

Executive Summary – Moisture Management Properties and Characterization of Fabrics for
Lusomé’s Xirotex: Test Results of “Cooling” Sleepwear Product
University of Alberta – July 2022

Dr. Rachel McQueen & Ms. Jennifer Beaudette
Department of Human Ecology

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Purpose: Review data for Lusomé Xirotex fabrics compared to the data from other pyjama brands fabrics in terms of cooling and moisture management properties and benefits to the consumer. The results have been analyzed and are discussed in the full report in reference to the claims that are made about their efficacy in managing moisture during sleep.

How is moisture management tested?

The moisture management tester (MMT) has become the standard measurement tool to characterize liquid moisture transport behaviour of fabrics. The overall liquid moisture management capability (OMMC) is the index used to assess a fabric’s capacity to transport liquid moisture. The OMMC value is the best objective measure of overall moisture management performance. Grades from 1-5 are assigned based on their performance in the MMT test. The higher the grade, the more superior.

BRANDS AND FABRICS TESTED

Company (Item tested)	Fibre Content
Lusomé (Product A)	61% cotton/ 34% polyester/ 5% spandex
Lusomé (Product B)	38% cotton/ 34% polyester/ 25% micromodal/ 3% spandex
Company A Karen Neuburger (Mauve Sleep T)	60% cotton/ 40% polyester
Company B Lunya (White sleep tank)	46% TransDRY® cotton/ 45% Supima cotton/9% XT2 polyester
Company C Cool Jams (Black Sleep T)	100% polyester
Company D Soma Cool Nights (Black Sleep T)	93% rayon/ 7% spandex
Company E Joyaria (Black chemise)	95% viscose/ 5% spandex

TEST METHODOLOGY

5 Commercially available sleepwear garments that claim to have special benefits for enhancing sleep comfort were selected as competitor brands to Lusomé Xirotext™ products. All fabrics were tested with the MMT to measure their moisture management capabilities, The tests were conducted by Intertek Testing Services Ltd. In accordance with the AATCC test method 195 (10). A description of the fabrics is presented in Table 1.

RESULTS

Table 2: MMT Results

Company (Item tested)	WT _T (s)	WT _B (s)	AR _T (%/s)	AR _B (%/s)	SS _T (mm/s)	SS _B (mm/s)	MWR _T (mm)	MWR _B (mm)	OWTC (%)	OMMC	Grade
Lusomé (Product A)	3.35	2.90	33.81	56.94	4.66	4.95	24.00	25.00	395.93	0.87	Grade 5 M - Meets the provided requirement
Lusomé (Product B)	6.56	6.28	40.31	94.74	2.08	2.33	20.00	23.33	557.53	0.83	Grade 5 M - Meets the provided requirement
Karen Neuburger (Mauve Sleep T)	3.66	3.37	42.81	54.76	4.11	4.15	23.00	25.00	149.53	0.59	Grade 3 F - Below the provided requirement
Lunya (White Sleep Tank)	2.48	2.84	9.55	16.70	7.41	7.07	19.00	18.00	421.06	0.59	Grade 3 F - Below the provided requirement
Cool Jams (Black Sleep T)	2.95	3.13	44.76	53.97	5.30	5.29	25.00	26.00	87.49	0.52	Grade 3 F - Below the provided requirement
Soma Cool Nights (Black Sleep T)	7.70	119.43	48.83	0.70	0.75	0.01	5.00	1.25	-436.01	0.0	Grade 1 F - Below the provided requirement
Joyaria (Black Chemise)	6.63	119.95	32.47	0.00	0.74	0.00	5.00	0.00	-543.06	0.0	Grade 1 F - Below the provided requirement

WT_T: Wetting Time (Top); WT_B: Wetting Time (Bottom); AR_T: Absorption Rate (Top); AR_B: Absorption Rate (Bottom); SS_T: Spreading Speed (Top); SS_B: Spreading Speed (Bottom); MWR_T: Maximum Wetted Radius (Top); MWR_B: Maximum Wetted Radius (Bottom); OWTC: Accumulative One-Way Transport Capability; OMMC: Overall (liquid) Moisture Management Capability

MANY BRANDS ARE MAKING FALSE AND UNSUBSTANTIATED CLAIMS

Through the analysis and research of the data, brands marketing claims and benefits were studied. Based on the test results, claims made by some companies are overstated.

Review of “Cooling” Sleepwear Products on the Market
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An extensive overview of pyjama and bedding brands making claims of cooling, temperature regulating, breathable, skin friendly, soft, antibacterial, quick drying and cool-to-the-touch. In this detailed report Dr. McQueen and Ms. Beaudette review the claims of 26 brands of sleepwear, bedding and other apparel as posted on each brand’s website and in media. Each brand’s claims are summarized, and a synopsis is given based on Dr. McQueen and Ms. Beaudette’s expert understanding of the composition of fibres and fabric constructions.

There is a common theme of brands overstating potential benefits to the consumer as reported in marketing collateral and the media that features some of these brands in their reporting.

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