



EMAMI PAPER MILLS LIMITED
PAPER MACHINE-1,2&3, UNIT:-BALASORE

SPECIFICATION SHEET FOR EMAMI SOLITAIRE

Grade Name :	Emami Solitaire																SPEC NO : 1
Grade Id :	STP																Format No : 1
Machine :	PMC # 2																Rev:-00
PARAMETERS	STANDARD	UOM	SOLITAIRE (STP) - VARIANTS														TOLERANCE
SUBSTANCE	Tappi T410	gsm	50	52	54	56	58	60	64	68	70	75	78	80	90	100	± 2.5%
Caliper	Tappi T411	μ	68	70	73	76	80	81	86	92	91	98	100	102	113	125	± 3%
BULK	Tappi T411	cc/g	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.30	1.30	1.28	1.28	1.25	1.25	± 3%
BRIGHTNESS	ISO 2470	% ISO	90	90	90	90	90	90	90	90	90	90	90	90	90	90	Minimum
CIE WHITNESS	ISO 11476	% ISO	130	130	130	130	130	130	130	130	130	130	130	130	130	130	Minimum
ROUGHNESS - BENDTSEN (TS)	ISO 8791 - 2	ml/min	110	110	110	110	110	110	110	110	110	110	110	110	110	110	± 10
ROUGHNESS - BENDTSEN (WS)	ISO 8791 - 2	ml/min	130	130	130	130	130	130	130	130	130	130	130	130	130	130	± 10
OPACITY (Min)	ISO 2471	% ISO	90	90	90	90	90	90	90	90	90	90	90	90	90	90	Minimum
BREAKING LENGTH (MD)	Tappi T494	meters	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	Minimum
BREAKING LENGTH (CD)	Tappi T494	meters	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	Minimum
TEAR INDEX, MD/CD	Tappi T414	mNm ² /g	5.0/6.0	5.0/6.0	5.0/6.0	5.0/6.0	5.0/6.0	5.0/6.0	5.0/6.0	5.0/6.0	5.0/6.0	5.0/6.0	5.0/6.0	5.0/6.0	5.0/6.0	5.0/6.0	Minimum
COBB SIZING (60 Secs)	Tappi T441	gsm	25	25	25	25	25	25	25	25	25	25	25	25	25	25	Maximum
POROSITY	Tappi T547	ml/min	600	600	600	600	600	600	600	600	600	600	600	600	600	600	Maximum
MOISTURE	Tappi T412	%	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	± 0.5
L	ISO 2470	-	90	90	90	90	90	90	90	90	90	90	90	90	90	90	± 1
a	ISO 2470	-	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	± 0.5
b	ISO 2470	-	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	± 0.5

Note :
1.) All Properties are according to Standard method.
2.) Samples are tested at Test Climate 27°C ± 1 & 65% ± 2 RH
3.) Tolerances are based upon 95% Confidence limits of single mill measurements of conditioned random samples

PM 1,2,3 Quality Assurance



EMAMI PAPER MILLS LIMITED
PAPER MACHINE 1,2&3, UNIT:-BALASORE

SPECIFICATION SHEET FOR EMAMI CRYSTAL WHITE

Grade Name : Grade Id : Machine :	Emami Crystal white SWP PMC # 2													SPEC NO : 01 Format No :01 Rev:-00
PARAMETERS	STANDARD	UOM	VARIANTS											TOLERANCE
			SWP-50	SPW-52	SPW-54	SWP-58	SWP-60	SWP-68	SWP-70	SWP-78	SWP-80	SWP-90	SWP-100	
SUBSTANCE	Tappi T410	gsm	50	52	54	58	60	68	70	78	80	90	100	± 2.5%
CALIPER	Tappi T411	μ	68	70	73	78	81	90	92	101	102	115	125	± 3%
BULK	Tappi T411	cc/g	1.35	1.35	1.35	1.35	1.35	1.32	1.32	1.30	1.28	1.28	1.25	± 3%
BRIGHTNESS	ISO 2470	% ISO	90	90	90	90	90	90	90	90	90	90	90	Minimum
CIE WHITNESS	ISO 11476	% ISO	115	115	115	115	115	115	115	115	115	115	115	Minimum
OPACITY	ISO 2471	% ISO	90	90	90	90	90	90	90	90	90	90	90	Minimum
ROUGHNESS - BENDTSEN (TS)	ISO 8791 - 2	ml/min	110	110	110	110	110	110	110	110	110	110	110	±10
ROUGHNESS - BENDTSEN (WS)	ISO 8791 - 2	ml/min	130	130	130	130	130	130	130	130	130	130	130	±10
POROSITY	Tappi T547	ml/min	600	600	600	600	600	600	600	600	600	600	600	Maximum
TEAR INDEX(MD)	Tappi T414	mNm ² /g	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	Minimum
TEAR INDEX (CD)	Tappi T414	mNm ² /g	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	Minimum
BREAKING LENGTH (MD)	Tappi T494	meters	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	Minimum
BREAKING LENGTH (CD)	Tappi T494	meters	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	Minimum
COBB SIZING (60 Secs)	Tappi T441	gsm	25	25	25	25	25	25	25	25	25	25	25	Maximum
Ash	Tappi T211	%	18	18	18	18	20	20	20	20	22	22	22	Minimum
L	ISO 2470	-	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	± 1
a	ISO 2470	-	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	± 0.5
b	ISO 2470	-	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	± 0.5
MOISTURE	Tappi T412	%	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	± 0.5

Note :

- 1.) All Properties are according to Standard method.
- 2.) Samples are tested at Test Climate 27°C ± 1 & 65% ± 2 RH
- 3.) Tolerances are based upon 95% Confidence limits of single mill measurements of conditioned random samples

PM 1,2,3 Quality Assurance



EMAMI PAPER MILLS LIMITED
PAPER MACHINE - 1,2&3, UNIT:-BALASORE

SPECIFICATION SHEET FOR EMAMI REGAL PAPER

Grade Name :	Emami Regal paper														SPEC NO : 1
Grade Id :	SSB														Format No : 1
Machine :	PMC # 1														Rev:-00
PARAMETERS	STANDARD	UOM	PM1												TOLERANCE
			SSB-40	SSB-45	SSB-54	SSB-58	SSB-60	SSB-64	SSB-68	SSB-70	SSB-78	SSB-80	SSB-90	SSB-100	
SUBSTANCE	Tappi T410	gsm	40	45	54	58	60	64	68	70	78	80	90	100	± 2.5%
Caliper	Tappi T411	μ	54	61	71	77	79	85	90	91	100	102	113	125	± 3.0%
BULK	Tappi T411	cc/g	1.35	1.35	1.32	1.32	1.32	1.32	1.32	1.30	1.28	1.28	1.25	1.25	± 3.0%
BRIGHTNESS	ISO 2470	% ISO	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	Minimum
CIE WHITNESS	ISO 11476	% ISO	76	76	76	76	76	76	76	76	76	76	76	76	Minimum
OPACITY	ISO 2471	% ISO	73.0	73.0	80.0	84.0	84.0	84.0	90.0	90.0	90.0	90.0	90.0	90.0	Minimum
ROUGHNESS - BENDTSEN (TS)	ISO 8791 - 2	ml/min	200	200	200	200	200	200	200	200	200	200	200	200	Maximum
ROUGHNESS - BENDTSEN (WS)	ISO 8791 - 2	ml/min	250	250	250	250	250	250	250	250	250	250	250	250	Maximum
POROSITY	Tappi T547	ml/min	800	800	800	800	800	800	800	800	800	800	800	800	Maximum
TEAR INDEX, MD	Tappi T413	mNm ² /g	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	Minimum
TEAR INDEX, CD	Tappi T414	mNm ² /g	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	Minimum
TENSILE INDEX, MD	Tappi T494	Nm/g	60.0	60.0	55.0	50.0	50.0	45.0	45.0	45.0	40.0	40.0	40.0	40.0	Minimum
TENSILE INDEX, CD	Tappi T494	Nm/g	40.0	40.0	38.0	35.0	35.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	Minimum
BREAKING LENGTH (MD)	Tappi T494	meters	5500	5500	5500	5500	5500	4500	4500	4500	4000	4000	4000	4000	Minimum
BREAKING LENGTH (CD)	Tappi T494	meters	3500	3500	3500	3500	3500	3000	3000	3000	3000	3000	3000	3000	Minimum
COBB SIZING (60 Secs)	Tappi T441	gsm	25	25	25	25	25	25	25	25	25	25	25	25	Maximum
L	ISO 2470	-	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	± 0.5
a	ISO 2470	-	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	± 0.5
b	ISO 2470	-	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	± 0.5
MOISTURE	Tappi T412	%	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	± 0.5
WAX PICK TS/WS	Tappi T459	No.	14A	14A	14A	14A	14A	14A	14A	14A	14A	14A	14A	14A	Minimum

Note :

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- 2.) Samples are tested at Test Climate 27°C ± 1 & 65% ± 2 RH.
- 3.) Tolerances are based upon 95% Confidence limits of single mill measurements of conditioned random samples.

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