

## Plan: sheet production from alloy ABS/PVC

### Introduction to the product:

The main goal of this plan is to establish the polymer alloy ABS/PVC unit in order to supply a part of the factories requirement, prevent from currency outflow and employment in Lorestan Province. The ISIC code of this product is 2520512886 from the rubber and plastic products manufacturing group (25) and plastic products types manufacturing (2520). The sheet of alloy ABS/PVC is exported and imported under the chapters of tariff 3920 entitled other plates, sheets and thin sheets based on Iran custom regulations and the following sub-tariffs.

The main conditions on their importing is to take the permission from the department of commerce and ministry of industries and mines, paying 5% of the importing fees in 2016 (custom fee is 4% and commercial profit is 1%).

#### Products custom tariff code

No	Description	code
1	Sheet from allow ABS/OVC	39204330
2	Sheet from allow ABS and OVC	39204930

### Introducing the product's application:

Polymer alloys ABS/PVC are applicable in majority of automotive, furniture and electronics industries.

### Plan suggested sites

Based on the advantages of the establishment in industrial parks and zones, the Lorestan province industrial parks are suggested for implementing the plan.

### Raw, auxiliary materials and consumables

The main materials used in producing the polymer alloys are ABS and PVC both is produced and available locally.

Table2. Raw, auxiliary materials and consumables' costs

#	Raw, auxiliary materials and packing	Measurement Unit	Amount/year	Unit Price	Annual Cost mRial
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1	Alloy PVC / ABS	1000kg	4,590	60,000,000	275,400
2	additives	1000kg	46	12,000,000	551
<b>Total</b>					<b>275,951</b>

### Sails plan and target market

The products' sails price is the factory prices as follow. Considering the demand level, the target market is local industries.

#	Description	practical capacity (t)	nominal capacity (t)	unit price(rial)	Annual Sale(mRial)
1	ABS /PVC Sheets	4,500	4,050	82,000,000	369,000
<b>Total</b>		<b>4,500</b>	<b>4,050</b>		<b>369,000</b>

### Annual nominal and practical capacity

Product's annual manufacturing capacity in 3 working shifts, each with 8 working hours daily and 300 days per year is approximately 4500 t. Considering unpredicted and unexpected factors of process stop as well as maintaining and repairing processes, the plan practical capacity for this unit is 90% of the nominal one equivalent to 4050 t.

### Manufacturing procedure and technology

The sheets are manufactured by extrusion process. The device used for this purpose is called extruder. It performs 3 main processes in extrusion:

1. Melting materials or providing them with plasticity
2. Applying a stress in order to move the material toward the casts
3. Mixing and cutting the materials prepared

The main section of the extruder is its screw. Majority of the world extruders have a screw and some have 2 screws or even 4 ones. Among the main features of the multiple-screw extruders one can mention the good mixture capability and their mixing. In addition, the efficiency of the dual screw extruder device is 3 times more than the single screw one. Their high price is the factor that they are not welcome in a manner it deserves in manufacturing units and inhibited their quick extension.

### Investment costs

The fixed investment costs for this plan is 78.94 billion Rials and the working capital is equivalent to 19.41 billion Rials estimated.

Description	Total Cost(m.Rial)	%
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Description	Total Cost(m.Rial)	%
Land purchase	6,300	6%
Site preparation and development	2,283	2%
Civil works, structures and buildings	33,190	34%
Machinery and equipment	25,575	26%
Branches And Installation	3,327	3%
laboratory equipment	500	1%
Vehicles	800	1%
Service equipment	87.00	0%
official equipment	406	0%
Other and unpredicted costs	3,623	4%
<b>Total FIXED ASSETS</b>	<b>76,090.02</b>	<b>77%</b>
pre-production expenditures	2,858.94	3%
<b>TOTAL FIXED INVESTMENT COSTS</b>	<b>78,948.96</b>	<b>80%</b>
Working capital in 100% of capacity	19,411.45	20%
Other assets	0	0%
<b>TOTAL INVESTMENT COSTS</b>	<b>98,360.41</b>	<b>100%</b>

### Plan production costs

The annual cost of this plan is 315.5 billion Rials estimated.

#	Description	Total Cost(m.Rial)
1	Raw and packing material	275,951
2	Personnel's salary	8,249
3	Energy	1,242
4	Building and livestock insurance	137
5	Repair, maintenance and spare parts	2,324
6	Marketing and Advertising	7,380
7	Unpredicted	14,764
8	Depreciation	5,468
<b>Total operational and non-operational production costs</b>		<b>315,516</b>

### Economic indices

Description	Amount-measurement scale
NPV	102154 m Rial
IRR	45.06%

<i>PBP</i>	<i>1.97 years</i>
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Plan and Budget Organization of Lorestan province

## PROJECT PROFILE – SUMMARY SHEET

### *Project Introduction*

1. Project title: **sheet production from alloy ABS/PVC**

2. Sector: **rubber and plastic products manufacturing**

Sub sector: **plastic products types manufacturing**

3. Products/Services: colored metal sheets

4. Location: ...    Free zone     Economic special zone     Industrial Estate     Main Land

5. Project description:

The main goal of this plan is to establish the polymer alloy ABS/PVC unit in Lorestan province. Polymer alloys ABS/PVC are applicable in majority of automotive, furniture and electronics industries. Since the alloy properties depend on the elements used in it, this factor is the most important one in determining the alloy's properties. In order to improve the strength, the ABS and PVC alloy is used.

6. Annual capacity: 4500 t/year

### *Project Status*

7. Local / internal raw material access 100 %

8. Sale: 100% locally

- Anticipated export market 0 %

9. Construction Period 24 month

Beginning of activity

In-site beginning of activity:

End of project:

Commercial activity beginning:

## Project Status

### 10. Project Status :

- Feasibility study available? Yes  No
- Required land provided? Yes  No
- Legal permissions (establishment license, foreign currency quota, 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, equipments and know- how concluded? Yes  No

## Financial Structure

### 11. Financial Table

Description	Local Currency Required			Foreign Currency Required Million Dollar	Total Million Dollar
	Million Rials	Rate	Equivalent in Million Dollar		
Fix Capital	55.698.96	31000	1.80	0.75	2.55
Working Capital	19411.45	R for each Dollar	0.63	0	0.63
Total Investment	75110.41		2.42	0.75	3.17

- Value of foreign equipment/machinery 0.75 million dollar
- Value of local equipment/machinery million dollar
- Value of foreign technical know- how million dollar
- Value of local technical knows- how million dollar
  
- Net Present Value (NPV): 102154 Million Rial for 10 Year, discount rate: 20%
- Internal Rate of Return (IRR) 45%
- Payback Period (PP) 50.07%

## General Information

12. Project Type : Establishment  Expansion and completion

### 13. Company Profile:

-Name (legal /natural persons):

-Company Name:

-Address:

-Tel:

Fax:

-E-mail:

Web site:

-Local entrepreneur : 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)

**Ministry of Economic Affairs and Finance**  
**Organization for Investment Economic and Technical Assistance of Iran**  
**(OIETAI)**  
**Foreign Investment Center of Lorestan Province**  
**Tel (Tehran): (021) 33967749-33967766-33967762-39902485-39902488-39902486**  
**Tel (Khoramabad): (066) 33229577**  
**Fax: 33967774**  
**Website: [www.investiniran.ir](http://www.investiniran.ir)**  
*eco\_isc@yahoo.com*