

67949/M

LABORATORY TESTING OF BUTTON- FIX SYSTEM - TYPE 2

BUTTONFIX LIMITED

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INVESTIGATION INSPECTION MATERIALS TESTING

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LABORATORY TESTING OF TYPE 2 BUTTON-FIX SYSTEM

BUTTON-FIX LIMITED

Buttonfix Limited Unit A, 1 Britton Street London EC1M 5NW

For the attention of: Mr Tony Wills 17 August 2020

Partners: NCDSandberg SCClarke DJEllis AAWillmott RARogerson MAEden JDFrench CMorgan GSMayers GCSMoor JFagan JHDell Senior Associates: RDEasthope IMHudson SRPMorris MIIngle MFaliva RALucas ALPitman DAKinnersley ATHollyman JGlen DrWRNewby Associates: DHunt JCarmichael YNPGuellil KJGreen DrSETulip JGallagher DrEDWMacLean NAFetter EMcPheat LDNunn



CONTENTS

Instruction - PO - 20/104

| | Page |
|--|--------|
| Test Certificate 67949/M/1- Shear testing of Button-Fix System | 2 |
| Appendix A - Photographs 1 to 2 | 3 to 4 |

Materials, samples and test specimens are retained for a period of 2 months from the issue of the final report. Your attention is drawn to the enclosed sample retention form and we would be grateful if you could complete the form and return it within one month from the date of the report.

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INVESTIGATION INSPECTION MATERIALS TESTING

TEST CERTIFICATE

Sandberg LLP 40 Grosvenor Gardens London SW1W 0EB

Tel: 020 7565 7000 Fax: 020 7565 7100 email: ho@sandberg.co.uk web: www.sandberg.co.uk

| Certificate: | 67949/M/1 | Order Ref: | PO 20/104 | |
|-------------------|--|-----------------|-----------|--|
| Samples Received: | 10 August 2020 | Tested By: | NAF/AT | |
| Test Date: | 14 August 2020 | Test Procedure: | In House | |
| Client Details: | Details: Buttonfix Limited, Unit A, 1 Britton Street, London ,EC1M 5NW | | | |

SHEAR TESTING OF BUTTON-FIX SYSTEM

Test Details:Four number Type 2 Button-fix testing in shearFixing Details:Samples received assembled from clientTest equipment:Universal Testing Machine ref.: C/238

TEST RESULTS

| Sample Reference | Maximum Failure Load - 4 Fixings (kN) | Comments |
|------------------|--|---|
| MA 680-A | 1.829 (186.5 kg) | Buttons still fixed tight in place. Top jaws of fixings deformed and released from buttons. |
| MA 680-B | 1.711 (174.5 kg) | Buttons still fixed tight in place. Top jaws of fixings deformed and released from buttons. |
| MA 680-C | 1.766 (180.1 kg) | Buttons still fixed tight in place. Top jaws of fixings deformed and released from buttons. |

For Sandberg LLP Date: 17 August 2020

APPENDIX A

Photographs 1 to 2



Photograph 1 A view showing the general test setup for shear testing of four type 2 Button-fix fixings.



Photograph 2 A viewshowing the general condition of the fixing after a shear test, with the top jaw of the fixing deformed.

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Where our involvement consists exclusively of testing samples, the results and our conclusions relate only to the samples tested.







