CSA S808:14
(reaffirmed 2019)

Specification for fibre-reinforced polymer (FRP) materials for externally reinforcing structures

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CSA S808:14
November 2014

Title: *Specification for fibre-reinforced polymer (FRP) materials for externally reinforcing structures*

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Published in November 2014 by CSA Group
A not-for-profit private sector organization
178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3

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ISBN 978-1-77139-565-6

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Preface

This is the first edition of CSA S808, *Specification for fibre-reinforced polymer (FRP) materials for externally reinforcing structures*.

CSA acknowledges that the development of this Standard was made possible, in part, by the financial support of the following: ISIS Canada Network Association, Public Works and Government Services Canada, Pultrall Inc., Freyssinet Canada Ltd., BASF Canada Inc., and Sika Canada Inc.

This Standard was prepared by the Subcommittee on Specification for Fibre-Reinforced Polymers (FRP) Materials for externally reinforcing structures under the jurisdiction of the Technical Committee on Design and Construction of Building Components with Fibre-Reinforced Polymers and the Strategic Steering Committee on Construction and Civil Infrastructure, and was formally approved by the Technical Committee.

Notes:

1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
3) *This Standard was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as "substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity". It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*
4) *To submit a request for interpretation of this Standard, please send the following information to inquiries@csagroup.org and include "Request for interpretation" in the subject line:*
   a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
   b) *provide an explanation of circumstances surrounding the actual field condition; and*
   c) *where possible, phrase the request in such a way that a specific "yes" or "no" answer will address the issue.*

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   a) *Standard designation (number);*
   b) *relevant clause, table, and/or figure number;*
   c) *wording of the proposed change; and*
   d) *rationale for the change.*

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Specification for fibre-reinforced polymer (FRP) materials for externally reinforcing structures

1 Scope

1.1
This Standard covers the manufacturing process and testing requirements of fibre-reinforced polymer (FRP) wet layup composite systems, pre-cured FRP plates, and FRP bars externally bonded as structural strengthening materials for structures (concrete, steel, wood, and masonry).

1.2
This Standard covers FRPs comprised of
a) glass, carbon, or aramid fibres; and
b) isophthalic polyester, vinylester, or epoxy resins.

This Standard only covers the fabric and saturating resin that comprise the FRP system. Primers, adhesives, and putty fillers are outside the scope of this document.

1.3
This Standard covers FRP systems with continuous, unidirectional or bi-directional fibres, fabricated using wet layup. This Standard only covers FRP systems with bi-directional fibres made up with only one type of fibre and with fibers oriented 0° and 90°. Bi-directional laminates that intend to provide strength in more than one direction are not covered by this specification: it means that for bi-directional FRP systems oriented 0° and 90°, only the warp direction (fibres oriented 0°) of the laminate is providing strength.

1.4
This Standard covers FRP bars or bars that are part of a grid having solid prismatic cross sections with continuous fibres in the longitudinal direction.

1.5
This Standard covers FRP plates having nominally rectangular cross-section.

1.6
In this Standard, FRPs are classified on the basis of their fibres.

1.7
In this Standard, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the standard.