Approval for this bulletin

Subject to priorities defined by the Technical Council and the Presidium, the results of the fib’s work in commissions and task groups are published in a continuously numbered series of technical publications called bulletins. The following categories are used:

**Category:**
- Technical report
- State-of-the-art report
- Manual / Guide to good practice / Recommendation
- Model code

**Approval by:**
- Task group and chairpersons of the commission
- Commission
- Technical Council
- General Assembly

Any publication not having met the above requirements will be clearly identified as a preliminary draft.

*fib* Bulletin 89 was approved by the Technical Council in Melbourne, October 6, 2018.

Cover image: “Proposed cable stayed bridge over the Grimsel reservoir”.
Photo credits: Prof. Dr. Christian Menn, Dr. Martin Deuring, Dr. Werner Brändli, Carlo Galmarini, Martin Andres.

© Fédération internationale du béton (fib), 2019

Although the International Federation for Structural Concrete / Fédération internationale du béton (fib) does its best to ensure that all the information presented in this publication is accurate, no liability or responsibility of any kind, including liability for negligence, is accepted in this respect by the organisation, its members, employees or agents.

All rights reserved. No part of this publication may be reproduced, modified, translated, stored in a retrieval system or transmitted in any form or by any means - electronically, mechanically, through photocopying, recording or otherwise - without prior written permission from the fib.

ISSN 1562-3610
Proofreading by Gordon Clark. Layout by Corinne Bottollier (fib).
Printed by DCC Document Competence Center Siegmar Kästl e.K., Germany