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## For immediate release

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### ***fib* Bulletin 42: Constitutive modelling of high strength/ high performance concrete**

The latest *fib* Bulletin, number 42, “Constitutive modelling of high strength/high performance concrete”, is now available for purchase from the *fib* secretariat.

High Strength/High Performance Concrete (HSC/HPC) continues to be the object of particular interest and extensive research, and its use in construction is increasing continuously. *fib* Bulletin 42 summarises the available information on the material behaviour of HSC/HPC, and develops a set of code-type constitutive relations as an extension of CEB-FIP Model Code 1990.

Literature on experimental data and international guidelines, standards and recommendations were reviewed, and already-existing constitutive relations and models were evaluated. In addition to a number of material laws chosen and adjusted for this report, some new constitutive relations were developed based on the collected data. The criteria for the choice of the existing relations as well as the development of the new constitutive relations involved their simplicity and operability (code-type mathematical formulations). Furthermore, they had to be physically sound and if possible describe the behaviour of both high-performance and normal strength concretes by a unique relation. Finally, compliance with the specifications given in the CEB-FIP Model Code 1990 was examined.

This State-of-the-art report is intended for engineers and represents a summary of the relevant knowledge available to and possessed by the members of the Task Group at the time of its drafting.

A review copy of Bulletin 42 can be provided on request.

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