



# **GRCA FULL MEMBER GRADE (GRC Manufacturer)**

## **Regulations, Membership Procedure and Assessment**

### **The International Glassfibre Reinforced Concrete Association (GRCA)**

**December 2016**

The International Glassfibre Reinforced Concrete Association (GRCA) has relationships with other associations connected with the GRC industry. Further information, together with a full list of GRCA Members, can be found on The International Glassfibre Reinforced Concrete Association (GRCA) website: [www.grca.org.uk](http://www.grca.org.uk).

Membership of the GRCA is open to:

- Companies who manufacture or develop GRC products,
- Plant or material suppliers to the industry
- Professional partnerships or consultants
- Other interested parties.

Associate Membership is open to individuals with an interest in GRC who are not engaged in manufacture, other than at development or small company level.

### **GRCA Full Member Grade (GRC Manufacturer): Regulations, Membership Procedure and Assessment.**

The objective of the Full Member Grade (GRC Manufacturer) of The International Glassfibre Reinforced Concrete Association (GRCA) is to provide an independent means of assessing the capability of the Member to manufacture GRC products in accordance with the GRCA 'Specification for the Manufacture, Curing & Testing of Glassfibre Reinforced Concrete (GRC) Products', the GRCA 'Methods of Testing Glassfibre Reinforced Concrete (GRC) Material' and the GRCA 'Practical Design Guide for Glass Reinforced Concrete', and other international best practice and recognised procedures as may be deemed to be appropriate by the GRCA and approved by its Council.

Although The International Glassfibre Reinforced Concrete Association (GRCA) ensures every care has been taken in the preparation of this document and the operation of the Full Member Grade membership requirements, including but not exclusively assessments, audits and certification, no liability for negligence or otherwise can be accepted by The International Glassfibre Reinforced Concrete Association (GRCA), or the members of its working parties, its servants, agents or assessors.

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**GRCA FULL MEMBER GRADE (GRC MANUFACTURER):  
REGULATIONS, MEMBERSHIP PROCEDURE AND ASSESSMENT**

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## FOREWORD

The International Glassfibre Reinforced Concrete Association (GRCA) has a long history of setting and maintaining standards for all things appertaining to the worldwide GRC industry. In order to promote these standards further, the GRCA has previously introduced the Approved Manufacturer Scheme (AMS), which set high standards by which GRC manufacturers should be judged. In a further development of these standards in the manufacture of GRC by the GRCA Members, the Approved Manufacturer Scheme (AMS) has now been replaced by the introduction of a higher grade of membership for GRC manufacturing Members of Full Member Grade (GRC Manufacturer) of The International Glassfibre Reinforced Concrete Association (GRCA).

The objective of the Full Member Grade (GRC Manufacturer) of The International Glassfibre Reinforced Concrete Association (GRCA) is to provide an independent means of assessing the capability of the Member to manufacture GRC products in accordance with the GRCA 'Specification for the Manufacture, Curing & Testing of Glassfibre Reinforced Concrete (GRC) Products', the GRCA 'Methods of Testing Glassfibre Reinforced Concrete (GRC) Material' and the GRCA 'Practical Design Guide for Glass Reinforced Concrete', and other international best practice and recognised procedures as may be deemed to be appropriate by the GRCA and approved by its Council.

The awarding of the Full Member Grade (GRC Manufacturer) of The International Glassfibre Reinforced Concrete Association (GRCA) by the GRCA Governing Body to GRC manufacturers is recognition of the belief that the systems operated by the Member are fully compliant with these Regulations and shall remain fully compliant throughout the period covered by their Certificate of Registration.

The awarding of the Full Member Grade (GRC Manufacturer) of The International Glassfibre Reinforced Concrete Association (GRCA), and the issuing of a Certificate of Registration, by the GRCA Governing Body is a guide to the expected performance of the Member, and is not, and shall not be deemed to be, any warranty, guarantee or verification of the performance, standards and consistency which the Member has or will achieve in its systems, operations and products.

All specifiers and users of GRC products should take all steps and precautions deemed necessary by them, to verify the GRCA findings and to assure themselves that the GRC manufacturer and their products are fit for the intended usage as envisaged by the specifiers and users.

Although The International Glassfibre Reinforced Concrete Association (GRCA) ensures every care has been taken in the preparation of this document and the operation of the Full Member Grade membership requirements, including but not exclusively assessments, audits and certification, no liability for negligence or otherwise can be accepted by The International Glassfibre Reinforced Concrete Association (GRCA), or the members of its working parties, its servants, agents or assessors.

## PART 1: INTRODUCTION

1. These Regulations relate to the GRCA's Full Member (GRC Manufacturer) grade for the registration of GRC manufacturing companies, partnerships and individuals into the Full Member grade of GRCA membership. The Regulations were set up with the active support of the GRC manufacturing industry.

The GRCA's Regulations, Membership Procedure and Assessment do not replace any contractual relationship between a Full Member and any of the said Full Member's clients.

2. For the purpose of these Regulations:

**Regulations:** shall mean this documented 'GRCA Full Member Grade (GRC Manufacturer): Regulations, Membership Procedure and Assessment' requirements.

**GRCA:** shall mean The International Glassfibre Reinforced Concrete Association.

**GRC:** shall mean Glassfibre Reinforced Concrete as recognised by the GRCA.

**Member:** shall mean any company, partnership or individual that has been accepted in to the Member grade of GRCA membership.

**Full Member:** shall mean any company, partnership or individual that has been accepted in to the Full Member grade of GRCA membership, and whose operations remain fully compliant with these Regulations.

**Applicant:** shall mean a Member of the GRCA, who submits a correctly completed 'GRCA Application Form for Full Membership'.

**Application Form:** shall mean the 'GRCA Application Form for Full Membership' which forms part of the 'GRCA Full Member Grade (GRC Manufacturer): Regulations, Membership Procedure and Assessment' document.

**Governing Body:** shall mean the GRCA Council or nominated sub-committee.

**Scheme Manager:** shall mean the GRCA Administration.

**Quality Manual / Plan:** shall mean a document(s) that sets out the quality assurance practices.

**Assessor:** shall mean a person or company nominated by the GRCA to carry out an Assessment.

**Assessment:** shall mean the audit carried out by an Assessor relating to an application for membership, or continued membership, of the Full Member grade of GRCA membership.

**Assessment Recommendation:** shall mean the report issued by an Assessor following an Assessment.

**Certificate of Registration:** shall mean a certificate issued by the GRCA recognising that the systems operated by the Full Member have been approved in accordance with these Regulations.

**Full Member Symbol:** shall mean the GRCA's Full Member symbol/ logo.

3. The Governing Body of the Regulations is the sole authority by which Certificates of Registration may be granted.
  - (a) The Governing Body may delegate any Assessment to its nominated Assessor, including for investigating any breach of these Regulations.
  - (b) The Assessor will only be responsible for Assessment Recommendations or outline reports to the Governing Body, and it shall have no authority over any outcome of any such Assessment or investigations.
  - (c) In order to maintain an impartial and unbiased representation the Assessor shall not offer any consultation to the Applicant.

4. An Applicant who satisfies the Governing Body that it is in compliance with the Regulations, has a bona fide business, and shall give such undertakings as required, shall, subject to the Regulations, be entitled to a Certificate of Registration.

The Certificate of Registration is renewable annually. If a Full Member does not intend to renew its Certificate of Registration, it shall notify the Governing Body 60 days prior to the expiry date as shown on the Certificate of Registration. The Certificate of Registration is not transferable without written permission of the Chair of the GRCA.

5. A Full Member shall:

- (a) Only use the Certificate of Registration and Full Member Symbol and when a valid Certificate of Registration is in force.
- (b) Maintain a Quality Manual/Plan system in accordance with the Regulations.
- (c) Not vary the manufacturing processes under which the Certificate of Registration is issued unless it is confirmed in writing by the Scheme Manager that the variations do not render the certificate invalid. Minor changes to the Quality Manual/Plan system, not affecting manufacturing process or the performance of the product, may be made without written approval if the changes are reviewed at routine Assessment.
- (d) Discontinue any use of the Certificate of Registration and Full Member Symbol or any reference to Full Member, which, in the opinion of the Governing Body, might be misleading.
- (e) Give representatives of the Governing Body full access to premises, records, and methods of test etc. to for the purposes of establishing that the terms of the Certificate of Registration are being complied with.
- (f) Upon termination of the Certificate of Registration discontinue use of the Certificate of Registration, Full Member Symbol and any reference to Full Member on all advertising matter and return any GRCA documentation that has been issued in respect of the Regulations and Certificate of Registration.

6. Fees

All Applicants and Full Members shall pay fees as follows:

- (a) An annual fee towards the cost of administering the Full Member Regulations, as agreed by the Governing Body from time to time.
- (b) The annual fee, above, will be invoiced by the GRCA and is to be paid to the GRCA no later than 30 days from the invoice date.
- (c) All Assessment and Assessor costs shall be paid by the Applicants and Full Members.
- (d) The fee for Assessment costs, above, will be invoiced by the GRCA and are to be paid to the GRCA prior to any required Assessments being undertaken.
- (e) Any additional costs required or incurred due to additional inspection or non-compliance with these Regulations.
- (f) The fee for additional costs, above, will be invoiced by the GRCA and are to be paid to the GRCA prior to the work being undertaken. Where the additional costs are incurred by the GRCA prior to invoicing they are to be paid by the Applicants and Full Members immediately upon receipt of the invoice.

7. The Governing Body and Scheme Manager shall:

- (a) Notify the Full Member at least once a year of the requirement for the annual Assessment, the Full Member shall return the appropriate Assessment paperwork within 30 working days to show that a suitable inspection by a UKAS accredited Assessor (or equivalent approved by the Governing Body) has taken place.

- (b) Notify the Full Member of any changes in processes and procedures that are considered necessary to meet the Full Member Regulations.
  - (c) Not disclose any information that is confidential to the Applicants and Full Members.
8. If a Full Member fails to comply with the Regulations, the Governing Body may revoke the Certificate of Registration or reduce its scope, if the deficiencies are not rectified within a period of time considered reasonable by the Governing Body.
  9. In the event of a Scheme Member wishing to appeal against a decision by an Assessor, the Governing Body or the Scheme Manager, notice must be given in writing within 14 clear days of the decision. A meeting of the Governing Body and the Member should take place within 30 days. If this is not practicable, then both parties should present written submissions to the GRCA Council via the GRCA Administration address. The decision of the GRCA Governing Body as declared by the Chairman shall be final.
  10. A register of Applicants and Full Members shall be kept by the GRCA Administration.
  11. A Full Member shall indemnify the GRCA and any nominated Assessors, and their Officers, members, employees and associates against any claims for liability arising from the Full Member's failure to perform in accordance with the Full Member Regulations.
  12. The GRCA, the Governing Body, the Scheme Manager and any nominated Assessor disclaim any liability for any claims made by Applicants and Full Members, and that may be made against Applicants and Full Members in respect of faulty goods or performance however caused.

## **PART 2: ASSESSMENT AND CERTIFICATION**

Each Assessment is individually planned to allow evaluation of the Applicants' or Full Members' manufacturing system as it relates to a specific product or products.

There are two types of Assessment:

- (a) Specific product(s). (appropriate to Members manufacturing standard GRC products)
- (b) Specific processes (appropriate to Members manufacturing custom made GRC products)

In the case of (a), the Applicant must demonstrate that they manufacture, cure and test GRC in accordance with the requirements of the GRCA 'Specification for the Manufacture, Curing & Testing of Glassfibre Reinforced Concrete (GRC) Products' and the GRCA 'Methods of Testing Glassfibre Reinforced Concrete (GRC) Material'. They must demonstrate that the Grade of GRC adopted is suitable for their products, in accordance with the GRCA 'Practical Design Guide for Glass Reinforced Concrete'. If necessary, an independent review of the latter may be requested by the Governing Body prior to considering the Applicant and their products for approval.

In the case of (b), the Applicant must demonstrate that they manufacture, cure, test and design their GRC material in accordance with the GRCA 'Specification for the Manufacture, Curing & Testing of Glassfibre Reinforced Concrete (GRC) Products', the GRCA 'Methods of Testing Glassfibre Reinforced Concrete (GRC) Material' and the GRCA 'Practical Design Guide for Glass Reinforced Concrete'.

In both instances the Applicant must demonstrate that they can meet the requirements for the simultaneous spray and/or premix methods of GRC manufacture.

An Applicant shall be required to complete an Application Form and confirm their compliance with the Regulations before an Assessment is arranged.

The Assessment shall involve a thorough appraisal of the Applicant's procedures. It is necessary to demonstrate practical compliance, in normal production, with the Applicant's Quality Manual / Plan, which should include reference to the GRCA 'Specification for the Manufacture, Curing & Testing of Glassfibre Reinforced Concrete (GRC) Products', the GRCA 'Methods of Testing Glassfibre Reinforced Concrete (GRC) Material' and the GRCA 'Practical Design Guide for Glass Reinforced Concrete', or other national standard recognised by the Governing Body and the GRCA.

At the end of the Assessment, the Assessor shall submit an Assessment Report, which includes details of any discrepancies found, agreed actions to resolve these, and a recommendation regarding the acceptance or continued acceptance as a Full Member grade of the GRCA.

The Assessor shall only make 3 possible outcomes of any Assessment:

1. Full Member grade of GRCA membership IS NOT recommended at this time.
2. Full Member grade of GRCA membership IS recommended at this time, indicating whether simultaneous spray GRC manufacturing method, premix GRC manufacturing method or both have been assessed.
3. Recommendation is deferred at this time, and subject to another Assessment being undertaken within a stated period.

On acceptance as a Full Member, and subject to payment of all outstanding fees, the Applicant will be sent a Certificate of Registration indicating which manufacturing method(s) they have been accepted for.



### **Relationship with ISO 9001 Quality Management systems.**

Where after an initial Assessment a Member has been found to meet the requirements of the Regulations, and they hold ISO 9001 accreditation where the scope of the registration is shown to include the manufacture, curing, testing and design of GRC in accordance with the requirements of the GRCA 'Specification for the Manufacture, Curing & Testing of Glassfibre Reinforced Concrete (GRC) Products', the GRCA 'Methods of Testing Glassfibre Reinforced Concrete (GRC) Material' and the GRCA 'Practical Design Guide for Glass Reinforced Concrete', then the subsequent annual visits by a GRCA nominated Assessor will not be required.

Under these circumstances, copies of the ISO 9001 registration, scope and continuing assessment reports shall be submitted annually to the Governing Body.

At the discretion of the Governing Body, a previously notified Assessment may be required of a Full Member where continuing surveillance is accepted under their ISO9001 accreditation.

### **PART 3: ASSESSMENT REQUIREMENTS**

The following requirements shall form part of any Assessment, as a minimum, to demonstrate that the GRC is being manufactured fully in accordance and compliance with the requirements of the GRCA 'Specification for the Manufacture, Curing & Testing of Glassfibre Reinforced Concrete (GRC) Products', the GRCA 'Methods of Testing Glassfibre Reinforced Concrete (GRC) Material' and the GRCA 'Practical Design Guide for Glass Reinforced Concrete', or other national standard recognised by the Governing Body and the GRCA.

- 1) A Quality Manual / Plan, detailing the QA systems covering the design, manufacture and testing of GRC products and which complies with the GRCA 'Specification for the Manufacture, Curing & Testing of Glassfibre Reinforced Concrete (GRC) Products', the GRCA 'Methods of Testing Glassfibre Reinforced Concrete (GRC) Material' and the GRCA 'Practical Design Guide for Glass Reinforced Concrete'.
- 2) An organisation chart detailing individual responsibilities from input of customer requirements, design, manufacture, inspection and test, packaging, approval, despatch and installation ( as applicable).
- 3) A documented procedure for the ordering, receipt, storage and usage of raw materials. Certificates of conformity or compliance with agreed specifications, is required from suppliers. All raw materials used are to meet GRCA or National Standard requirements. Only alkali resistant fibres complying with EN 15422:2008 are to be used.
- 4) A documented procedure for the control of mould manufacture, including the verification of moulds prior to use.
- 5) Documented systems to ensure that the necessary information to enable products to be manufactured to agreed specifications is available to the relevant personnel.
- 6) Mix formulations to be controlled, and available at the production area.
- 7) A suitably set out and organised production plant, with the necessary equipment for the production processes used, including suitable curing and storage provision.
- 8) For Spray process
  - A method of weighing / batching raw materials to comply with the specified mix design.
  - A procedure for the control of the addition of fibres to given level, with relevant calibration.
  - A suitable method of spraying and compaction.
  - A method for the checking the sprayed thickness of the GRC.
- 9) For Premix process
  - A method of weighing / batching raw materials to comply with the specified mix design.
  - A suitable and consistent method of weighing and incorporating the fibres into the mix. The mixing sequence to be approved by the Assessor in terms of timing.
  - A suitable method of delivery and compaction of the GRC into the moulds. This will normally be spray, pumping, vibration casting or self compacting (SCC) mix.
- 10) All staff, including management, operators and technicians, trained or suitably qualified, to be competent, with training records held on file.

- 11) A suitably organised testing laboratory or area, or access to certified third party testing facilities.

Test methods and the preparation of test boards should conform to the GRCA 'Methods of Testing Glassfibre Reinforced Concrete (GRC) Material', EN 1170:1998, or to GRCA recognised National Standards.

For certain products testing facilities should be available to enable full scale testing to destruction in order to confirm their compliance to the design / agreed specification.

- 12) Evidence that inspection / testing is taking place at defined stages and frequencies necessary to ensure that product and GRCA specifications are fully met.
- 13) The Applicant or Full Member must demonstrate that the testing frequency adopted is sufficient to ensure compliance with the grade of GRC selected, and that as a minimum it is in compliance with the testing requirements of the GRCA 'Specification for the Manufacture, Curing & Testing of Glassfibre Reinforced Concrete (GRC) Products'.

- 14) Test results to be documented and analysed to confirm conformance with a required specification and grade of GRC.

For the flexural strength (MOR / LOP) testing of normal production grades of GRC, this must include 40 consecutive test board mean results analysed on the GRCA 'MOR LOP Characteristic Value Spreadsheet', and thereafter there must be evidence of regular analysis of results to show characteristic values in line with the GRC Grade to be assessed.

- 15) A documented procedure to be in place defining actions in the event of test results or inspections not meeting a required specification and grade of GRC (non-conforming procedure).
- 16) Documented calibration frequencies to be defined for all relevant process and test equipment, and compliance records maintained.
- 17) Product or packaging to be marked to enable individual products and the dates of manufacture to be identified. The marking system should also allow traceability to the relevant test results.

## **PART 4: APPOINTED ASSESSORS**

The GRCA Governing Body shall maintain a list of approved Assessors.

All approved Assessors when appointed by the Scheme Governing Body or Scheme Manager:

1. Shall undertake initial assessments as required under instruction from the Scheme Governing Body or Scheme Manager, as detailed in Parts 1, 2 and 3.
2. Shall undertake annual assessments under instruction from the Scheme Governing Body or Scheme Manager, as detailed in Parts 1, 2 and 3
3. Shall only report to the Scheme Governing Body and Scheme Manager
4. Shall not directly employ consultants or sub-contracted resources to act as Assessors without the authority of the GRCA Governing Body or Scheme Manager.
5. Shall not offer any consultation to the Applicant
6. Shall not accept any contract or consultancy request from the Applicant, nor any other membership grade of GRCA Member, without the explicit prior approval of the GRCA Governing Body.

**THE INTERNATIONAL GRC ASSOCIATION**  
**FULL MEMBER APPLICATION FORM:**  
**GRC MANUFACTURER APPLICANTS**



**DETAILS OF GRCA MEMBER APPLYING FOR FULL MEMBER GRADE:**

Applicant Company Name:	
Contact Name:	
Contact Telephone Number:	
Contact Email Address:	
Production Plant Address:	
Town:	
Postal / Zip Code:	
Country	

**APPLICATION QUESTIONNAIRE:** please fully answer all questions.

**Question 1:** Which GRC production method do you use ?  
 Simultaneous sprayed:  Premix:  Other:  please specify what:

**Question 2:** What Grade(s) of GRC do you produce ?  
 Grade 8:  Grade 10:  Grade 18:

**Question 3:** QA Plan or Manual, and existing accreditation ?  
 Manual already exists:  Manual needs to be revised:  Have ISO 9001 accreditation:

**Question 4:** The following procedures already exist ?  
 Manufacturing:  Control of raw materials:  Mould preparation:  Testing:   
 Curing:  Inspection:  Training:  Design:

**Question 5:** Please state any national Standards you produce to ?

**Question 6:** Any further information required prior to assessment ?

Application signed by:  
 Signature: \_\_\_\_\_ Print Name: \_\_\_\_\_

**Please email completed form to: [info@grca.org.uk](mailto:info@grca.org.uk)**

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