

PROJECT REPORT

Of

YARN TWISTING

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Yarn Twisting**

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.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]



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YARN TWISTING



Introduction

Yarn is a long continuous length of interlocked fibres, suitable for use in the production of textile, sewing, knitting, crocheting, weaving, embroidery or ropemaking. Thread is a type of yarn intended for sewing by hand or machine. Modern manufactured sewing threads may be finished with wax or other lubricants to withstand the stresses involved in sewing. Embroidery threads are yarns specifically designed for needlework.

Yarn Twisting

Twisting is a very essential process in the production of staple yarn, twine, cord and ropes. Twist is inserted to the staple yarn to hold the constituent fibres together, thus giving enough strength to the yarn, and also producing a continuous length of yarn. The twist in the yarn has a two-fold effect; firstly the twist increases cohesion between the fibres by increasing the lateral pressure in the yarn, thus giving enough strength to the yarn. Secondly, twist increases the helical angle of fibres and prevents the ability to apply the maximum fibre strength to the yarn. Due to the above effects, as the twist increases, the yarn strength increases up to a certain level, beyond which the increase in twist actually decreases the strength of staple yarn. The continuous filament yarn also requires a small amount of

twist in order to avoid the fraying of filaments and to increase abrasion resistance.

Yarn is often ply-twisted in a direction opposite to a single yarn twist to improve evenness, strength, elongation, bulkiness, lustre and abrasion resistance, and to reduce twist liveliness, hairiness and variation in strength.

The process of twisting is an indispensable means of improving certain yarn properties and satisfying textile requirements that cannot be fulfilled by the single yarns. The method of twisting two or more single yarns is called doubling or folding or ply twisting. Such yarns are designated as doubled yarn, folded yarn or plied yarn and the machines intended for the purpose are called doublers, ply-twisters or two-for-one (TFO) twisters.

Categories of yarn twisting

On the basis of the degree of twist, the spun yarn can be classified in three categories:

1. Low twist yarn
2. Normal twist yarn
3. High twist yarn

1. Low twist Yarn:

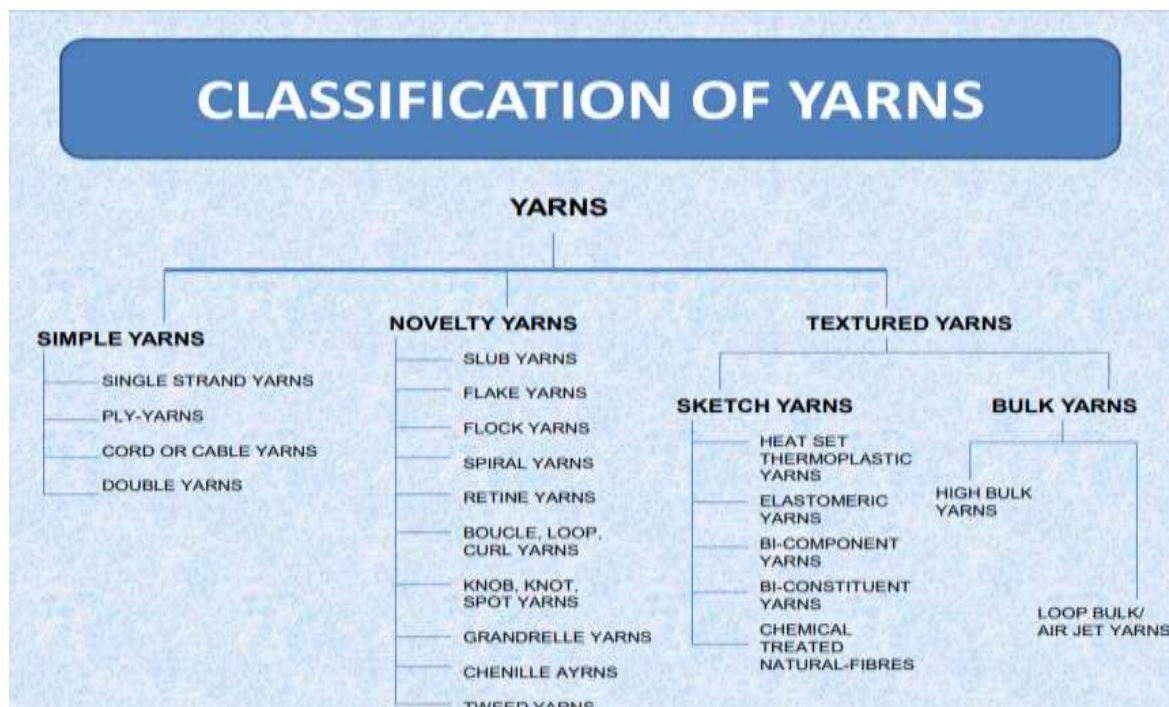
This type of yarn contains less degree of the twist than standard. It has bulkiness and soft feel. It possess less strength than normal twist yarn. It shows poor lustre and less Clarity in the structure. It looks coarser than normal twist yarn. Pilling properties of fabrics made of this yarn are poor.

2. Normal Twist yarn:

This type of yarn has a normal twist as per spinning norms and specification.

3. High Twisted yarn:

This type of yarn contains a higher degree of twist than standard. This yarn has a rough feel. This yarn increases the clarity of the texture of the fabric. It possess higher strength than normal twist yarn. It shows good lustre in comparison of normal twist yarn. Yarn looks finer than normal twist yarn. It has better pilling properties.



Yarn Market analysis

The yarn, fiber and thread manufacturing market expected to reach a value of nearly \$123.39 billion by 2022, significantly growing at a CAGR of 8.1% during the forecast period. The growth in the yarn, fiber and thread manufacturing market is due to emerging markets growth, rise in disposable income, technology development.

However, the market for yarn, fiber and thread manufacturing is expected to face certain restraints from several factors such as lack of available resources, workforce issues and increasing inventory levels.

Description of Machinery & Equipment

Following machineries are required for yarn twisting process:

Doubling Machine (General Name of Large scale of machine associated with twisting)

- Thread Doubling Machine
- Yarn Doubling Machine &
- Winder machine

Yarn twisting Process

For yarn twisting process first of all yarn is attached in the machine for doubling according to the need of customer. After that yarn got automatically twisted in spindle through doubling machine (With the help of doubling machine different types of fancy yarn can be prepared). After doubling of yarn cone is prepared with the help of winding machine and product packaging is done.

Machinery & Equipment's required:

Name	Amount per spindle	Quantity	Cost
Doubling machine	3500	50	1,75,000
Winder machine	2500	20	50,000
Total Cost (Without GST)		60	2,50,000

❖ Cost of the machine is exclusive of GST & other transportation cost.

Land & Building required:

Land required 3,000 - 4,000 square feet

Approximate rent for the same is Rs. 30,000 - 40,000 per month.

Yarn Requirement

Following raw material is required as the major raw material for the Yarn twisting process.

S.N.	Description	Amount
1	Cotton Yarn Hosiery Cotton	Rs. 200 Per Kg of different Counts
2	Vinose Yarn	Rs. 230 Per Kg of different Counts
3	Acrylic Yarn	Rs. 280 Per Kg of different Counts
4	Linen Yarn	Rs. 600 Per Kg of different Counts

Sale revenue of yarn twisting

Yarn twisting process is based on the number of counts. Counts range from 6 (thick) to 30 (thin) number (based on the client requirement) and the sale revenue is also depends upon the number of count.

Labour Requirement:

4 Manpower are required for the Yarn twisting Unit.

Includes:

1-2 Skilled Labour

2-3 Unskilled Labour

Yarn Twisting license & registration

For Proprietor:

- Obtain the GST registration.
- Additionally, obtain the Udyog Aadhar registration Number.
- 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	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

FINANCIAL ASSISTANCE REQUIRED

Term Loan of Rs. 3.15 lakh and Working Capital limit of Rs. 2.70 Lacs

(in Lacs)

<u>COST OF PROJECT</u>	PARTICULARS	AMOUNT	Own Contribution	Bank Finance
	Building Civil Work		10.00%	90.00%
	Plant & Machinery	2.950	0.295	2.655
	Furniture & Fixtures and Other Assets	0.550	0.055	0.495
	Working capital	3.000	0.300	2.700
	Total	6.500	0.650	5.850

<u>MEANS OF FINANCE</u>	PARTICULARS	AMOUNT
	Own Contribution	0.650
	Bank Loan	3.150
	Working capital Limit	2.700
	Total	6.500

COMPUTATION OF PRODUCTION OF TWISTED YARN**Items to be Manufactured**

Twisted Yarn of 30 count

Yarn Twisting per Hour	25	KG
Total Yarn Twisting Per day	200	KG
machine capacity per annum	60,000	KG

Production of Twisted Yarn

Production	Capacity	KG
1st year	65%	39,000
2nd year	70%	42,000
3rd year	75%	45,000
4th year	80%	48,000
5th year	85%	51,000

COMPUTATION OF SALE

Particulars	1st year	2nd year	3rd year	4th year	5th year
Production	39,000	42,000	45,000	48,000	51,000
Net Sale	39,000	42,000	45,000	48,000	51,000
Twisting price per KG	45.00	47.25	49.61	52.09	54.70
Sales (in Lacs)	17.55	19.85	22.33	25.00	27.90

BREAK UP OF LABOUR CHARGES

Particulars	Wages	No of	Total
	Rs. per Month	Employees	Salary
Skilled (in thousand rupees)	10,000	1	10,000
Unskilled (in thousand rupees)	9,000	3	27,000
Total salary per month			37,000
Total annual labour charges	(in lacs)		4.44

Utility Charges at 100% capacity (per month)

Particulars	value	Description
Power connection required	25	KWH
consumption per day	200	units
Consumption per month	5,000	units
Rate per Unit	7	Rs.
power Bill per month	35,000	Rs.

PROJECTED PROFITABILITY STATEMENT					(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	65%	70%	75%	80%	85%
<u>SALES</u>					
Gross Sale					
Twisted Yarn	17.55	19.85	22.33	25.00	27.90
Total	17.55	19.85	22.33	25.00	27.90
COST OF SALES					
Electricity Expenses	4.20	4.62	5.08	5.59	6.15
Depreciation	0.50	0.43	0.36	0.31	0.27
Labour	4.44	4.88	5.37	5.91	6.50
Repair & maintenance	0.35	0.40	0.45	0.50	0.56
Consumables	0.68	0.77	0.87	0.98	1.09
other direct expenses	0.39	0.62	0.69	0.78	0.86
Cost of Production	10.56	11.72	12.83	14.06	15.43
Cost of Sales	10.56	11.72	12.83	14.06	15.43
GROSS PROFIT	6.99	8.13	9.50	10.94	12.47
Interest on Term Loan	0.28	0.25	0.18	0.11	0.04
Interest on working Capital	0.36	0.36	0.36	0.36	0.36
Rent	4.20	4.62	5.08	5.59	6.15
selling & adm exp	0.70	0.79	0.89	1.00	1.39
TOTAL	5.54	6.02	6.51	7.06	7.94
NET PROFIT	1.45	2.11	2.98	3.88	4.53
Taxation					
PROFIT (After Tax)	1.45	2.11	2.98	3.88	4.53

PROJECTED BALANCE SHEET		(in Lacs)				
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year	
<u>Liabilities</u>						
Capital						
opening balance		0.30	0.41	1.19	2.07	
<i>Add:- Own Capital</i>	0.65					
Add:- Retained Profit	1.45	2.11	2.98	3.88	4.53	
Less:- Drawings	1.80	2.00	2.20	3.00	4.00	
Closing Balance	0.30	0.41	1.19	2.07	2.60	
Term Loan	2.80	2.10	1.40	0.70	-	
Working Capital Limit	2.70	2.70	2.70	2.70	2.70	
Provisions & Other Liab	0.20	0.30	0.45	0.54	0.68	
TOTAL :	6.00	5.51	5.74	6.01	5.98	
<u>Assets</u>						
Fixed Assets (Gross)	3.50	3.50	3.50	3.50	3.50	
Gross Dep.	0.50	0.92	1.29	1.60	1.87	
Net Fixed Assets	3.00	2.58	2.21	1.90	1.63	
Current Assets						
Sundry Debtors	1.86	2.32	3.35	3.75	4.18	
Cash and Bank	1.13	0.61	0.18	0.36	0.16	
TOTAL :	6.00	5.51	5.74	6.01	5.98	

PROJECTED CASH FLOW STATEMENT						(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year	
<u>SOURCES OF FUND</u>						
Own Margin	0.65					
Net Profit	1.45	2.11	2.98	3.88	4.53	
Depreciation & Exp. W/off	0.50	0.43	0.36	0.31	0.27	
Increase in Cash Credit	2.70	-	-	-	-	
Increase In Term Loan	3.15	-	-	-	-	
Increase in Provisions & Oth lib	0.20	0.10	0.15	0.09	0.14	
TOTAL :	8.64	2.63	3.50	4.29	4.93	
<u>APPLICATION OF FUND</u>						
Increase in Fixed Assets	3.50					
Increase in Debtors	1.86	0.45	1.03	0.40	0.43	
Repayment of Term Loan	0.35	0.70	0.70	0.70	0.70	
Drawings	1.80	2.00	2.20	3.00	4.00	
Taxation	-	-	-	-	-	
TOTAL :	7.51	3.15	3.93	4.10	5.13	
Opening Cash & Bank Balance	-	1.13	0.61	0.18	0.36	
Add : Surplus	1.13	(0.52)	(0.43)	0.18	(0.21)	
Closing Cash & Bank Balance	1.13	0.61	0.18	0.36	0.16	

COMPUTATION OF WORKING CAPITAL

Turnover Method	("in Lacs")
(i) Projected Sales	17.55
(ii) Working Capital Requirement 25% of Projected Sales	4.39
(iii) Margin 5% of Projected Sales	0.88
(iv) MPBF	3.51
Working Capital Limit	3.00

COMPUTATION OF DEPRECIATION

(in Lacs)

Description	Plant & Machinery	Furniture	TOTAL
Rate of Depreciation	15.00%	10.00%	
Opening Balance	-	-	-
Addition	2.95	0.55	3.50
Total	2.95	0.55	3.50
Less : Depreciation	0.44	0.06	0.50
WDV at end of Year	2.51	0.50	3.00
Additions During The Year	-	-	-
Total	2.51	0.50	3.00
Less : Depreciation	0.38	0.05	0.43
WDV at end of Year	2.13	0.45	2.58
Additions During The Year	-	-	-
Total	2.13	0.45	2.58
Less : Depreciation	0.32	0.04	0.36
WDV at end of Year	1.81	0.40	2.21
Additions During The Year	-	-	-
Total	1.81	0.40	2.21
Less : Depreciation	0.27	0.04	0.31
WDV at end of Year	1.54	0.36	1.90
Additions During The Year	-	-	-
Total	1.54	0.36	1.90
Less : Depreciation	0.23	0.04	0.27
WDV at end of Year	1.31	0.32	1.63

CALCULATION OF D.S.C.R

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	1.94	2.53	3.35	4.20	4.79
Interest on Term Loan	0.28	0.25	0.18	0.11	0.04
Total	2.23	2.78	3.53	4.30	4.83
<u>REPAYMENT</u>					
Instalment of Term Loan	0.35	0.70	0.70	0.70	0.70
Interest on Term Loan	0.28	0.25	0.18	0.11	0.04
Total	0.63	0.95	0.88	0.81	0.74
DEBT SERVICE COVERAGE RATIO	3.53	2.93	4.02	5.33	6.55
AVERAGE D.S.C.R.	4.47				

REPAYMENT SCHEDULE OF TERM LOAN							
						Interest	10.00%
Year	Particulars	Amount	Addition	Total	Interest	Repayment	Closing Balance
1st	Opening Balance						
	1st month	-	3.15	3.15	-	-	3.15
	2nd month	3.15	-	3.15	0.03	-	3.15
	3rd month	3.15	-	3.15	0.03	-	3.15
	4th month	3.15	-	3.15	0.03		3.15
	5th month	3.15	-	3.15	0.03		3.15
	6th month	3.15	-	3.15	0.03		3.15
	7th month	3.15	-	3.15	0.03	0.058	3.09
	8th month	3.09	-	3.09	0.03	0.058	3.03
	9th month	3.03	-	3.03	0.03	0.058	2.98
	10th month	2.98	-	2.98	0.02	0.058	2.92
	11th month	2.92	-	2.92	0.02	0.058	2.86
	12th month	2.86	-	2.86	0.02	0.058	2.80
					0.28	0.350	
2nd	Opening Balance						
	1st month	2.80	-	2.80	0.02	0.058	2.74
	2nd month	2.74	-	2.74	0.02	0.058	2.68
	3rd month	2.68	-	2.68	0.02	0.058	2.63
	4th month	2.63	-	2.63	0.02	0.058	2.57
	5th month	2.57	-	2.57	0.02	0.058	2.51
	6th month	2.51	-	2.51	0.02	0.058	2.45
	7th month	2.45	-	2.45	0.02	0.058	2.39
	8th month	2.39	-	2.39	0.02	0.058	2.33
	9th month	2.33	-	2.33	0.02	0.058	2.28
	10th month	2.28	-	2.28	0.02	0.058	2.22
	11th month	2.22	-	2.22	0.02	0.058	2.16
	12th month	2.16	-	2.16	0.02	0.058	2.10
					0.25	0.700	
3rd	Opening Balance						
	1st month	2.10	-	2.10	0.02	0.058	2.04
	2nd month	2.04	-	2.04	0.02	0.058	1.98
	3rd month	1.98	-	1.98	0.02	0.058	1.93
	4th month	1.93	-	1.93	0.02	0.058	1.87
	5th month	1.87	-	1.87	0.02	0.058	1.81
	6th month	1.81	-	1.81	0.02	0.058	1.75
	7th month	1.75	-	1.75	0.01	0.058	1.69

8th month	1.69	-	1.69	0.01	0.058	1.63
9th month	1.63	-	1.63	0.01	0.058	1.58
10th month	1.58	-	1.58	0.01	0.058	1.52
11th month	1.52	-	1.52	0.01	0.058	1.46
12th month	1.46	-	1.46	0.01	0.058	1.40
				0.18	0.700	
4th	Opening Balance					
1st month	1.40	-	1.40	0.01	0.058	1.34
2nd month	1.34	-	1.34	0.01	0.058	1.28
3rd month	1.28	-	1.28	0.01	0.058	1.23
4th month	1.23	-	1.23	0.01	0.058	1.17
5th month	1.17	-	1.17	0.01	0.058	1.11
6th month	1.11	-	1.11	0.01	0.058	1.05
7th month	1.05	-	1.05	0.01	0.058	0.99
8th month	0.99	-	0.99	0.01	0.058	0.93
9th month	0.93	-	0.93	0.01	0.058	0.88
10th month	0.88	-	0.88	0.01	0.058	0.82
11th month	0.82	-	0.82	0.01	0.058	0.76
12th month	0.76	-	0.76	0.01	0.058	0.70
				0.11	0.700	
5th	Opening Balance					
1st month	0.70	-	0.70	0.01	0.058	0.64
2nd month	0.64	-	0.64	0.01	0.058	0.58
3rd month	0.58	-	0.58	0.00	0.058	0.53
4th month	0.53	-	0.53	0.00	0.058	0.47
5th month	0.47	-	0.47	0.00	0.058	0.41
6th month	0.41	-	0.41	0.00	0.058	0.35
7th month	0.35	-	0.35	0.00	0.058	0.29
8th month	0.29	-	0.29	0.00	0.058	0.23
9th month	0.23	-	0.23	0.00	0.058	0.18
10th month	0.18	-	0.18	0.00	0.058	0.12
11th month	0.12	-	0.12	0.00	0.058	0.06
12th month	0.06	-	0.06	0.00	0.058	-
				0.04	0.70	
DOOR TO DOOR	60	MONTHS				
MORATORIUM PERIOD	6	MONTHS				
REPAYMENT PERIOD	54	MONTHS				

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