

General Department of Economic and Financial Affairs of Khuzestan

Preparation and Compilation of Investment Opportunities in The Province
Investment Opportunity Studies Report

The production plan of multi-layer polymer fuel tanks (six layers)

(Attachment Number 1)

In the name of God
Table of content

(Attachment Number 1)	1
1)Location of the project	4
1-1-Province	4
1-2- County	4
2) Project Status	5
2-1-ACCESS TO INFRASTRUCTURES	5
3)Technical specifications of the project	6
3-1-Product	6
3-2-Project Requirement	7
3-2-1-Land And Required Infrastructure	7
3-2-2-Plant Machinery and Equipment	7
3-2-3-Raw Materials and Intermediate Parts	8
3-2-4-Management and human resource	9
4)Ownership and legal permissions	9
4-1-land ownership	9
4-2-Intellectual Property and Concessions	9
4-3-Legal permissions	9
5)market research and competition	10
5-1-Target market introduction.....	10
6)Physical progress of the project.....	10
7)Operational plan and implementation scheduling.....	12
8)Financial Plan	13
8-1-Cost Estimation	13
8-2-Sales Revenue	14
8-3-Length of Production Phase	14
8-4-Break-Even Analysis	15
8-5-Cost-Benefit Analysis 16	16
8-6-Sensitive Analysis	16
8-7-Conclusion	18
8-8-Estimation of currency rate fluctuation during the project implementation	18
9)Investment Required, method of fundraising and guarantees.....	19
9-1-Foreign Currency Required	19
9-2-Model Of Partnership and Fundraising	19
9-3-Payback Period	19
10)Incentives, features and benefits of the plan.....	20
(Attachment Number 2)	21

Tables and Figures

Table (1): access to infrastructures	5
Table (2): Amount of investment in land, landscaping and building	7
Table (3): Plant Machinery and Equipment	7
Table (4): Auxiliary and service plant Equipment.....	8
Table (5): Costs of Raw Material for Production.....	8
Table (6): Management and Human Resource	9
Table (7): Introduction of ISIC codes of products	10
Table (8): Customs tariff number related to car fuel tank	10
Table (9): List of active units producing car fuel tank	11
Table (10): List of existing projects in the field of car metal fuel tanks types production	11
Table (11): Import of car fuel tanks during the years 1395 to 1400	12
Table (12): export of car fuel tanks during the years 1395 to 1400.....	12
Table (13): Project Scheduling.....	12
Table (14): Cost Estimations	13
Table (15): Fixed Capital Estimations (Capital Costs)	13
Table (16): Total Net Working Capital Requirements (Production Costs)	14
Table (17): Pre-Production Expenditure	14
Table (18): Project Revenue in The First 5 Years of Production Phase (Billion Rials).....	14
Table (19): Planning Horizon	14
Table (20): Project break-even point estimation	15
Table (21): Project Return Index.....	16
Table (22): Sensitivity Analysis (Percentage of IRR changes caused by sales revenue, fixed assets and operating costs alteration)	16
Table (23): Summary of Economic Features	18
Table (24): Currencies exchange Rate	18
Table (25): Foreign (Fixed) Currency Required	19
Figure (1): The Province location in Iran.....	4
Figure (2): Location map of Handijan in Khuzestan	4
Figure (3): Political divisions of Khuzestan province	4
Figure (4): Project location map	5
Figure (5): The picture of Handijan Industrial Estate	5
Figure (6): Access routes to the project.....	5
Figure (7): 6-layer polymer fuel tank layers.....	6
Figure (8): picture of polymer fuel tank.....	6
Figure (9): Percentage changes in IRR caused by the sales revenue, fixed assets and operating costs alteration	17

2) Project Status

The location of this project is proposed in HANDIJAN Industrial Town, with an area of about 1,400 square meters. This town is located 5 km from HANDIJAN city and on the axis of HANDIJAN-MAHSHAHR. According to the laws and regulations, taking land in this place requires industry, mining and trade permits and the approval of the Khuzestan Industrial Estates Company and the environmental approval of HANDIJAN. The reason for this choice is the distribution of employment of new projects in different cities and the relatively short distance of this town from MAHSHAHR Port and the location of petrochemical companies such as Maron and Imam Khomeini Port. MAHSHAHR Port and Maron Petrochemical are located 90 km from this town.

2-1- Access to infrastructures

Currently water, gas and electricity infrastructures are available in this industrial Estate. It is also well-located in terms of access to transportation. This place is located in the vicinity of HANDIJAN-MAHSHAHR highway, 30 km from HANDIJAN wharf, 44 km from SAJAFI port and 56 km from MEHROVIAN port. Bandar Abadan airport is also located 16 km away from the place.



Figure (4): Project location map



Figure (5): The picture of HANDIJAN Industrial Estate

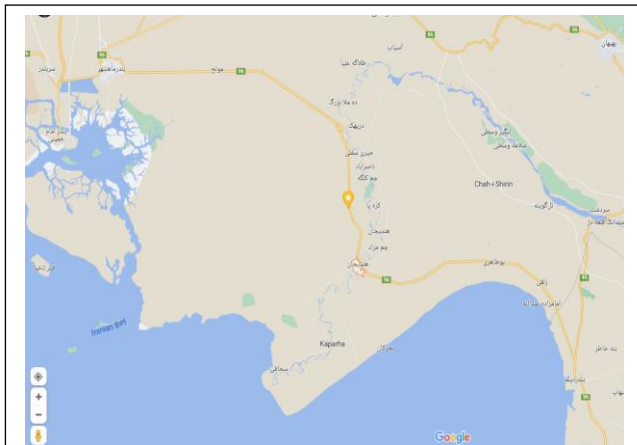


Figure (6): Access routes to the project

Table (1): access to infrastructures

No.	Required Infrastructure	Distance From Project Status(km)	Location Of Infrastructure Provision
1	Water	0	HANDIJAN Industrial Estate
2	Electricity	0	HANDIJAN Industrial Estate
3	Gas	0	HANDIJAN Industrial Estate
4	Telecommunication	0	HANDIJAN Industrial Estate
5	Main road	1	HANDIJAN-MAHSHAHR highway
6	Side road	0.4	Industrial Estate transportation
7	Airport	74	MAHSHAHR Airport
8	Port	56	SAJAFI port
9	Railway Station	82	Imam Khomeini port railway station

3) Technical specifications of the project

3-1- Product

The set of gasoline tanks in the car is responsible for charging, storing and transferring gasoline to the engine, announcing the amount of gasoline available, and also managing the consumption of vapors.

Polymer tanks have replaced metal tanks in the design and production of today's cars, the reasons for which are:

- Lower weight of polymer tanks and as a result reducing fuel consumption and CO2 emissions to the environment
- Greater strength against impact tests (as a crash test simulation)
- Increased flexibility in design and construction
- Increasing the volume of the tank by optimally using the empty spaces inside the car
- High production rate
- Reducing the price along with increasing the quality
- Higher resistance to erosion and environmental changes
- Reducing environmental pollution

Thermoplastic polymer fuel tank is a type of fuel tank made of synthetic plastic and is placed in the category of fiberglass products for car parts. Polymeric tanks are made of heavy polyethylene, which have better properties than their steel counterparts. Polymer buck is obtained through polymerization reactions and materials such as latex, sulfur, polyethylene, neoprene, formaldehyde and some other chemicals are added to it for its color and strength; They have been used in its construction. This product is of particular importance due to its flexibility and safety and anti-rust and sediment, and it is placed on modern cars, military aircraft, oil tankers, warships, etc. Fuel tanks get old. But polymer fuel tanks have one main problem, and that is the permeability of heavy polyethylene. Therefore, in order to fix this defect, surface operations are done on the tank body or multi-layer materials are used to reduce the permeability to an acceptable level. It is expected that polymer nanocomposites will form the next generation of plastic fuel tanks. In the future, almost all cars and ships and even many vehicles that use liquid fuel will benefit from this product and there will be a revolution in the production of car parts.

Polymer fuel tank features:

- The impenetrability of these tanks against air, moisture and heat.
- Lightweight and at the same time high strength as well as resistance and against tension
- High flash point
- Preventing fuel loss due to its evaporation
- Its conductivity decreases
- It reduces its weight
- It is resistant to direct temperature of 1500 degrees for 5 minutes, while ordinary tanks can explode even in the face of a spark.
- No heating in front of the heat and as a result no evaporation of the fuel inside this tank.

TANK STRUCTURE

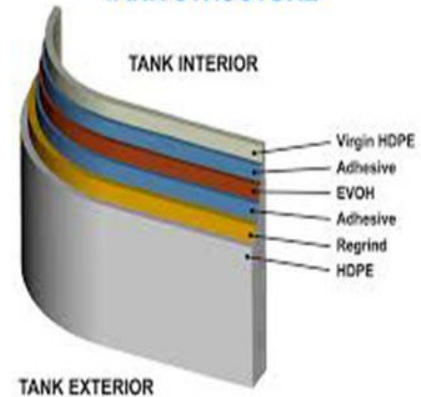


Figure (7): 6-layer polymer fuel tank layers



Figure (8): picture of polymer fuel tank

3-2- Project Requirement

3-2-1- Land And Required Infrastructure

For the production of ground polymer tanks in HANDIJAN industrial estate with an area of 2800 square meters and construction infrastructure for production (industrial shed and other buildings) amounting to 900 meters is required. The specifications of the land, main buildings and other required side buildings along with the amount of investment are described in the table below.

Table (2): Amount of investment in land, landscaping and building

No.	Requirements	Description	Investment Required		Total Cost (Million Rials)
			Required Area	Unit Price of Purchase/Construction	
1	Land purchase 40m * 70m	Khuzestan, Handijan city, Handijan industrial estate	2,800	2,000,000	5,600
2	Site preparation and development	According to relative calculations	1,800	6,000,000	10,800
3	Civil works, structures and buildings	Production building(height6)	480	80,000,000	38,400
		Office and management building	100	100,000,000	10,000
		Labor and support building (restaurant, dressing room, prayer room, shower and restroom)	50	60,000,000	3,000
		Water, electricity and gas facilities building	40	80,000,000	3,200
		guard and janitor building	30	70,000,000	2,100
		Other buildings (warehouse, etc.)	200	50,000,000	10,000
Total			-	-	83,100

3-2-2- Plant Machinery and Equipment

Currently, in addition to technical complications in choosing suitable polymers, the production process of such a tank is very complex and the most up-to-date technologies are used in its production lines. This product is produced by blow molding or thermoforming.

The production processes of polymer tanks, in summary, the production method is as follows:

- Preparation and mixing of raw materials Granulation (grinding)
- Injection
- Cool down
- Open the mold and clamp
- Go away
- packing

The required machines for the production of automotive polymer fuel tanks are:

- Granulator (mill)
- mixer
- injection device
- Screw compressor
- Fuel tank molds
- Packaging system

According to the selected processes and technology, the required machines and equipment are as follows:

Table (3): Plant Machinery and Equipment

No.	Equipment/Machinery	Required investment			Total cost (Million Rials)
		Amount	Purchase Price	Currency	
1	Extrusion Blow Molding Continuous Machine designed to produce fuel tanks for automobiles	6	60,000	Dollar (USD)	148,753
2	material mill	1	2,000	Million Rials	2,000
3	Dosing masterbatch mixer	1	12,000	Million Rials	12,000
4	Industrial conveyor belt	3	1,200	Million Rials	3,600
5	Leak tester and leak detector	1	500	Million Rials	500
6	Automatic spinner and thrower	1	500	Million Rials	500
7	Benchmark air compressor of 5 cubic meters, four cylinders, three phases	1	1,000	Million Rials	1,000
8	Injection machine chiller	1	3,000	Million Rials	3,000
9	All kinds of tank templates	10	2,000	Million Rials	20,000
10	Other main equipment - domestic	1	77,400	Million Rials	8,647
Total		-	-	-	200,000

Table (4): Auxiliary and service plant Equipment

No.	Equipment/Machinery	Unit of measurement	Type of equipment	Required investment		Total cost (Million Rials)
				Amount	Unit Price (Million Rials)	
1	Distribution Of Electricity / Demand Price	Kw	Facility	245	6	1,470
2	Several Electrical Cables	M	Facility	300	4.0	1,200
3	Electrical Equipment	Amount	Facility	100	40	4,000
4	The Cost of Panel Boards and Related Electrical Equipment	Amount	Facility	29	320	9,280
5	Water Branch	-	Facility	1	3,000	3,000
6	Other Water Conveyance Equipment	Amount	Facility	1	3,000	3,000
7	Firefighting, Safety and Health Equipment, etc.	Capsule	Facility	15	30	450
8	Gas Piping	M	Facility	250	5	1,250
9	Gas Branching	-	Facility	1	3,000	3,000
10	Water Heater and Heater	Machine	Facility	3	350	1,050
11	Air Ventilation equipment	Fan	Facility	6	36	216
12	Air Conditioner	Set	Facility	5	850	4,250
13	Water Cooler	Set	Facility	3	250	750
14	Gas Heater	Ton	Facility	8	100	800
15	Industrial Heater	Machine	Facility	1	150	150
16	2.5 Ton Pallet Jack with Scale	Machine	Vehicle	1	360	360
17	3 Ton Forklift	Machine	Vehicle	1	1,750	1,750
18	pickup truck	Machine	Vehicle	1	6,000	6,000
19	Car	Machine	Vehicle	1	12,000	12,000
20	Operation & laboratory Equipment	Machine	laboratory Equipment	1	3,000	3,000
21	safety equipment and CCTV System	Set	Facility	1	1,200	1,200
22	Office Equipment	Set	Office Equipment	13	800	10,400
23	Restaurant Equipment	Set	Office Equipment	21	30	630
24	Medical Equipment	Set	Office Equipment	1	1,500	1,500
25	Other Facilities	-	Facility	1	1,294	1,294
Total				-	-	72,000

3-2-3- Raw Materials

Poly fuel tanks are molded into a seamless, one-piece structure, usually consisting of at least six layers of a given material or several different materials that provide different useful properties. Typically, plastic fuel tanks are made from five different materials: high-density polyethylene (HDPE), polycarbonate ABS (PCABS), plastic adhesive, or ethyl vinyl alcohol (EVOH). Other materials include polyethylene masterbatch, latex, sulfur, neoprene, formaldehyde, stabilizer powder, calcium carbonate powder, carbon black and packing carton.

Table (5): Costs of Raw Material for Production

No.	Title	Average price of the purchase unit (Rials)	Unit	Amount of consumption in nominal capacity	The cost of raw materials at the maximum nominal capacity (Million Rials)
1	High-density polyethylene (HDPE) - inner layer	260,000,000	ton	152	39,635
2	High-density polyethylene (HDPE) - black outer layer	260,000,000	ton	46	11,891
3	Polycarbonate ABS (PCABS - Regard layer)	800,000,000	ton	141	112,808
4	Glue (2 Adhesive layers)	650,000,000	ton	23	14,863
5	EOVA - Layer	1,300,000,000	ton	13	17,340
6	Other additives (polyethylene masterbatch, latex, sulfur, neoprene, formaldehyde, stabilizer powder, calcium carbonate powder, etc.)	600,000,000	ton	78	46,876
7	Other separate metal and plastic parts (main cover, pipes and fittings, electrical appliances)	2,600,000	ton	30,000	78,000
8	Packaging materials (carton-labels or all kinds of plastic covers)	250,000	number	30,000	7,500
Total		-	-	-	328,914

3-2-4- Management and human resource

To produce a 6-layer polymer fuel tank, 42 human resources will be required in the production, management and support department as described in table (6).

Table (6): Management and Human Resource

No	Level of skill	Number of staff	Average basic salary
1	Senior	16	173,125,000
2	Mid-level	3	120,000,000
3	Junior	23	89,565,217

Number Of Direct Mid-Level Staff Required	3	Person
Number Of Direct Junior Staff Required	23	Person
Number Of Direct Senior Staff Required	16	Person
Total	42	Person

4) Ownership and legal permissions

4-1- land ownership

The suitable location for this project is in HANDIJAN industrial estate. The legal right for exploiting the land is 2,000,000 Rials in mention industrial estate and the relevant costs are considered in the plan.

Estate ownership is subject to legal terms and conditions and will be available to investors after exploitation. to obtain an industrial land in this estate, it is necessary for the investors to obtain the legal permits mentioned in paragraph 3-4. Of course, If the construction phase in this estate gets rejected, it should be established in the industrial estate of MAHSHAHR port.

4-2- Intellectual Property and Concessions

To produce 6-layer polymer fuel tank, high level of knowledge isn't required, this product is currently produced in the country. Therefore, the technical knowledge required is exists in the country. Of course, The production must be in accordance with the national standard 5603 .12335 .9696 .5598.

4-3- Legal permissions

In order to produce this product, legal permits (such as establishment permit, operation license) from the Khuzestan Province Industry and Mining Organization and environmental permit are necessary. It is worth noting; The production of this product in Shush industrial estate will not create any problem for the environment and it is possible to obtain environmental permits.

5) market research and competition

5-1- Target market introduction

Metal tanks do not have the ability to return to their original form due to an impact, and deformation will occur, while in the case of polymer tanks, this risk is much lower, and the tank can return to its original form to a high extent after an impact. The volume of the tank is also important for the car manufacturer, the limit of formability of the metal tank is also discussed, and with the space ordered by the car manufacturer, the polymer tank can cover 20-30% more volume and use the space optimally. Polymer tanks have a high resistance to erosion, corrosion and environmental changes due to their insulation, while this issue affects metal tanks. Due to the 40% weight reduction of a polymer tank compared to a metal tank with the same volume, it will reduce fuel consumption and CO2 emissions, and for every 10 kilograms of weight loss, the equivalent of one gram of CO2 pollutant emissions will be reduced. Also, according to the emission of gasoline vapors from fuel tanks, two factors of infiltration through the walls and welding points and connections along with the rate of fuel evaporation inside the tank are the main factors, which due to the use of multi-layer polymer tanks, permeability through the wall has been significantly reduced and has the ability to meet the requirements of the world today.

The process of replacing metal tanks with polymer continues in the whole world, and almost the majority of automobile manufacturers' productions have moved towards polymer tanks. Also, considering that one of the main causes of air pollution is gasoline vapors, and polymer tanks play an important role in reducing gasoline vapors, so this amount can be minimized by using polymer tanks.

Since the statistics show the movement of large car manufacturers towards polymer tanks, this also applies to Iran's car industry and we can see a good future for this industry.



5-2- Classification and product ISIC code

The most common classification that includes all economic and social activities at the international level is the ISIC classification, which, according to the type of industry and product produced, assigns to each product a code four up to eight digits. According to this classification, the product of this design is classified as described in the table below.

Table (7): Introduction of ISIC codes of products

Subgroup name (ISIC code)	group class (ISIC code)	Product name (ISIC code)	
Construction of motor vehicles, trailers and semi-trailers(34)	Car fuel system parts (3430412446)	Car polymer fuel tank	3430512718
		Car metal fuel tank	3430512453

Source: Ministry of Industry, Mining and Trade

According to the customs information of the Republic of Iran, the tariff code related to car fuel tank is assigned as described in the following table.

Table (8): Customs tariff number related to car fuel tank

Tariff code	product name
87141060	Motorcycle gas tank

5-3- Internal Production

Currently, there are 14 units active in the production of car fuel tank with a nominal capacity of 1.9 million numbers per year in the country. table Below is the list of active units and their nominal capacity. It is worth noting; The largest producer of car fuel tanks is PART PLASTIC KHORASAN, located in Khorasan Razavi province, and the only producer of polymer tanks is PARSA YARAN KHORASAN.

Table (9): List of active units producing car fuel tank

product type	Unit Name	province	Nominal capacity (number)
Car polymer fuel tank	PARSA YARAN KHORASAN	Khorasan Razavi	360,000
Car metal fuel tank	PART PLASTIC KHORASAN	Khorasan Razavi	510,000
	AVRAND PISHRO	Tehran	000330,
	AZAR MOTOR MOBIN	Alborz	305,000
	SEPEHR KARAMADAN	Semnan	120,000
	SAHEL ETEHAD	Western Azerbaijan	108,000
	DONYA MAMMOTH	Alborz	45,000
	TAAVONI -KHODROMEHR	Kerman	42,500
	QUDS NAJAFABAD Production	Esfahan	32,000
	Designing and Manufacturing parts of Iranian industries	Qazvin	8,000
	PAKRAN KHODRO PARSIAN	Semnan	7,500
	BINALOUD Construction and Industry	Semnan	3,900
	SADR SANAT PAYDAR	Tehran	1,500
	Habib ZAREI	Fars	600
Total			1,874,000

Source: Ministry of Industry, Mining and Trade

Assuming that the country's total needs are covered, the percentage of capacity utilization in the above units is estimated to be at most 35%.

5-4- Prediction of supply facilities

In order to check the supply facilities, the nominal capacity of the projects under implementation has been analyzed. In the following tables, the specifications and nominal capacity of the units with plans in progress in the field of production of types of car fuel tanks are given.

Table (10): List of existing projects in the field of car metal fuel tanks types production

Unit Name	Province	Improvement (%)	Nominal capacity (tons)	
QUDS NAJAFABAD Production	Esfahan	86	30,000	
PART PLASTIC KHORASAN	Khorasan Razavi	65	150,000	
ELIAS JAVADI	Hamedan	0	4,000	
SAEED MOULADPOUR	Western Azerbaijan		100,000	
DIESEL SANAT TOS	Khorasan Razavi		50,000	
ABDULLAH SHIRBAND	Yazd		30,000	
VERA Development Tabriz	East AZARBAIJAN		20,000	
KHATERE MOHAMMADI	Kermanshah		10,000	
Assembling and supply of RAKHESH Khodro parts of Tabriz	East AZARBAIJAN		7,275	
VANDAD TEJARAT TARH MANDEGAR	Khorasan Razavi		1,000	
Shirzad HASANI	Western Azerbaijan		700	
Total				402,975

Source: Ministry of Industry, Mining and Trade

Based on the information of the permits issued by the Ministry of Industry, Mines and Trade until the end of 1401, permits were given to 11 projects for the construction of car metal fuel tanks production units with a total capacity of about 403 thousand number. Among these units, only 2 units have had physical progress and the rest have not had any physical progress.

5-5- Import

According to the information and statistics of the customs of the Islamic Republic of Iran, the import of car fuel tanks during the years 1395 to 1400 is as described in the following table.

Table (11): Import of car fuel tanks during the years 1395 to 1400

Year	weight (tons)	Rial value (Million Rials)	Dollar value (thousands of dollars)
1396	411	58,888	1,736
1397	297	58,815	1,399
1399	24	5,862	140

Source: Customs of the Islamic Republic of Iran

5-6- export

According to the information and statistics of the customs of the Islamic Republic of Iran, the export of car fuel tanks during the years 1395 to 1400 is as described in the following table.

Table (12): export of car fuel tanks during the years 1395 to 1400

Year	weight (tons)	Rial value (Million Rials)	Dollar value (thousands of dollars)
1396	50	3,865	117
1397	9	2,208	26
1399	89	42,165	210

Source: Customs of the Islamic Republic of Iran

No Yes

6) Physical progress of the project

This is a new project and has been defined to cover the internal needs of the country. It has no progress so far.

7) Operational plan and implementation scheduling

The implementation of the project stages until its operation is planned for 24 months, and the operation of the project is expected from the beginning of 1405. The schedule of the project is presented in Table (13).

Table (13): Project Scheduling

year	1402				1403				1404				1405			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Operations/Season																
Pre investment studies	■															
Fundraising and starting	■	■	■	■												
Obtain legal permissions					■	■										
Providing engineering services						■	■									
Land purchase and preparation						■	■									
Selecting contractor							■	■								
Equipping site								■								
Construction and landscaping								■	■	■	■	■				
Order, purchase and transportation of machinery								■	■	■	■	■				
Machinery installation									■	■						
Facilities									■	■	■					
Hiring and onboarding of staff												■				
Unexpected delays												■				
Trial production													■			
production phase													■	■	■	■

8) Financial Plan

8-1- Cost Estimation

Generally, there are two ways to fundraise for this project, fixed capital and initial working capital. The required investment before utilization is provided through fixed capital. Initial working capital will be used during utilization. Fixed capital includes, purchasing land, construction and landscaping, machinery and equipment, facilities, office stuff and pre-production costs. These types of costs are incurred at the beginning and before operation and are consumed during the life of the project according to their service life. Working capital includes the capital required during the operation of the project. The working capital of a production unit is the set of facilities, inventories and work in progress, as well as the liquidity required for the exploitation of fixed capital in order to maintain the operation.

Determining the basic amount for inventories, work in progress and claims depends on the supply, production and sales capacity and business environment. In this section, the evaluation and estimation of the required investment (based on the price of the base year 1402 SH) is proposed.

Table (14): Cost Estimations

No.	Subject	Amount (Million Rials)
1	Total Fixed Investment Costs	409,900
2	Total Net Working Capital Requirements	40,927
3	Total Production Costs (Annual)	513,029
4	Depreciation	42,375
5	Total Investment	450,827
6	Unit Cost (By Product Type)	-
7	Types of six-layer polymer fuel tanks (million Rials/number)	17.4

Table (15): Fixed Capital Estimations (Capital Costs)

No.	Subject	Cost (Million Rials)	
1	Purchasing land	5,600	
2	Landscaping and land improvement	10,800	
3	Civil operations and construction of buildings	66,700	
4	Production machinery and equipment	200,000	
5	Service equipment	72,000	
6	Protection and environmental equipment	0	
7	Overhead costs	0	
8	Pre-Production Expenditure (As described in Table (17))	Pre-investment studies	560
		Project management and organization	34,149
		Technology education	2,291
9	Unexpected costs	17,800	
Total		409,900	

The primary items included in working capital are:

- Raw materials (local and foreign): To prevent any interruptions in production process, production capacity, source and method of supplying materials, length of time during ordering and receiving materials, time of delivery and transportation, the amount of required raw materials, auxiliary materials and packaging are determined as one of the working capitals items for one period. In this project, the material inventory coverage period is equal to 30 days.
- Finished product and work in progress: Considering the steps and methods of production, the required time for production and storage has been determined and the related costs are considered as working capital. In this plan, the coverage period for finished product and work in progress are 3 and 10 days, respectively. With this in mind, the total stock in hand is equal to 43 days.
- Claims of expected funds from sold products that are collected in a short period of time. The duration for expected funds must be determined. According to the economic condition of Iran, cash is preferred.
- Revolving fund to finance the company's current expenses is considered as cash balance or revolving fund for a period of time in working capital based on production costs (without considering the cost of raw material production and depreciation). 30 days is considered in this plan.

Table (16): Total Net Working Capital Requirements (Production Costs)

No.	Subject	Amount (Million Rials)
1	Raw Materials Inventory	13,705
2	Work In Progress	3,493
3	Finished Product	13,126
4	Accounts Receivable	0
5	Cash-In-Hand	10,603
6	(Commercial Accounts Payable)	0
Total Net Working Capital Requirements		40,927

Table (17): Pre-Production Expenditure

No.	Subject	Description	Total (million Rials)
1	Incorporation	-	70
2	Obtaining Licenses / Production License	-	200
3	Studying, Consulting, Research and Development, Traveling, Visiting and Participating in Local Exhibitions, etc.	1.5 thousandth of the investment costs of the project	560
4	Property Insurance	2 thousandth of depreciable fixed assets	750
5	Survey Fee, Financing, Contract and So On	Survey fee 0.5 thousandth, other 2.5 thousandth	890
6	Cartography, Supervising	2 thousandth of contract expenses	560
7	Staff Training	Equivalent to 7 days of Staff salary	1,731
	Wages And Salaries During the Construction	Equivalent to the salary of 7 personnel in 24 months	30,074
	Other Expenses	٪3.3	1,034
Total			35,870

8-2- Sales Revenue

According to the surveys, the price of each polymer fuel tank is between 18 and 48 million Rials depending on the type of car. In the present plan, the average wholesale price of polymer fuel tanks is considered equal to 28 million Rials. Based on this (and according to the production plan), the total sales amount of the plan in 1405 at the fixed prices of 1402 is estimated to be 420 billion Rials. This figure will increase in the following years due to the increase in production capacity and will increase to a maximum of 840 billion Rials.

Table (18): Project Revenue in The First 5 Years of Production Phase (Billion Rials)

No.	Subject	Q ₁	Q ₂	Q ₃	Q ₄	Total 1 st Year	Total 2 nd Year	Total 3 rd Year	Total 4 th Year	Total 5 th Year
1	Types of six-layer polymer fuel tanks	105	105	105	105	420	588	756	840	840

8-3- Length of Production Phase

The construction period of the plan is 24 months and it is considered to start from first of 1403. The duration of the project is considered to be 5 years.

Table (19): Planning Horizon

Title	Month	-	year	Length of construction phase (months)	Start of phase (months)	Length of production phase (years)
Project identification	1	/	1402	24	12	7
Beginning of construction phase	1	/	1403			
Beginning of production phase	1	/	1405			
End of production phase	12	/	1411			

8-4- Break-Even Analysis

From an economic point of view, break-even point analysis is an important technique that is used to study the relationship between costs, income and profit. The break-even point is the point at which total cost and total revenue are equal. In other words, it is used to analyze the effect of product volume change on the profit. The break-even point is calculated for 100% of practical capacity (year 1408SH onwards) below.

$$\text{Break-even sales value (Rials)} = \frac{\text{Total fixed costs}}{1 - \frac{\text{Total variable costs}}{\text{Sales value}}}$$

$$\text{The number of sales at the break-even point} = \frac{F_C}{S - V_C}$$

FC = Total Costs VC= Average Variable Costs Q= Quantity of Sales S = Unit Price

$$\text{Break-even sales value} = \frac{118,267}{1 - \frac{407,618}{840,000}} = 208,457 \text{ (Million Rials)}$$

$$\text{The number of sales at the break-even point} = \frac{107,300,907,500}{40,000,000 - 19,410,401} \approx 5,211$$

$$\text{Break-even ratio (\%)} = \frac{208,457}{840,000} = 24.9\%$$

Table (20): Project break-even point estimation

(Million Rials)

Title	Production 1405	Production 1406	Production 1407	Production 1408	Production 1409	Production 1410	Production 1411
Sales revenue	420,000	588,000	756,000	840,000	840,000	840,000	840,000
Variable costs	223,065	296,466	369,868	406,567	406,567	406,567	406,567
Variable margin	196,935	291,534	386,132	433,433	433,433	433,433	433,433
Variable margin ratio (%)	47	50	51	52	52	52	52
Fixed costs	95,612	100,507	105,401	107,849	102,072	100,819	100,819
Break-even sales value	203,910	202,714	206,363	209,014	197,816	195,388	195,388
Break-even ratio (%)	48.6	34.5	27.3	24.9	23.5	23.3	23.3

- According to COMFAR Results

Based on the calculations of COMFAR software, the break-even point including operating and non-operating costs, is 209.014 billion Rials and it will be achieved in the % 24.9 of the practical capacity.

In the mentioned formula, the break-even point is determined by the relationship between fixed costs and the difference between unit sales price and unit variable costs. Therefore, three practical results are obtained from it:

- The higher the fixed costs, the higher the break-even point.
- The greater the difference between unit sales price and variable operating costs, the lower the break-even point. In this case, fixed costs are absorbed faster through the difference between unit sales price and unit variable costs.
- One of the break-even points is disproportionate. Since it makes the company vulnerable to changes in production (sales) levels.

8-5- Cost-Benefit Analysis

In project analysis, one of the most common methods is the **Benefit-Cost Ratio**. In this method, the ratio of the current value of possible benefits to the current value of costs is obtained. If this ratio is greater than one, the plan has economic justification for implementation. In terms of this index, the plan has favorable conditions.

Net Present Value is one of the other evaluation methods which is calculated according to the following relationship:

$NPV = \text{The Present Value of The Total Cost of The Period of Construction Phase and Production Phase} - \text{The Present Value of The Total Income of Construction Phase and Production Phase}$

$NPV = \text{The Present Value of The Fixed Assets Depreciation} + \text{Initial Investment} - \text{The Present Value of The Future Cash Flows}$

The net current value of the project at a discount rate of 30% is over 238 billion Rials, which shows that the project is economically feasible.

One of the other methods of evaluating investment plans **internal rate of return**. In fact, the internal rate of return is the interest rate or the discount rate in which the current value of all the plan benefits is equal to the current value of its expenses.

According to the calculations, the internal rate of return of the project is estimated at 48.5% and compared to the Minimum Attractive Rate of Return, it is favorable.

Table (21): Project Return Index

Index	Amount	Unit of measurement
The Present Value of The Total Cost of The Period of Construction Phase and Production Phase	1,305,337	Million Rials
The Present Value of The Total Income of Construction Phase and Production Phase	1,444,364	Million Rials
NET PRESENT VALUE (NPV)	139,027	Million Rials
Cost-benefit RATIO (B/C)	1.11	-
INTERNAL RATE OF RETURN (IRR)	38.9%	Percent
NPV RATIO (PI)	0.30	Rial per Rial of investment
NORMAL PAYBACK	4.59	Year

Profitability Index (PI) indicates how much economic profit will be obtained for each unit of money invested during the lifetime of the project.

Project Investment payback is the period of time required to recover the project investment from net income, measured in years. In other words, it shows the length of time taken for the initial investment to be returned. This index shows the speed of investment return and the amount of project risk coverage. The ROR (simple) of the plan is estimated to be 2.21 years (equal to the year 1407) according to the calculations.

8-6- Sensitive Analysis

In the sensitivity analysis of the plans, the percentage of changes in the internal rate of return (IRR) is measured in relation to the change in some basic parameters and variables. In this plan, the analysis has been carried out by major variables such as sales, fixed and operating costs. Table (22) shows the results of the sensitivity analysis regarding the variables of sales income, fixed assets and operating costs.

8-6-1- Sales Revenue

Changes in sales revenue are mainly caused by alteration in two variables: planned sales amount and product sales price. The results of the sensitivity analysis regarding sales income show; 4% increase in sales revenue of the plan, the internal rate of return will increase from 48.5% to 52%. On the contrary, in the case of a 4% decrease in sales revenue, the internal rate of return of the project will decrease to 44%.

Table (22): Sensitivity Analysis (Percentage of IRR changes caused by sales revenue, fixed assets and operating costs alteration)

Variation (%)	Sales revenue	Increase in fixed assets	Operating costs
-20%	26%	58%	60%
-4%	44%	50%	51%
0%	48.5%	48.5%	48.5%
4%	52%	47%	46%
20%	67%	42%	36%

8-6-2- Fixed Assets

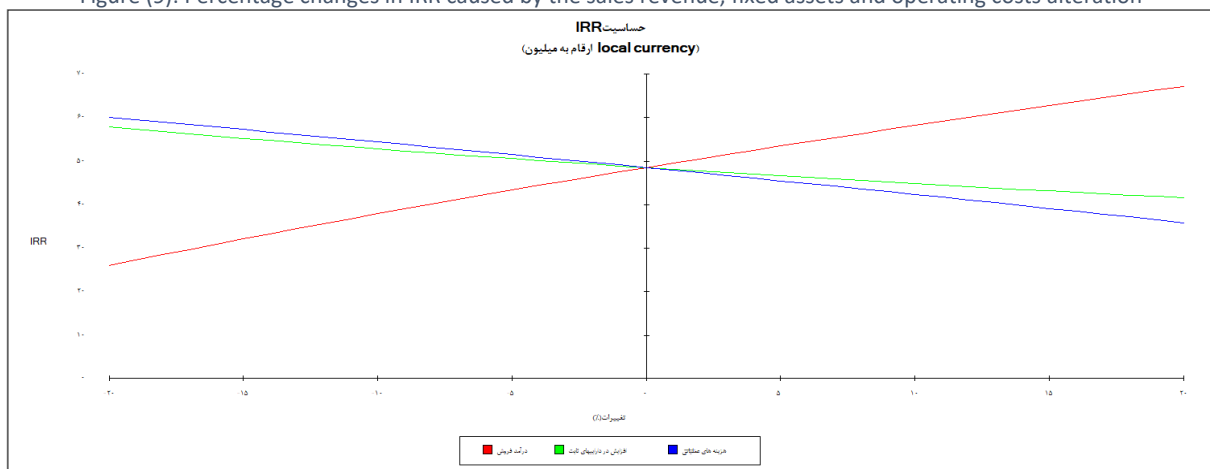
The change in the fixed assets is due to the fixed costs of the initial investment alterations. The results of the sensitivity analysis according to the fixed costs of the plan have been done and it shows that in case of an unexpected 20% increase in the fixed capital costs of the project, the internal rate of return will decrease from 48.5% to 42%. Conversely, if there is a 20% reduction in the fixed capital costs, the internal rate of return will increase and reach 58%.

8-6-3- Operating Costs

The operating costs of the plan is one of the crucial items in terms of sensitivity analysis regarding its changes. Therefore, unexpected and possible changes should be investigated.

The change in project operating costs is mainly caused by changes in raw material, supply, human resource and finally changes in other overhead costs of projects. If these parameters change, it can be as a result of the change in the technical coefficients of product production or the change in their purchase price. The sensitivity analysis indicates that in case of a 20% increase in the operating costs, the efficiency rate of the plan will decrease to 36%. On the contrary, if the total operating costs of the project are reduced by 20%, the internal rate of return will increase to 60%. Finally, the results of the sensitivity analysis show that the current project has a very high sensitivity to changes in sales revenue (changes in sales amount or sales price) and more considerations should be taken in this regard.

Figure (9): Percentage changes in IRR caused by the sales revenue, fixed assets and operating costs alteration



As you can see, the slope of the IRR change curve is higher relative to the changes in sales revenue compared to other items while the slope of the IRR change curve is lower relative to the changes in fixed assets, which indicates the greater sensitivity of the plan's internal rate of return to sales revenue and its lower sensitivity relative to operating costs and fixed assets.

8-7- Conclusion

The implementation of the project is planned by acquiring a land with an area of 2,800 square meters and carrying out construction in the substructure of 900 square meters. The total investment in land and building is estimated at 83 billion Rials and the total investment in main and auxiliary equipment is estimated at 289 billion Rials. The total pre-operational costs are estimated at 37 billion Rials, including the total required fixed capital of 409 billion Rials and the total working capital required for the project is 40 billion Rials. The total investment of the project is expected to come from the resources of the company's shareholders.

The project is expected to be sold in 1405 at fixed prices equal to 420 billion Rials. This figure will increase in the following years due to the increase in production capacity and will increase to a maximum of 840 billion Rials. The net profit of the plan has been positive in all years. The profit figure in 1405 is equal to 101 billion. The profit will increase in the following years and will reach a maximum of 332 billion Rials. The average annual profit of the plan is 270 billion Rials and the average profit margin is expected to be 37%. The internal rate of return (IRR) of the plan is estimated at 48.5% and the payback period (PBP) is estimated at a maximum of 2.21 years. Also, the net present value of the project's cash flows (NPV) is positive and, taking into account the expected interest rate of 30%, is equal to 238 billion Rials.

The liquidity status of the plan and the payment of dividends to the shareholders from the company's funds are also suitable. Therefore, if the assumptions and predictions are fulfilled, the plan under consideration has favorable profitability and according to the financial results obtained, its implementation is recommended. The economic discussions of the plan are summarized as follows.

Table (23): Summary of Economic Features

Nominal Capacity and Unit of Measurement	Product Name	Title Of the Project with ISIC Code	Title Of the Project
30,000 number	Types of six-layer polymer fuel tanks	Types of six-layer polymer fuel tanks (3430512718)	The production plan of multi-layer polymer fuel tanks (six layers)
Required Human Resource (Person)	Equity Shares (Million Rials)	Total Fixed Capital (Million Rials)	Project Duration
42	40,927	409,900	24
B/C	Applicant Available Cash (Million Rials)	Net Present Value (NPV) (Million Rials)	IRR (%)
1.2	450,827	238,078	48.5%
ROI (%)	NPV Ratio / Profitability Index (Rial per Rial invested)	Dynamic Payback Period (Year)	Normal Payback Period (Year)
60	0.65	4.48	2.21
Average Assets Turnover Ratio	Average Net Profit Margin (%)	Average Annual Profit (%)	Maximum Annual Sales (Million Rials)
0.94	37.0%	270,751	840,000

8-8- Estimation of currency rate fluctuation during the project implementation

The currency rate at the time of evaluation is included as described in Table (24). In the present plan, it is an important part of the cost of buying foreign equipment and requires foreign currency.

Considering the currency of buying equipment and raw materials, both in the construction phase and in the implementation phase, the following are significant:

- As long as the financing of the project is through foreign currency sources, the number of financial resources required will not change much.
- If the financial resources of fixed and circulating capital are provided through internal sources, the increase in the exchange rate will directly increase the fixed and circulating investment costs and will make it difficult to provide financial resources for the implementation of the plan.

Table (24): Currencies exchange Rate

Unit of Measurement	Unit Price	Currency
Rials	413,204	USD
Rials	451,531	EURO

Exchange rate of Central Bank, Exchange Trading System (ETS) dated 05/25/1402

9) Investment Required, method of fundraising and guarantees

9-1- Foreign Currency Required

The currency equivalent of the required investment is estimated at 360 thousand dollar, which is planned to be paid within three years (24 months according to the physical progress of the project).

Table (25): Foreign (Fixed) Currency Required

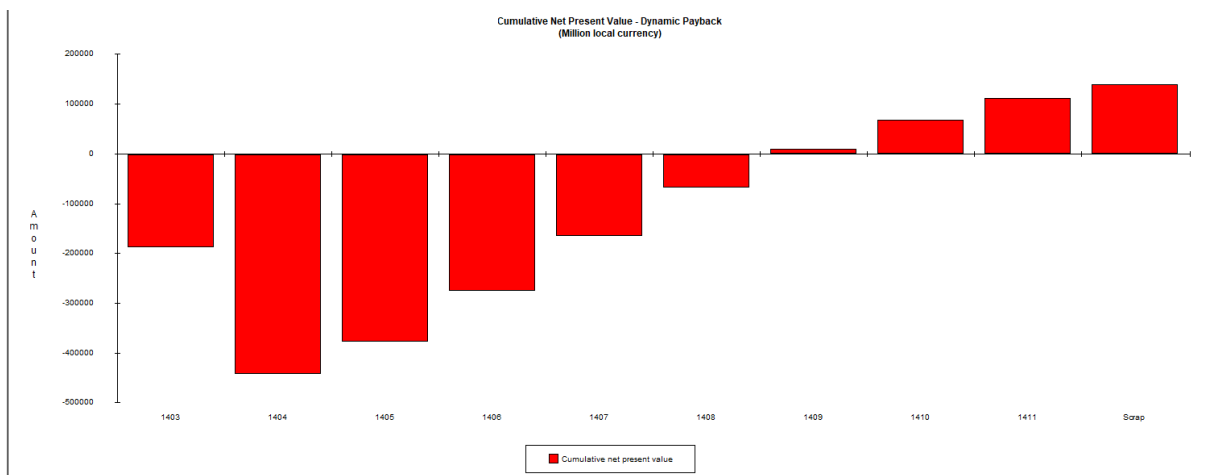
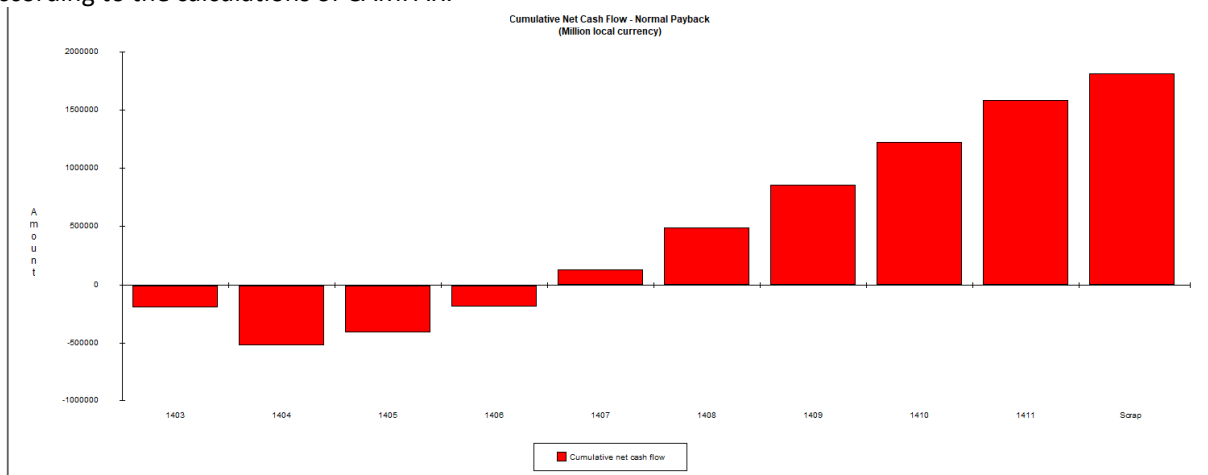
No.	Year	Required Investment
1	Year 1(405 SH)	72,000
2	Year 2	288,000
3	Year 3	0
4	Year 4	0
5	Year 5	0

9-2- Model Of Partnership and Fundraising

Participation in the present project and its fundraising process is predicted to be in the form of establishing a company inside Iran. The total required investment is predicted through the investor's contribution. Financing through local banks has not been included in the fundraising process.

9-3- Payback Period

The payback period is the period of time when the initial investment of the plan is compensated from the annual cash funds. The payback period (simple) of the plan is estimated to be 2.21 years (equal to 1407) according to the calculations of CAMFAR.



Dynamic Payback Period of the plan is also estimated at 3.63 years.

10) Incentives, features and benefits of the plan

Some of the financial supports for production companies are loans and bank facilities and tax exemptions which can facilitate the project implementation and provide the favorable condition for investment. In the following, some of these supports will be discussed.

One of the important bank facilities for production units is the long-time repayment period loans up to 70% of fixed capital by the Iran's state banks. This amount can be increased up to 90% for deprived areas if foreign machinery is used. The interest rate of long-term facilities in the industry sector is 23%, which in case of financial prudence, only a part of the interest can be repaid. The repayment period of long-term bank facilities is up to 8 years according to the production plan, the type of technology and the possibility of product exportation.

Another important bank facility is short-term bank loans (6 to 12 months) to use as working capital needed to carry out production processes, which will be provided up to 70% by bank communities. Obtaining short-term facilities to this extent depends on gaining the trust of the operating banks and having an acceptable financial history.

Tax exemption is another incentive for investors to establish factories. To name a few;

- Tax exemption for up to 10 years for implementation in deprived areas
- Tax exemption for up to 4 years for implementation in industrial towns

Investments in the project during implementation is of the investments in developed towns with industrial and mining activities. Since it is located within 30 kilometers of cities with more than 300,000 people, it doesn't have any tax exemption. But if it establishes in another industrial town within a range of more than 30 kilometers from cities with a population of more than 300 thousand people, it can get exempted from Article 132 of the Direct Taxes Law and up to 80% until four years after the date of operation from Article 105 (Direct Taxes Law)¹.

So, the effective performance tax rate (annual profit) can be reduced to 4% in the first 4 years, and then it will be considered on the basis of 20%. Obviously; If the project location is in one of the deprived areas, it will be subject to 10 years of 100% exemption.

If the produced Manufactured products (provided that it is in excess of the local market) can be exported to foreign markets, it can be exempted from Article 141 and 100% of the income from exports is exempt from taxes.

Obviously, If the legal personality of the partnership is defined as a public company accepted in the stock exchange market during its operation (in such a way that its shares can be traded with stock brokers), this type of company is subject to Article 143 of the Direct Taxes Law and up to 10% of the company's tax will be exempted.

1 - The exemptions of this article will not include the income of production and mining units located within a radius of 120 kilometers from the center of Tehran and 50 kilometers from the center of Isfahan, 30 kilometers from the centers of provinces and cities with more than 300 thousand people (according to the latest census).

(Attachment Number 2)

Summary Sheet

Project introduction	
1. Project Title:	The production plan of multi-layer polymer fuel tanks (six layers)
2. Sector:	Production sub-sector: Industry
3. Products/services:	Types of six-layer polymer fuel tanks
4. Location:	Khuzestan province - HANDIJAN city, HANDIJAN industrial Estate
5. Project description:	<p>The implementation of the project is planned by acquiring a land with an area of 2,800 square meters and carrying out construction in the substructure of 900 square meters. The total investment in land and building is estimated at 83 billion Rials and the total investment in main and auxiliary equipment is estimated at 289 billion Rials. The total pre-operational costs are estimated at 37 billion Rials, including the total required fixed capital of 409 billion Rials and the total working capital required for the project is 40 billion Rials. The total investment of the project is expected to come from the resources of the company's shareholders.</p> <p>The project is expected to be sold in 1405 at fixed prices equal to 420 billion Rials. This figure will increase in the following years due to the increase in production capacity and will increase to a maximum of 840 billion Rials. The net profit of the plan has been positive in all years. The profit figure in 1405 is equal to 101 billion. The profit will increase in the following years and will reach a maximum of 332 billion Rials. The average annual profit of the plan is 270 billion Rials and the average profit margin is expected to be 37%. The internal rate of return (IRR) of the plan is estimated at 48.5% and the payback period (PBP) is estimated at a maximum of 2.21 years. Also, the net present value of the project's cash flows (NPV) is positive and, taking into account the expected interest rate of 30%, is equal to 238 billion Rials.</p>
6. Annual Capacity:	30,000 number

Project Status	
7. Local/internal raw material access:	100%
8. Sales:	840 billion Rials
Anticipated local market:	100%
Anticipated export market:	0%
9. construction period:	24 months
10. project status:	<ul style="list-style-type: none"> - Feasibility study available? Yes. The feasibility of the project has been evaluated from different aspects and the results of the feasibility study are favorable in terms of market, engineering, financial and economic indicators. - Required land provided? Yes. Currently, there is industrial land in HANDIJAN Industrial Estate, and based on the geodetic criteria, this area is a suitable place to build a plan. Of course, in order to settle in this area, it is necessary to obtain the necessary approvals. - Legal permission (establishment license, foreign currency quota, environment) taken? Currently, in order to settle in the HANDIJAN industrial estate, it is necessary to obtain legal permits from the Organization of Industry, Mining, Trade and Environment of Shush city. - Partnership agreement concluded with local/foreign investor? No - So far, no partnership agreement has been prepared for the implementation of the plan. This plan has the necessary features to attract shareholders' financial resources. - Agreement with local/foreign contractor(s) concluded? No, so far, no agreement or contract has been concluded for the purpose of manufacturing domestic and foreign machinery. - Infrastructural utilities procured? If the project is established in HANDIJAN Industrial Estate, infrastructure facilities such as water and electricity, roads, etc. are available. - List of know-how, machinery and equipment concluded? Technical knowledge of inflatable plastic injection - due to the history of production of six-layer polymer tank and similar products in the country, it can be said that the technical knowledge of production and sale of this product exists in the country, and the implementation of the project will not face serious problems in terms of providing the technical knowledge of production. Was. - Financing agreement for machinery, equipment and know-how concluded? No

Financial structure

11. Financial table:

Description	Local Currency Required			Foreign Currency Required	Total Euro
	Million Rial	Exchange Rate	Euro		
Total Fixed Investment Costs	261,147	451,531	578,358	329,442	907,800
Total Net Working Capital Requirements	40,927	451,531	90,640	0	90,640
Total Investment	302,073	-	668,998	329,442	998,440

- Value Of Foreign Equipment/Machinery:	329,442	Euro		
- Value Of Local Equipment/Machinery:	272,953	Euro		
- Value Of Foreign Technical Know-How:	0	Euro		
- Value Of Local Technical Know-How:	0	Euro		
- Net Present Value (NPV):	527,268	Euro	Net present values discounted to:	1403
- Internal Rate of Return (IRR):	48.5%	%		
- Normal Payback:	2.21	year	equivalent to 27.5 months	
- Minimum Attractive Rate of Return:	30%	%		

General information

12. Project Type: new Project Explanation / Rehabilitation project
 Name / Company name: -
 Address: Khuzestan, HANDIJAN city, HENDIJAN Industrial Estate
 Tel: +98 916 3418900 +98 06134451004 Fax:
 Email: mh_rahimzade@yahoo.com Website:
 Local entrepreneur: Private Sector government /public sector