

	<u>Page</u>
ABSTRACT.....	1
1. INTRODUCTION.....	2
1.1 Background.....	2
1.2 Objectives.....	5
1.3 Approach.....	5
2. EXPERIMENTAL.....	
2.1 Materials Selection.....	7
2.1.1 Waterproofing Materials.....	7
2.1.2 Masonry Units.....	7
2.2 Screening Test Methods.....	8
2.2.1 Water Absorption.....	8
2.2.1.1 Untreated Masonry Materials.....	8
2.2.1.2 Waterproofed Masonry Materials.....	9
2.2.2 Water Vapor Transmission.....	9
2.2.3 Resistance to Efflorescence.....	10
2.2.4 Resistance to Humidity.....	11
2.2.5 Resistance to Accelerated Weathering.....	11
2.2.6 Outdoor Exposures.....	12
2.2.7 Resistance to Wind-Driven Rain.....	12
2.2.8 Exposure to Hydrostatic Pressure.....	13
2.2.9 Methods of Application.....	14
3. RESULTS AND DISCUSSION.....	14
3.1 Materials.....	14
3.1.1 Waterproofing Materials.....	15
3.1.2 Masonry Materials.....	15
3.2 Initial Screening Tests.....	15
3.2.1 Water Absorption.....	25
3.2.2 Water Vapor Transmission.....	29
3.2.3 Resistance to Efflorescence.....	29
3.2.4 Appearance.....	29
3.3 Second Phase Screening Tests.....	35
3.3.1 Resistance to Humidity.....	37
3.3.2 Resistance to Accelerated Weathering.....	37
3.3.3 Outdoor Exposure.....	42
3.4 Mortar Joint Evaluations.....	42
3.4.1 Resistance to Wind-Driven Rain.....	42
3.4.2 Exposure to Hydrostatic Pressure.....	44
3.5 Methods of Application.....	45
4. FIELD SURVEY.....	46

TABLE OF CONTENTS (continued)

	<u>Page</u>
5. RECOMMENDATIONS FOR THE SELECTION AND APPLICATION OF CLEAR WATERPROOFING MATERIALS FOR MASONRY.....	47
6. SUMMARY AND CONCLUSIONS.....	48
7. ACKNOWLEDGMENTS.....	51
8. REFERENCES.....	52
APPENDIX A Field Survey of Application and Performance of Waterproofing Materials.....	54
APPENDIX B Proposed Waterproofing Survey for Clear Waterproofing Agents.....	58
APPENDIX C Recommended Tentative Performance Criteria for the Selection of Clear Waterproofing Materials for Use on Masonry Surfaces.....	62
APPENDIX D Theoretical Considerations of Water Flow through a Pore in a Wall.....	68
APPENDIX E Calculations for Theoretical Consideration of Water Flow through a Pore.....	75