

**INVESTIGATION INTO DYEING ABILITY FOR  
BATIK DYEING PROCESS ON POLYESTER AND  
POLYESTER/COTTON BLENDED FABRICS WITH  
PIGMENT COLOURS**

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## **ABSTRACT**

This study explores the dyeing ability of pigment colors in the Batik dyeing process on polyester and polyester/cotton blended fabrics. Pigment colors are known for their ability to adhere to synthetic fibers, making them a potential alternative for traditional dyeing methods on polyester-based textiles. Batik, a traditional wax-resist dyeing technique, presents challenges when applied to synthetic and blended fabrics due to their resistance to dye methods that used in room temperature. The research investigates the efficacy of pigment colors in achieving vibrant and durable coloration on both pure polyester and polyester/cotton blends commonly used in Batik production. Experimental procedures involve fabric preparation, wax application, pigment dyeing, and color fixation techniques tailored for polyester and polyester-cotton blends. Evaluation criteria include color intensity, color fastness, and fabric handle. Results indicate the feasibility of pigment colors for achieving satisfactory colouration on polyester and polyester-cotton fabrics in the batik dyeing process, offering insights for enhancing dyeing techniques in textile arts and industry. Various parameters such as binder and other chemicals, duration, and concentration are examined to optimize color fastness and dye penetration. The findings contribute to expanding the repertoire of dyeing techniques suitable for synthetic and blended fabrics in traditional textile art forms like Batik.

## **DEDICATION**

My sincere thanks go to my mother and family members for their unwavering support throughout this journey.

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## LIST OF ABBREVIATIONS

ISO	International Standard Organization
BS	British Standard
K/S	K - Absorption coefficients S - Scattering coefficient
CIE L*a*b*	
CIE	International Commission on Illumination
L	Lightness
a	Green to red axis
b	Blue to yellow axis
g	gram
ml	milliliter