

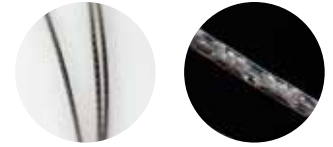
# BarChip Macro Synthetic Fibre Reinforcement Conformity in World Markets



| Region               | Organisation                             | Standard / Code   | Clause / Comment             | Proof of Conformance |
|----------------------|--|---|------------------------------|----------------------|
| <b>International</b> | International Organisation for Standards | ISO 9001 Quality Management Systems   |                              | Certification        |
|                      | International Organisation for Standards | ISO 14001 Environmental System  |                              | Certification        |
|                      | RILEM                                    | TC 162-TDF Test and design methods for SFRC   |                              | Conforms             |
|                      | fib                                      | fib Model Code 2010 - Final Draft   |                              | Conforms             |
|                      | International Tunnelling Association     | Independent testing by WG12 sprayed concrete committee 2007   |                              | Conforms             |
|                      | ICC Evaluation Service                   | Acceptance Criteria For Concrete With Synthetic Fibres 2003   |                              | Conforms             |
|                      | ITAtch                                   | Guidance For Precast Fibre Reinforced Concrete Segments - Volume 1: Design Aspects.   |                              | Conforms             |
| <b>Europe</b>        | European Harmonised Standards            | EN 14889-2:2006 Fibres for Concrete Part 2 Polymer fibres – Definitions Specification and Conformity  |                              | Conforms             |
|                      | European Harmonised Standards            | EN 14845-1:2007 Test Methods for Fibres in Concrete - Reference Concretes.<br>EN 14845-2:2006 Test Methods for Fibres in Concrete - Effect on Concrete. |                              | CE Certification     |
|                      | European Harmonised Standards            | EN 14487-1:2005 & EN 14487-2:2007 Sprayed Concrete  |                              | Conforms             |
|                      | European Harmonised Standards            | EN 14488-1 to EN 14488-7 Testing Sprayed Concrete   |                              | Conforms             |
|                      | CE Certification                         | Polymer fibres for structural use in concrete, mortar and grout   | BarChip 48, 54, MQ58, Shogun | Certification        |
|                      | EFNARC                                   | European suite of specifications for sprayed concrete   |                              | Conforms             |
|                      | ERMCO Ready Mix Concrete                 | Guidance to Fibre Concrete. Properties, Specifications and Practice in Europe   |                              | Conforms             |
|                      | Swedish Standards Institute              | SS 812310:2014 Fibre Concrete - Design of Fibre Concrete Structures   |                              | Conforms             |
| <b>UK</b>            | Concrete Society                         | TR65 Guidance on the use of macro synthetic fibre reinforced concrete   |                              | Conforms             |
|                      | Concrete Society                         | TR34 Concrete industrial ground floors - 4th edition  |                              | Conforms             |
|                      | British Tunnelling Society               | BTS Specification for Tunnelling Third Edition 2010   | Clause 203.1                 | Conforms             |
|                      | British Standards Institution            | PAS 8810:2016 Tunnel design - design of concrete segmental tunnel linings - code of practice  |                              | Conforms             |

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| Norway    | Norwegian Concrete Association                            | Publication No 7:2011 Sprayed Concrete for Rock Support   | Meets performance requirements                            | Conforms             |
|           | Norwegian Tunnelling Society                              | Publication No 17. Underground Openings - Operations, Maintenance and Repair 2008   | Fibres are non-corrosive                                  | Conforms             |
|           | Norwegian Geotechnical Institute                          | Using the Q-system - Rock mass classification and support design, 2015  | Meets performance requirements                            | Conforms             |
| Russia    | NOSTROJ 2.27.125-2013                                     | National Association of Builders Fibre Reinforced Concrete - Design Code for Construction of Transport Tunnels                        |   | Conforms             |
| Poland    | ITB Polish Technical Institute                            | Certification for use in structural applications  |   | Conforms             |
| Austria   | Austrian Society for Concrete and Construction Technology | OVBB Guideline fibre reinforced concrete, 2008  |   | Conforms             |
|           | Austrian Society for Concrete and Construction Technology | OVBB Guideline sprayed concrete, 2004   |   | Conforms             |
|           | Austrian Society for Concrete and Construction Technology | OVBB Guideline inner shell concrete, 2006   |   | Conforms             |
| Singapore | LTA   | MW/0/1 Materials and workmanship specification for civil and structural works   | Clause 17.3.2.9   | Conforms             |
| Italy     | National Research Council                                 | CNR-DT 204/2006 Guide for the design and construction of fibre reinforced concrete structures   |   | Conforms             |
| Spain     | Spanish Code on Structural Concrete                       | Instruccion de Hormigon Estructural (EHE-08)  |   | Conforms             |
| USA       | ASTM  | ASTM D7508/D7508M – 10 Standard Specification For Polyolefin Chopped Strands For Use In Concrete                                      |   | Conforms             |
|           | ASTM  | ASTM C1116/C1116M - 10a Standard Specification For Fiber-Reinforced Concrete  | Clause 4.1.3 Type III Synthetic Fiber Reinforced Concrete | Type Conforms        |
|           | ASTM  | ASTM C1399/C1399M - 10 Standard Test Method For Obtaining Average Residual Strength Of Fiber Reinforced Concrete                      |   | Conforms             |
|           | ASTM  | ASTM C1609/C1609M - 10 Standard Test Method For Flexural Performance Of Fiber Reinforced Concrete (Using Beam With 3rd-Point Loading) |   | Conforms             |
|           | ASTM  | ASTM C1550 - 12a Standard Test Method For Flexural Toughness Of Fiber Reinforced Concrete (Using Centrally Loaded Round Panel)        |   | Conforms             |
|           | American Concrete Institute                               | ACI 360R-10 Guide To Design Of Slabs On Ground  | Chapter 11.2 Synthetic Fiber Reinforcement                | Conforms             |
|           | American Concrete Institute                               | ACI Committee 506 Fiber Reinforced Shotcrete  |   | Conforms             |
|           | American Concrete Institute                               | ACI Committee 544 Fiber Reinforced Concrete   |   | Conforms             |
|           | Maine Department of Transportation                        | Qualified Product Concrete and Bridge Items   |   | Certificate          |
|           | Florida Department of Health                              | Qualified Product Sewage Treatment Concrete   |   | Certificate          |
|           | National Concrete Burial Vault Association                | Qualified Product for Precast Burial Elements   |   | Certificate          |

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| Chile        | Chilean Cement and Concrete Institute                                   | Chilean Guide of Projected Concrete - Shotcrete, 2nd Edition, 2017   |   | Conforms             |
|              | Chilean Cement and Concrete Institute                                   | Manual of Industrial Floor Design, 2017  |   | Conforms             |
| Australia    | Concrete Institute of Australia   | Recommended Practice - Shotcreting in Australia 2nd Edition, 2010  | Meets conformity and performance specifications | Conforms             |
|              | Institute of Public Works Engineers Australia                           | Standard Drawings for Paving Works   | Specification                                   | Conforms             |
|              | Queensland Main Roads   | Main Roads Project Specific Technical Standard Shotcrete Specification   | Specification                                   | Conforms             |
|              | Queensland Rail   | Stone and Concrete Slope Protection Standard Specification   | Specification                                   | Conforms             |
|              | Brisbane City Council   | Standard Drawings for Paving Works   | Specification                                   | Conforms             |
|              | Newcastle City Council  | Standard Drawings for Paving Works   | Specification                                   | Conforms             |
| Saudi Arabia | SGS   | Certificate of conformity for commodities and products to be exported to the Kingdom of Saudi Arabia                                     |   | Conforms             |
| Japan        | Japan Concrete Institute Standard                                       | JCI S 001:2003 Method of test for fracture energy of concrete by use of notched beam   |   | Conforms             |
|              | Japan Society of Civil Engineers  | JSCE-SF4 Method of tests for flexural toughness of steel fibre reinforced concrete, Concrete Library International no.3, 1984, pg 58-61. |   | Conforms             |
|              | Japan Society of Civil Engineers  | Standard specification for concrete structures, 2012 "materials and construction"  | Clause 5.3.2                                    | Conforms             |
|              | Japanese Industrial Standards   | JIS A 6208:2015 Polypropylene Short Fibers for Concrete  |   | Conforms             |
| India        | Tunnelling Association of India / Central Board of Irrigation and Power | Publication no.326 Guidelines for fibre reinforced shotcrete, 2015   |   | Conforms             |
| Nigeria      | Standards Organisation of Nigeria                                       | Certificate of Conformity  |   | Conforms             |



Make The Change To A Better Reinforcement System

- Doesn't Corrode
- Saves Time & Money
- Improves Performance

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**BarChip Inc.**  
The Synthetic Fibre Experts

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