ISIS Canada was created to provide civil engineers with smarter ways to build, repair, and monitor structures using high-strength, non-corroding fibre reinforced polymers and fibre optic sensing systems. It was created by the federal Network of Centres of Excellence (NCE) program and encompasses 14 universities, 30 Project Leaders, 275 researchers, 100 associated organizations and 45 multidisciplinary demonstration projects.

Manual No. 2

Guidelines for Structural Health Monitoring

Structural health monitoring (SHM) is used to accurately and efficiently monitor the in-situ behaviour of a structure, to assess its performance under various service loads, to detect damage or deterioration, and to determine the structure's conditions or health. While this manual focuses primarily on bridge applications (case studies of nine bridges and one wharf are covered), the concepts are applicable to civil engineering structures in general. This manual covers the benefits of SHM for those who are not fully initiated. It also serves as a guide for engineers who wish to become more knowledgeable and involved with the various aspects of SHM.

Manual No. 3

Reinforcing Concrete Structures with Fibre Reinforced Polymers (FRPs)

This manual provides guidelines and equations to be used in designing new FRP-reinforced concrete structures. While the equations are not part of national or international codes, they are based on research carried out in Canadian and international university laboratories and institutions and validated in several operational field applications, of which four are described in the manual. An introduction to FRP reinforcing products and their material properties is included for the uninitiated while the detailed design process is covered for those wishing to apply this new technology.

Manual No. 4

FRP Rehabilitation of Reinforced Concrete Structures

FRP rehabilitation projects in Canada have included column and beam strengthening, seismic retrofitting, repairing corrosion-damaged beams and columns, as well as numerous structural components. This manual presents the varied design procedures that have been developed and validated through several field applications. The basic equations and methodology are presented and case studies used to illustrate procedures. Before FRPs become routinely employed as everyday solutions for structural strengthening and repair challenges, codes of practice must be readily available. The guidelines and design equations contained in this manual are the result of extensive investigation, and as such, are a Canadian contribution to the global effort to formulate appropriate codes.

Manual No. 5

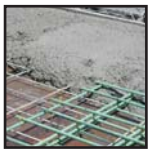
Prestressing Concrete Structures with Fibre Reinforced Polymers (FRPs)

Innovative structures based on the use of FRPs will allow new design concepts, and are expected to attain longer service lives than structures built with conventional materials. This manual provides engineers with guidelines that can be used in the design of normal density concrete components prestressed with CFRP, AFRP, and GFRP tendons in buildings and bridges. This document is not a part of a national or international standard, but can be used to assist in the development of such documents. It is based mainly on experimental results of research, analytical work and field applications of FRPs used as prestressed reinforcement which has been carried out in Canadian and other international university laboratories and institutions.

Manual No. 6

Civionics Specifications

Civionics is a new term coined from Civil-Electronics, which is derived from the application of electronics to civil structures. This manual provides guidelines for fibre optic sensors and their ancillaries based on extensive experience gained in numerous field installations. As the design and construction of civil structures continues to evolve, it is becoming imperative that these structures be monitored for their health. The entire structural health monitoring (SHM) process, beginning with system design and concluding with data collection, is addressed in this manual. The Civionics specifications include the technical requirements for the SHM system including fibre optic sensors, cables, conduits, junction boxes and the control room.



Product Certification

Specifications for FRP Product Certification of FRPs as Internal Reinforcement in Concrete Structures

This manual provides specifications on using fibre reinforced polymers (FRPs) as internal reinforcement in concrete components of structures such as bridges, buildings and marine structures. In the form of bars and grids,the fibres include glass, carbon and aramid fibres, and matrices include isophthalic polyester, vinylester and epoxy resins. Specifications for manufacturing, classification, qualification testing, quality control and assurance tests, manufacturer's quality control tests, reporting and certification and handling and storage are included in the document.

Durability Monograph

Durability of Fibre Reinforced Polymers in Civil Infrastructure

FRPs (fibre reinforced polymers) are becoming more common in replacing steel as a material of choice in both rehabilitation and construction. This set of guidelines was created for the design and construction industry regarding material and bonding selection for various applications to ensure durability of the construction facility. The monograph addresses all the key issues surrounding the use of FRPs for civil applications including numerous production techniques such as filament winding, pultrusion, resin, transfer molding, contact molding, and compression molding, and also addresses the influence of various inert or active additives added to the polymeric phase such as fillers, plasticizers, stabilizers, and sizing and other coatings placed on fibres.

Order Form

Fax to: 204. 474. 7519
Online at: www.isiscanada.com
Email: Charleen Choboter, Financial & Administrative Assistant at choboter@ms.umanitoba.ca

Customer Information

Last Name (Please Print) | First Name

Company Name

Address

City | Province/State

Postal Code/ZIP | Country

Phone | Fax | Email

Payment Method

☐ Mastercard ☐ Visa ☐ AMEX ☐ Cheque / Money Order

Card No. | Expiry Date

Order Form

Manuals are $100 per copy for all formats. Price is in Canadian dollars with 5% GST included.
GST #86790-2868

Number and Title		Format		Quantity	Price	Total
No. 2	Guidelines for Structural Health Monitoring	☐ Book	☐ Download*		$100 ea	
No. 3	Reinforcing Concrete Structures with Fibre Reinforced Polymers (FRPs)	☐ Book	☐ Download*		$100 ea	
No. 4	FRP Rehabilitation of Reinforced Concrete Structures	☐ Book	☐ Download*		$100 ea	
No. 5	Prestressing Concrete Structures with FRPs	☐ Book	☐ Download*		$100 ea	
No. 6	Civionics Specifications	☐ Book	☐ Download*		$100 ea	
PC	Specifications for FRP Product Certification of FRPs as Internal Reinforcement in Concrete Structures	☐ Book	☐ Download*		$100 ea	
DM	Durability of Fibre Reinforced Polymers in Civil Infrastructure	☐ Book	☐ Download*		$100 ea	
					Grand Total	

* To purchase an e-book version for downloading, fax order form and payment details to ISIS Canada. Instructions will then be sent to you via email.

Orders will not be shipped until payment is received.

Delivery Options (check one)

- Ship by regular mail (included in manual price) ☐
- Ship by express delivery (not included in manual price. Call or email for quote) ☐

ISIS CANADA RESEARCH NETWORK
Intelligent Sensing for Innovative Structures A Canadian Network of Centres of Excellence
A250 Agricultural & Civil Engineering Building, 96 Dafoe Road, University of Manitoba,
Winnipeg, Manitoba R3T 2N2 Phone: 204. 474. 8506 Fax: 204. 474. 7519
www.isiscanada.com