PROJECT REPORT

Of

ALUMINIUM FOIL REWINDING

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Aluminium Foil Rewinding**.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

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ALUMINIUM FOIL REWINDING

Introduction

Aluminium foil (or aluminium foil in North America), often referred to with the misnomer tin foil, is aluminium prepared in thin metal leaves with a thickness less than 0.2 mm (7.9 mils); thinner gauges down to 6 micrometres (0.24 mils) are also commonly used. In the United States, foils are commonly gauged in thousandths of an inch or mils. Standard household foil is typically 0.016 mm (0.63 mils) thick, and heavy duty household foil is typically 0.024 mm (0.94 mils). The foil is pliable, and can be readily bent or wrapped around objects. Thin foils are fragile and are sometimes laminated to other materials such as plastics or paper to make them more useful. Aluminium foil supplanted tin foil in the mid 20th century.

Formulation

Aluminium foil is produced by rolling sheet ingots cast from molten billet aluminium, then re-rolling on sheet and foil rolling mills to the desired thickness, or by continuously casting and cold rolling. To maintain a constant thickness in aluminium foil production, beta radiation is passed through the foil to a sensor on the other side. If the intensity becomes too high, then the rollers adjust, increasing the thickness. If the intensities become too low and the foil has

become too thick, the rollers apply more pressure, causing the foil to be made thinner.

The continuous casting method is much less energy intensive and has become the preferred process. For thicknesses below 0.025 mm (1 mil), two layers are usually put together for the final pass and afterwards separated which produces foil with one bright side and one matte side. The two sides in contact with each other are matte and the exterior sides become bright; this is done to reduce tearing, increase production rates, control thickness, and get around the need for a smaller diameter roller.

Some lubrication is needed during the rolling stages; otherwise, the foil surface can become marked with a herringbone pattern. These lubricants are sprayed on the foil surface before passing through the mill rolls. Kerosene based lubricants are commonly used, although oils approved for food contact must be used for foil intended for food packaging.

Aluminium becomes work hardened during the cold rolling process and is annealed for most purposes. The rolls of foil are heated until the degree of softness is reached, which may be up to 340 °C (644 °F) for 12 hours. During this heating, the lubricating oils are burned off, leaving a dry surface. Lubricant oils may not be completely burnt off for hard temper rolls, which can make subsequent coating or printing more difficult.

The rolls of aluminium foil are then slit on slitter rewinding machines into smaller rolls. Roll slitting and rewinding is an essential part of the finishing process.

Description of Aluminium Foil Rewinding Machine

Machinery for Aluminium Foil Rewinding includes the following:

- Main Machinery (Automatic/ Normal)

This machine is mostly used in the paper making industries & aluminium Foil rewinding process to make different types of roll.

These Automatic Aluminium Foil Rewinding Machines are very much helpful in folding the jumbo roll either into the shape or

square or rectangular as per the need. Its speed is outstanding and totally controlled by the Control device. Besides, because of the cutting-edge technology, it also counts the number of roll it produces at a time. An extra remote for handling the device is attached in the machine, so, one can control its speed while operating the machine.

Aluminium Foil Rewinding Market Analysis

The global aluminium foil market size was valued at USD 23.1 billion in 2018 and is expected to advance at a CAGR of 5.3% from 2019 to 2025. Increasing demand from food and pharmaceutical packaging sectors is expected to significantly drive the market over the coming years.

The versatility of aluminium foil makes it an ideal material for use in different forms of packaging. Benefits of the product including malleability, strength, dead fold characteristics, and formability are likely to boost the market growth over the forecast period. In addition, the product's ability to withstand extreme temperature is likely to fuel its demand as a packaging material.

Aluminium Foil Rewinding Manufacturing Process

- Load the Jumbo roll on the machine.
- Loading of core.
- Rewinding
- Cutting after rewinding
- Taping
- Box packing

Machinery &Equipment's required:

Name	Cost
Aluminium Foil Rewinding Machine	3,15,000
Total	3,15,000

- Cost of the machine is exclusive of GST & value of the machine varies with the change in batch size.

Land &Building required:

Land required 500 Square Feet (approx.)

Approximate construction cost for the same is Rs.10000 (approx.)

Labour Requirement:

3 Manpower is required for Aluminium Foil rewinding unit.

Includes:

1 skilled Labour

2 Unskilled Labour

Raw Material Requirement of Aluminium Foil Rewinding

Aluminium Foil is required as raw material for rewinding process.

Average raw material (cost per KG) = Rs.230-260 based on the quality

Aluminium Foil Rewinding License &registration

For Proprietor:

- Obtain the GST registration.
- Fire/ Pollution Registration as required.
- Choice of a Brand Name of the product and secure the name with Trademark if required.

Implementation Schedule

S.N.	Activity	Time Required (in Months)
1	Acquisition Of premises	1
2	Construction (if Applicable)	1- 2 Months
3	Procurement & installation of Plant & Machinery	1
4	Arrangement of Finance	1
5	Requirement of required Manpower	1
	Total time Required (some activities shall run concurrently)	2-3 Months

PROJECT AT A GLANCE

1	Name of the Entreprenuer		**xx**	
2	Constitution (legal Status) :	:	xx	
3	Father's/Spouce's Name		**xx**	
4	Unit Address :			
			Taluk/Block:	**xx**
			District :	**xx**
			Pin:	
			E-Mail :	**xx**
			Mobile	**xx**
5	Product and By Product	:	Aluminium Foil rewinding	
6	Name of the project / business activity proposed :			
7	Cost of Project	:	**Rs.**	4.72
8	**Means of Finance**			
	Term Loan		**Rs.**	4.25 Lacs
	KVIC Margin Money		**Rs.**	25% of 4.72 Lacs (1.18 Lacs)
	Own Capital		**Rs.**	1.25 Lacs
9	Debt Service Coverage Ratio	:		
10	Pay Back Period	:		4 years 10 month
11	Project Implementation Period	:		6 months
12	Employment	:		
13	Power Requirement	:		3 KW connection
14	Major Raw materials	:		Aluminum Foil
15	Estimated Annual Sales Turnover	:		90 Lacs (at 50% capacity)
16	Detailed Cost of Project & Means of Finance			

COST OF PROJECT

(Rs. In Lacs)

Particulars	Amount
Land	
Building & Civil Work	-
Plant & Machinery	3.72
Furniture & Fixtures	1.00

Pre-operative Expenses	
Contingencies	
Working Capital Requirement	7.78
Total	12.49

MEANS OF FINANCE

Particulars	**Amount**
Own Contribution	1.25
Bank Finance	4.25
working capital from bank	7.00
Total	12.49
KVIC Margin Money	25% of 4.72 Lacs (1.18 Lacs)

FINANCIAL ASSISTANCE REQUIRED

Term Loan of Rs. 4.25 Lacs and Working Capital limit of Rs. 7 Lacs

COST OF PROJECT

PARTICULARS	AMOUNT	AMOUNT	AMOUNT
		10.00%	90.00%
Building Civil Work			
Plant & Machinery	3.72	0.37	3.35
Furniture & Fixtures and Other Assets	1.00	0.10	0.90
Working capital	7.78	0.78	7.00
Total	**12.49**	**1.25**	**11.25**

MEANS OF FINANCE

PARTICULARS	AMOUNT
Own Contribution	1.25
Bank Loan	4.25
Working capital Limit	7.00
Total	**12.49**

COMPUTATION OF PRODUCTION OF ALUMINIUM FOIL REWINDING

Items to be Manufactured

Aluminium Foil Rewinding

machine capacity per day	3000	Roll
machine capacity per annum	720000	Roll
1 roll of aluminium consists	9	Meter
Number of roll in 1 KG	14	Roll
total raw material required	51,429	KG

Production of Aluminum Foil Rewinding

Production	Capacity	Roll
1st year	50%	360,000
2nd year	53%	381,600
3rd year	55%	396,000
4th year	58%	417,600
5th year	60%	432,000

0Raw Material Cost

Year	Capacity Utilisation	KG	Amount (Rs. in lacs)
1st year	50%	255.00	65.57
2nd year	53%	257.00	70.05
3rd year	55%	260.00	73.54
4th year	58%	263.00	78.45
5th year	60%	265.00	81.77

COMPUTATION OF SALE

Particulars	1st year	2nd year	3rd year	4th year	5th year
Op Stock	-	30,000	31,800	33,000	34,800
Production	360,000	381,600	396,000	417,600	432,000
Less : Closing Stock	30,000	31,800	33,000	34,800	36,000
Net Sale	**330,000**	**379,800**	**394,800**	**415,800**	**430,800**
sale price per piece	30.00	30.50	31.00	31.50	32.00
Sales (in Lacs)	99.00	115.84	122.39	130.98	137.86

BREAK UP OF LABOUR CHARGES

Particulars	Wages Per Month	No of Employees	Total Salary
Skilled	20000	1	20000
Unskilled	15000	2	30000
Total Salary Per Month			50000
Total Annual Labour Charges	**(in Lacs)**		**6.00**

BREAK UP OF STAFF Charges

Particulars	Wages Per Month	No of Employees	Total Salary
Helper	8000	1	8000
Total Salary Per Month			8000
Total Annual Labour Charges	**(in Lacs)**		**0.96**

Utility Charges at 100% capacity (per month)		
Particulars	**value**	**Description**
Power connection required	3	KWH
consumption per day	30	units
Consumption per month	600	units
Rate per Unit	7	Rs.
power Bill per month	4200	Rs.

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	**50%**	**53%**	**55%**	**58%**	**60%**
SALES					
Gross Sale					
Aluminium Foil Roil	99.00	115.84	122.39	130.98	137.86
Total	**99.00**	**115.84**	**122.39**	**130.98**	**137.86**
COST OF SALES					
Raw Mateiral Consumed	65.57	70.05	73.54	78.45	81.77
Elecricity Expenses	0.50	0.55	0.61	0.67	0.74
Depriciation	0.66	0.56	0.48	0.42	0.36
Consumables	6.93	8.11	8.57	9.17	9.65
Repair & maintennace	4.85	5.68	6.00	6.42	6.75
other direct expenses	5.45	6.37	6.73	7.20	7.58
Packaging Charges	1.98	2.32	2.45	2.62	2.76
Labour	6.00	6.60	7.26	7.99	8.78
Cost of Production	91.94	100.24	105.64	112.93	118.39
Add: Opening Stock /WIP	-	7.66	8.35	8.80	9.41
Less: Closing Stock /WIP	7.66	8.35	8.80	9.41	9.87
Cost of Sales	84.28	99.55	105.19	112.32	117.94
GROSS PROFIT	**14.72**	**16.29**	**17.20**	**18.65**	**19.92**
salary to staff	0.96	1.06	1.16	1.28	1.34
Interest on Term Loan	0.42	0.39	0.31	0.23	0.02
Interest on working Capital	0.84	0.84	0.84	0.84	0.84
Selling & adm Exp	6.93	8.11	8.57	9.82	10.75
Rent	1.20	1.32	1.45	1.60	1.76

TOTAL	**10.35**	**11.72**	**12.33**	**13.77**	**14.71**
NET PROFIT	4.37	4.57	4.87	4.88	5.21
Taxation					0.04
PROFIT (After Tax)	4.37	4.57	4.87	4.88	5.16

PROJECTED BALANCE SHEET

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Liabilities					
Capital					
opening balance		3.62	6.20	8.56	10.69
Add:- Own Capital	1.25				
Add:- Retained Profit	4.37	4.57	4.87	4.88	5.16
Less:- Drawings	2.00	2.00	2.50	2.75	3.50
Closing Blance	3.62	6.20	8.56	10.69	12.36
Subsidy Reserve	1.18	1.18	1.18	-	-
Term Loan	3.89	3.17	2.45	0.55	-
Working Capital Limit	7.00	7.00	7.00	7.00	7.00
Sundry Creditors	2.73	2.92	3.06	4.90	4.94
Provisions & Other Liab	0.30	0.40	0.55	0.66	0.83
TOTAL :	**18.72**	**20.86**	**22.80**	**23.80**	**25.12**
Assets					
Fixed Assets (Gross)	4.72	4.72	4.72	4.72	4.72
Gross Dep.	0.66	1.22	1.71	2.12	2.48
Net Fixed Assets	**4.06**	**3.50**	**3.01**	**2.60**	**2.24**
FD of Subsidy	1.18	1.18	1.18		
Current Assets					
Sundry Debtors	2.06	4.83	6.63	8.19	9.48
Stock in Hand	9.03	9.81	10.34	11.05	11.57
Cash and Bank	2.39	1.54	1.64	1.97	1.83
TOTAL :	**18.72**	**20.86**	**22.80**	**23.80**	**25.12**

PROJECTED CASH FLOW STATEMENT

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
SOURCES OF FUND					
Own Margin	1.25				
Net Profit	4.37	4.57	4.87	4.88	5.21
Depriciation & Exp. W/off	0.66	0.56	0.48	0.42	0.36
Increase in Cash Credit	7.00	-	-	-	-
Increase In Term Loan	4.25	-	-	-	-
Increase in Creditors	2.73	0.19	0.15	1.84	0.04
Increase in Provisions & Oth lib	0.30	0.10	0.15	0.11	0.17
increase in subsidy	1.18				
TOTAL :	**21.74**	**5.42**	**5.64**	**7.25**	**5.76**
APPLICATION OF FUND					
Increase in Fixed Assets	4.72				
Increase in Stock	9.03	0.79	0.52	0.71	0.52
Increase in Debtors	2.06	2.76	1.80	1.56	1.29
Repayment of Term Loan	0.36	0.72	0.72	1.90	0.55
Increase in FD	1.18	-	-		
Drawings	2.00	2.00	2.50	2.75	3.50
Taxation	-	-	-	-	0.04
TOTAL :	**19.35**	**6.27**	**5.55**	**6.92**	**5.90**
Opening Cash & Bank Balance	-	2.39	1.54	1.64	1.97
Add : Surplus	2.39	- 0.85	0.10	0.33	- 0.14
Closing Cash & Bank Balance	**2.39**	**1.54**	**1.64**	**1.97**	**1.83**

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL					
PARTICULARS	**1st year**	**2nd year**	**3rd year**	**4th year**	**5th year**
Finished Goods					
	7.66	8.35	8.80	9.41	9.87
Raw Material					
	1.37	1.46	1.53	1.63	1.70
Closing Stock	**9.03**	**9.81**	**10.34**	**11.05**	**11.57**

COMPUTATION OF WORKING CAPITAL REQUIREMENT					
TRADITIONAL METHOD					
Particulars	**Amount**	**Own Margin**		**Bank Finance**	
Finished Goods & Raw Material	9.03				
Less : Creditors	2.73				
Paid stock	**6.30**	**10%**	**0.63**	**90%**	**5.67**
Sundry Debtors	**2.06**	**10%**	**0.21**	**90%**	**1.86**
	8.36		**0.84**		**7.52**
WORKING CAPITAL LIMIT DEMAND (from Bank)				**7.00**	

2nd Method		
PARTICULARS	**1st year**	**2nd year**
Total Current Assets	13.48	16.18
Other Current Liabilities	3.03	3.32
Working Capital Gap	10.45	12.87
Min Working Capital		
25% of WCG	2.61	3.22
Actual NWC	**3.45**	**5.87**
item III - IV	**7.84**	**9.65**
item III - V	**7.00**	**7.00**
MPBF (Lower of VI & VII)	**7.00**	**7.00**

3rd Method		
PARTICULARS	**1st year**	**2nd year**
Total Current Assets	13.48	16.18
Other Current Liabilities	3.03	3.32
Working Capital Gap	10.45	12.87
Min Working Capital		
25% of Current Assets	**3.37**	**4.05**
Actual NWC	**3.45**	**5.87**
item III - IV	**7.08**	**8.82**
item III - V	**7.00**	**7.00**
MPBF (Lower of VI & VII)	**7.00**	**7.00**

COMPUTATION OF DEPRECIATION

Description	Plant & Machinery	Furniture	TOTAL
Rate of Depreciation	**15.00%**	**10.00%**	
Opening Balance	-	-	-
Addition	3.72	1.00	4.72
Total	3.72	1.00	4.72
Less : Depreciation	0.56	0.10	0.66
WDV at end of Year	**3.16**	**0.90**	**4.06**
Additions During The Year	-	-	-
Total	3.16	0.90	4.06
Less : Depreciation	0.47	0.09	0.56
WDV at end of Year	**2.69**	**0.81**	**3.50**
Additions During The Year	-	-	-
Total	2.69	0.81	3.50
Less : Depreciation	0.40	0.08	0.48
WDV at end of Year	**2.28**	**0.73**	**3.01**
Additions During The Year	-	-	-
Total	2.28	0.73	3.01
Less : Depreciation	0.34	0.07	0.42
WDV at end of Year	**1.94**	**0.66**	**2.60**
Additions During The Year	-	-	-
Total	1.94	0.66	2.60
Less : Depreciation	0.29	0.07	0.36
WDV at end of Year	**1.65**	**0.59**	**2.24**
Additions During The Year	-	-	-
Total	1.65	0.59	2.24

Less : Depreciation	0.25	0.06	0.31
WDV at end of Year	**1.40**	**0.53**	**1.93**
Less : Depreciation	0.21	0.05	0.26
WDV at end of Year	**1.19**	**0.48**	**1.67**
Less : Depreciation	0.18	0.05	0.23
WDV at end of Year	**1.01**	**0.43**	**1.44**

REPAYMENT SCHEDULE OF TERM LOAN

					Interest		11.00%
Year	**Particulars**	**Amount**	**Addition**	**Total**	**Interest**	**Repayment**	**Closing Balance**
ist	Opening Balance						
	1st month	-	4.25	4.25	-	-	4.25
	2nd month	4.25	-	4.25	0.04	-	4.25
	3rd month	4.25	-	4.25	0.04	-	4.25
	4th month	4.25	-	4.25	0.04		4.25
	5th month	4.25	-	4.25	0.04		4.25
	6th month	4.25	-	4.25	0.04		4.25
	7th month	4.25	-	4.25	0.04	0.06	4.19
	8th month	4.19	-	4.19	0.04	0.06	4.13
	9th month	4.13	-	4.13	0.04	0.06	4.07
	10th month	4.07	-	4.07	0.04	0.06	4.01
	11th month	4.01	-	4.01	0.04	0.06	3.95
	12th month	3.95	-	3.95	0.04	0.06	3.89
					0.42	0.36	
2nd	Opening Balance						
	1st month	3.89	-	3.89	0.04	0.06	3.83
	2nd month	3.83	-	3.83	0.04	0.06	3.77
	3rd month	3.77	-	3.77	0.03	0.06	3.71
	4th month	3.71	-	3.71	0.03	0.06	3.65
	5th month	3.65	-	3.65	0.03	0.06	3.59
	6th month	3.59	-	3.59	0.03	0.06	3.53
	7th month	3.53	-	3.53	0.03	0.06	3.47
	8th month	3.47	-	3.47	0.03	0.06	3.41
	9th month	3.41	-	3.41	0.03	0.06	3.35
	10th month	3.35	-	3.35	0.03	0.06	3.29
	11th month	3.29	-	3.29	0.03	0.06	3.23
	12th month	3.23	-	3.23	0.03	0.06	3.17

					0.39	**0.72**	
3rd	Opening Balance						
	1st month	3.17	-	3.17	0.03	0.06	3.11
	2nd month	3.11	-	3.11	0.03	0.06	3.05
	3rd month	3.05	-	3.05	0.03	0.06	2.99
	4th month	2.99	-	2.99	0.03	0.06	2.93
	5th month	2.93	-	2.93	0.03	0.06	2.87
	6th month	2.87	-	2.87	0.03	0.06	2.81
	7th month	2.81	-	2.81	0.03	0.06	2.75
	8th month	2.75	-	2.75	0.03	0.06	2.69
	9th month	2.69	-	2.69	0.02	0.06	2.63
	10th month	2.63	-	2.63	0.02	0.06	2.57
	11th month	2.57	-	2.57	0.02	0.06	2.51
	12th month	2.51	-	2.51	0.02	0.06	2.45
					0.31	**0.72**	
4th	Opening Balance						
	1st month	2.45	-	2.45	0.02	0.06	2.39
	2nd month	2.39	-	2.39	0.02	0.06	2.33
	3rd month	2.33	-	2.33	0.02	0.06	2.27
	4th month	2.27	-	2.27	0.02	0.06	2.21
	5th month	2.21	-	2.21	0.02	0.06	2.15
	6th month	2.15	-	2.15	0.02	0.06	2.09
	7th month	2.09	-	2.09	0.02	0.06	2.03
	8th month	2.03	-	2.03	0.02	0.06	1.97
	9th month	1.97	-	1.97	0.02	0.06	1.91
	10th month	1.91	-	1.91	0.02	0.06	1.85
	11th month	1.85	-	1.85	0.02	0.06	1.79
	12th month(Subsidy adjusted)	1.79	-	1.79	0.02	1.24	0.55
					0.23	**1.90**	
5th	Opening Balance						
	1st month	0.55	-	0.55	0.00	0.06	0.49

2nd month	0.49	-	0.49	0.00	0.06	0.43
3rd month	0.43	-	0.43	0.00	0.06	0.37
4th month	0.37	-	0.37	0.00	0.06	0.31
5th month	0.31	-	0.31	0.00	0.06	0.25
6th month	0.25	-	0.25	0.00	0.06	0.19
7th month	0.19	-	0.19	0.00	0.06	0.13
8th month	0.13	-	0.13	0.00	0.06	0.07
9th month	0.07	-	0.07	0.00	0.06	0.01
10th month	0.01	-	0.01	0.00	0.01	-
11th month	-	-	-	-	-	-
				0.02	**0.55**	

DOOR TO DOOR	58	MONTHS
MORATORIUM PERIOD	6	MONTHS
REPAYMENT PERIOD	52	MONTHS

Supplier Details:

Paul Engineering	**Address:** D-4/1, Pocket D, Okhla Phase II, Okhla Industrial Area, New Delhi, Delhi 110020

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