

Table of Contents

Acknowledgements.....	i
List of Tables.....	iv
1.Introduction.....	1
2.Literature Review.....	3
2.1Knitting.....	4
2.1.1. Introduction.....	4
2.1.2.Weft Knitting.....	5
2.1.3. Circular Fabric Knitting.....	9
2.2 Activewear and Sportswear Fabrics.....	18
2.2.1.Introduction.....	18
2.2.2.Development Concept and Requisite Function.....	19
2.2.3.Drawbacks of Present Sportswear.....	22
2.2.4.Fibres in Active Sportswear.....	22
2.2.5.Developments.....	28
2.3 Comfort properties of knitted fabrics.....	32
2.3.1. Introduction.....	32
2.3.2. Clothing Physiology.....	32
2.3.3. Perception of Comfort.....	33
2.3.4. Concept of Clothing Comfort.....	34
2.3.5 Thermal Comfort.....	36
2.3.6. Moisture Management.....	46
2.3.7. Water Vapour Permeability.....	59
2.3.8. Water Vapour Resistance.....	60
2.3.9. Porosity.....	62
2.3.10. Air Permeability.....	64
3. Experimental.....	66

3.1 Materials.....	67
3.2. Method.....	68
4. Results and Discussion.....	75
4.1. Porosity.....	76
4.2 Air Permeability.....	81
4.3. Thermal Comfort Properties.....	99
4.4. Moisture Management Properties.....	118
5. Summary and Conclusions.....	215
Future scope of this work.....	218
References.....	219
Appendices.....	232
List of Paper Publications.....	264