



GENUS PAPER AND BOARDS LTD. (A KAILASH GROUP OF COMPANY)



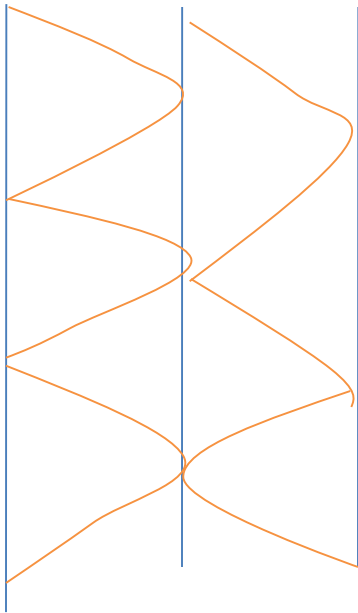


**A CASE STUDY ON – SPECIAL PACKAGING
PAPER DEVELOPMENT
FOR CARTON WHICH CAN WITHSTAND COLD
STORAGE AND SEA WORTHY EXPORT**



- **INITIALLY WE HAVE MADE PAPER FOR MANUFACTURING 5 PLY BOARD AND CONFIGURATION WAS 18/140/FLUTTING AND 18/180/ TEST LINER .**
- **INDIAN WASTE PAPER USED**
- **BURST FACTOR TO MAINTAINED 18 .**

EXPERIMENT – 1



- **BOX SIZE = 1m × 1m × 1m**
- **Weight OF BOX = 6.6kg**
- **Paper @ 30 RUPEES /KG**
- **Cost = 198 RUPEES/Box (PAPER ONLY)**
- **BURSTING STRENGTH OF board = 12.2 Kg/sq cm**

FIG-1 A 5 PLY BOARD

	FLUTING (18 BF/140 GSM)
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	TEST LINER (18BF/180GSM)
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TABLE -1A: OPERATING PARAMETERS OF 18 BF

Sr.No.	PARAMETER	UNITS		
1	FURNISH		90% INDIAN WASTE+10% OCC(IMPORTED)	
2	PRESS LOAD	Kg/cm	IST PRESS NIP LOAD	2ND PRESS LOAD
			140	350
3	% DRYNESS		IST PRESS	2ND PRESS
			42	50
4	SIZING		SURFACE	
5	STARCH	Kg/Ton OF PAPER	36.7	
6	ALUM	Kg/ TON OF PAPER	3.6	
7	SURF SIZE	g/TONOF PAPER	513	



Table-1B: PAPER PROPERTIES

Sr. No.	PROPERTIES	UNIT		
1	BF		18.5	
2	GSM	g/sq.m	140,180	
3	COBB	g/sq.m	TOP	BOTTOM
			40	42
4	MOISTURE	%	7.10	
5	BULK	cc/gm	1.54	
6	POROSITY (GURLEY)	sec	30	



COBB : Table-1C: COBB MATRIX

Sr.No.	PARAMETER	TOP LAYER	BOTTOM LAYER
1	COBB ₆₀	40	45
2	COBB ₁₂₀	60	70
3	COBB ₁₈₀₀ OF PAPER	90	100
4	COBB ₁₈₀₀ OF CARTON WITH 250 mL WATER	700	900



THE 5 PLY BOARD MADE WITH ABOVE
CONFIGURATION WITH HIGH ABSORBANCY OF
700- 900 WAS NOT ACCEPTABLE



- WE MADE **28BF/140 GSM/FLUTTING AND 28/200/TEST LINER FOR MANUFACTURING 3 PLY BOARD WITH CONTROLLED COBB.**

EXPERIMENT No. - 2

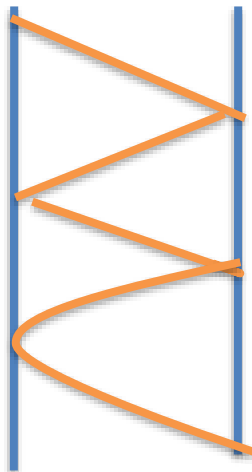



FIG-2 A 3 PLY BOARD

- Box size = $1\text{m} \times 1\text{m} \times 1\text{m}$
- Weight of Box = 4.08 KG
- Paper @ 37 RUPEES /KG
- Cost = 151 RUPEES/BOX
(PAPER ONLY)
- BURSTING STRENGTH OF 3 =
13.6 Kg/sq.cm

 FLUTING (28BF/140 GSM)


 TEST LINER(28BF/200GSM)



Table-2A: MODIFIED PROCESS PARAMETERS OF 28 BF

Sr.No.	PARAMETER	UNIT		
1	FURNISH		TOPLAYER=50%KCB+50%(NDLKC+DLK+OCC(IMPORTE D)) BOTTOM LAYER =85% DSOCC +10%DLK+5% SACK KRAFT	
2	PRESS LOAD	Kg/cm	IST PRESS NIP LOAD	IIND PRESS NIP LOAD
			140	350
3	% DRYNESS		IST PRESS	IIND PRESS
			45	50
4	SIZING		Both INTERNAL AND SURFACE	
5	STARCH	Kg/Ton OF PAPER	38	
6	INTERNAL SIZING CHEMICAL		FORTIFIED ROSIN @ 0.5% NON – FERRIC ALUM @ 2%	
7	SURF SIZE	g/Ton OF PAPER	407	



Table-2B: PAPER PROPERTIES

Sr.No.	PROPERTIES	UNIT		
1	BF		28.6	
2	GSM	g/sq.m	180, 200	
3	COBB	g/sq.m	TOP	BOTTOM
			30	32
4	MOISTURE	%	7.10	
5	BULK	cc/gm	1.56	
6	POROSITY(GURL EY)	Sec	32	



Table-2C : COBB MATRIX

Sr.N o.	PARAMETER	TOP LAYER	BOTTOM LAYER
1	COBB ₆₀	30	32
2	COBB ₁₂₀	35	40
3	COBB ₁₈₀₀ OF PAPER	50	55
4	COBB ₁₈₀₀ OF CARTON WITH 250 ml WATER	290	300



RESULTS –

- A 3 PLY BOARD DUE TO ACCEPTABLE ABSORBANCY IS MORE SUITABLE FOR SEA WORTHY EXPORT AND HUMID CLIMATE.**
- ECNOMICALLY 23.7% CHEAPER.**
- HAVE BETTER STRENGTH PROPERTIES**

Thank you!

