

	A.	Cost of Production (per year) (300 days)							
		(a)	Total Recur	ring (	Cost				
	1,87,	1,87,92,000.00							
		(b) Depreciation on building @ 5%							
	29,75	50.00							
		(c) Depreciation on machinery & equipment @ 10%							
	1,92,	,92,000.00							
		(d)	Depreci	ation	on Dies &	Moulds @ 2	20%		
		10	0,000.00						
	(e) Depreciation on office equipment @ 20%								
	46,000.00								
9,17,	160.0		Interest on	total	Capital In	vestment @	12%		
					To	tal:			
			1,99,86,91	0.00					
	Or Say Rs.: 1,99,87,000.00								
	B.	Sales	s/Turn over	(per y	<u>/ear)</u>				
		Item			<u>. (MT)</u>	Rate (MT)			<u>Value</u>
		<u>(Rs.)</u>							
	2,20,	50,00	Z/LLDPE 0.00 thetic Paper		210	1,05,000			
	C.	Net P	rofit (per ye	ar)					
	Sales (Rs.) - Cost of Production (Rs.) = Pro					Profit			
	(Rs.) 20,63	2, 20 3,000.	,50,000 00	-	1,99,87,	000		=	

D. Net Profit Ratio = Net Profit x 100
Sales

= <u>20,63,000x 100</u> 2,20,50,000

= 9.82%

E. Rate of Return = Net Profit x 100

**Total Capital Investment** 

= <u>20,63,000 x 100</u> 76,43,000

= 26.7%

F. Break-even Point

Fixed Cost (Per Year)

Rs.

- a) Depreciation on Building @ 5%
- 29,750.00
- b) Depreciation on Machinery & Equipment @ 10%
- 1,92,000.00
- c) Depreciation on Moulds/Dies & Office 50,000.00 Equipment @ 20%
- d) Insurance 48,000.00
- e) Interest on total capital investment

9,17,160.00

f) 40% of salary and wages

6,04,800.00

# g) 40% of other contingent expenses

1,00,800.00

-----

Total: 19,48,510.00

Or Say Rs. 19,49,000.00

Net Profit (Per Year)

B.E.P. % = Fixed Cost x 100

Fixed Cost + Net Profit

= <u>19,49,000x 100</u>

19,49,000 + 20,63,000

= <u>19,49,000x 100</u>

40,12,000.00

= 48.6%

#### **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 Itrs.

# 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 MI to 1000 Ltrs.

#### 11) **JAI MATA ENGINEERING**

No. 734, Rajagopalanagar, B/h Maruti Theatre,

Peenya 2<sup>nd</sup> 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 Itd.

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 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

inductor of the moral control of the moral control

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**

Web:

#### **RAW MATERIAL SUPPLIERS**

#### 1. BASF STYRENICS PVT. LTD.

**RBC Mahindra Towers** 

5<sup>th</sup> Floor B-Wing, Dr. G.M. Bhonsale Marg

Worli, Mumbai - 400 018

Phone: 55618227 Fax: 56604073

E-mail: <u>ramanamv@basf-india.co.in</u> Web: <u>www.basf.com</u> 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: <u>plastics@bayerbms.com</u>

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: <a href="mailto:dowcig@dow.com">dowcig@dow.com</a> Web: <a href="mailto:www.dowplastics.com">www.dowplastics.com</a>

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

PUNF - 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**

8<sup>th</sup> Floor, Gateway Towers, DLF – III, NH – 8

Gurgaon – 122 002

Phone: 0124-5018001 Fax: 0124-5018019

E-mail: <u>rk.arora@ge.com</u> 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: <u>sharad\_parate@spl.co</u>. on Web:

www.supremepetrochem.com

Products: Crystal Polystyrene, Impact Polystyrene, ESP, Modified Polyestyrene, Flame Retardant and Antistatic Polystyrene, Color and Additive Masterbatches, Polyolefinic Compounds.