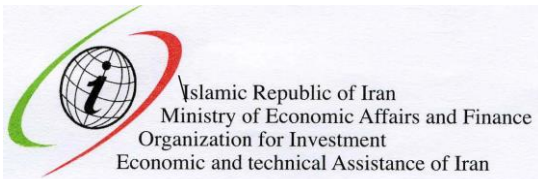




#### 10. Project Status:

- Feasibility study available? Yes  No
- Required land provided? Yes  No
- Legal permissions (establishment license, environment, etc) taken? Yes  No
- Partnership agreement concluded with local/foreign investor? Yes  No
- Financing agreement concluded? Yes  No
- Agreement with local / foreign contractor(s) concluded? Yes  No
- Infrastructural utilities (electricity, water supply, telecommunication, fuel, road, etc) procured? Yes  No
- List of know-how, machinery, equipment, as well as seller / builder companies defined? Yes  No
- Purchase agreement for machinery, equipment and technology concluded? Yes  No

1



#### Financial Structure

##### 11. Finance

Description	Required Local Currency			Required Foreign Currency (Thousand Dollar)	Total in Thousand Dollar
	Million Rials	Rate	Equivalent in Thousand Dollar		
Fix Capital	39,870	87000 Rials for each Dollar	458	1,422	8,108
Working Capital	12,197		140	0	473
<b>Total Investment</b>	<b>52,067</b>		<b>598</b>	<b>1,422</b>	<b>8,491</b>

- Value of local equipment/machinery: .... thousand dollars
- Value of foreign equipment/machinery: **1,354** thousand dollars
- Value of foreign technology: ..... thousand dollars
- Value of local technology: .... Million dollars
- Net Present Value (NPV): 190086 Million Rials for 10 Years, discount rate: 20%
- Internal Rate of Return (IRR): **41,83%**
- Payback Period (PP): **50%**

#### General Information

12. Project Type: Establishment  Expansion and completion

##### 13. Company Profile:

- Name (legal /natural persons):
- Current activity of company:
- Address:

2

-Tel: Fax:  
-E-mail: Web site:  
-Legal structure of company: private sector  public sector  other

*Please attach follow documents if available*

- Pre-feasibility study
- Feasibility study
- Legal permissions (establishment license, foreign currency quota, environment, etc)

## **Plan name: Production of solid polyester resin**

### **Product introduction**

The aim of carrying out this plan is establishment of production factory of solid polyester resin in Lorestan province.

Product ISIC Code 2413612545 (and 8-digit codes 24131242, 24131240, 24131247) from construction group of chemical substances and products (24) and subgroups of manufacturing plastic materials in initial form and manufacturing rubber in initial form (2413), polystyrenes, polycarbonates, polyesters in initial form (2413312346), polyester resins in initial form (2413412362), a variety of saturated polyester resin (2413512544), solid saturated polyester resin (2413612545).

Solid polyester resin under subchapters of tariff 3907, Iran's customs titled as polystyrenes, other polyether and epoxide resins, in initial forms; polycarbonates, alkyd resins, allylic polyesters and other polyesters, in initial forms is imported and exported with sub tariffs 39075010, 39075090, 39079920, 3907991, 39079992, 39079999.

It should be noted that there is no dedicated customs code for this product. Some percentages of imports and exports share of these codes are related to solid saturated polyester resin.

Entry requirements of products with codes of 39075010, 39075090, 39079999, 39079920, 39079991, are having permission of Ministry of commerce and Ministry of Industry, Mine and Trade, paying 10 percent of entrance fees (tariff) in 2018 (customs 4% and business profit 6%).

Entry requirements of products with codes of 39079992, are having permission of Ministry of commerce and Ministry of Industry, Mine and Trade, paying 5 percent of entrance fees (tariff) in 2018 (customs 4% and business profit 1%).

### **Introduction of product applications**

Resins have many and different applications in different industries. The studied product is solid polyester resin plan which is applied in powder color industry.

## Proposed places for plan

According to benefits of establishment in industrial estates and areas, industrial estates of Lorestan province are suggested for conducting the project.

## Raw ,auxiliary,Consuming materials

Required raw materials of production factory of solid polyester resin include neopentyl glycol, terephthalic acid, adipic acid, thermlytic anhydride, xylene, isophthalic acid, polyorganic acid, fascate 4201 additive and water and to pack produced productions, 25- kilogram bags are used.

### Raw materials price

No	Raw , auxiliary and packing materials	Unit	Consumption rate per year	Spoilage	Sum of raw and consuming materials	Unit price (Rial)	Annual cost (m/r)
1	neopentyl glycol	ton	600	0	600	140,000,000	84,000
2	terephthalic acid	ton	635	0	635	60,000,000	38,100
3	additive (Fascat4201)	ton	5	0	5	480,000,000	2,160
4	xylene	ton	20	0	20	80,000,000	1,600
5	trimlyticanhydride	ton	135	0	135	120,000,000	16,200
6	adipic acid	ton	30	0	30	145,000,000	4,350
7	isophthalic acid	ton	25	0	25	100,000,000	2,500
8	polyorganic acid	ton	15	0	15	240,000,000	3,600
9	25-kilogram plastic bags	numb	60,000	1,200	61,200	17,000	1,040
<b>Total</b>		-	<b>61,465</b>	<b>1,200</b>	<b>62,665</b>	<b>1,365,017,000</b>	<b>153,550</b>

## Sales plan

Sales price just outside of the factory is as follows. Regarding local needs and little share of production of factory from total production of the country, it is supposed that manufactured goods are marketable in the country.

#### Sales plan

Description	First year	Second year	Third year	Forth year	Fifth year
<b>Production percent</b>	<b>70%</b>	<b>80%</b>	<b>90%</b>	<b>90%</b>	<b>90%</b>
Hybrid polyester resin (capacity, ton)	700	800	900	900	900
TGIC polyester resin(capacity, ton)	350	400	450	450	450
Hybrid polyester resin (sales, mr)	126000	144000	162000	162000	162000
TGIC polyester resin (sales, mr)	77000	88000	99000	99000	99000
<b>Total (sales/m.r)</b>	<b>203000</b>	<b>203000</b>	<b>261000</b>	<b>261000</b>	<b>261000</b>
<b>Total (capacity/ton)</b>	<b>1050</b>	<b>1200</b>	<b>1350</b>	<b>1350</b>	<b>1350</b>

#### Annual nominal and practical capacities

Annual production capacity of this unit, based on 300 working days, is planned 1500tons in year. In terms of number of working shifts, it is necessary to explain that in regard to production process of solid polyester resin, 2 shifts are required for machinery.

Practical capacity of this project, regarding the unpredicted factors of stop working and also repair and maintenance, is considered 1350 tons with 90% efficiency of nominal capacity.

#### Production method and desired technology

Working steps in this method are:

1. Reactor charging
2. Increasing the heat
3. Filtering
4. Discharging the final resin on cooling
5. Resin cooling down and solidifying by rollers
6. Resins crushing
7. Packing resins in 25-kilogram bags
8. Distributing the product

## The plan investment costs

The fixed plan investment costs is estimated to be 163,580 million Rials and the working capital is estimated to be 12,197 million Rials.

### The plan investment costs

Description	Required				Total (million rials)
	currency (dirham )	rial equivalen t	rial (m.r)	required total	
Land	0	0	2,520	2,520	2,520
Landscaping	0	0	1,009	1,009	1,009
Building	0	0	23,892	23,892	23,892
Machinery and equipment	5,355,400	117,819	0	0	0
Installations	0	0	4,680	4,680	4,680
Laboratory equipment and supplies	0	0	1,410	1,410	1,410
Vehicles	0	0	600	600	600
Workshop equipment	0	0	91	91	91
Service and administrative equipment	0	0	846	846	846
Unexpected and miscellaneous	0	5,891	1,752	7,643	7,643
<b>Total fixed assets</b>	<b>5,355,400</b>	<b>123,710</b>	<b>36,800</b>	<b>160,510</b>	<b>160,510</b>
Pre-exploitation costs	0	0	3,070	3,070	3,070
<b>Total fixed investment costs</b>	<b>5,355,400</b>	<b>123,710</b>	<b>39,870</b>	<b>163,580</b>	<b>163,580</b>
Working capital	0	0	12,197	12,197	12,197
Other assets	0	0	0	0	0
<b>Total plan investment costs</b>	<b>5,355,400</b>	<b>123,710</b>	<b>52,067</b>	<b>175,766</b>	<b>175,766</b>

## The plan production costs

The annual production costs are estimated to be 186245,23 million Rials.

### Production costs

No	Description	Cost (million rials)	cost in practical capacity (million rials)
1	Raw, auxiliary and packing materials	153550,40	138195,36
2	Production salary and wage	5297,20	15138,28
3	Water, electricity, fuel and communication	819,72	754,14

No	Description	Cost (million rials)	cost in practical capacity (million rials)
4	Insurance	313,29	313,29
5	Repair and maintenance	6033,48	5550,80
6	Marketing and ads	2900	2668
7	Production unpredicted and miscellaneous	3320,28	3054,66
8	Depreciation	14010,87	14010,87
<b>Total</b>		<b>186245,23</b>	<b>169685,40</b>

## Economic indices

### Economic indices

Description	Value-measurement scale
NPV (net present value)	190086million rials
IRR(internal rate of return)	41,83%
PBP (period of return of capital)	2years

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**(OIETAI)**  
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