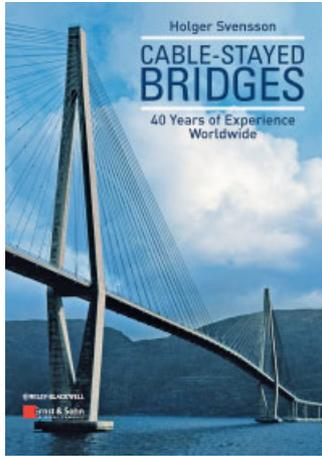


*Svensson, H.: Cable-Stayed Bridges. 40 Years of Experience Worldwide.* Berlin: Ernst & Sohn 2012. 454 pages and 1262 figures. Including DVD of lectures on cable stayed bridges, 29,7 × 21 cm, hardcover, ISBN 978-3-433-02992-3, 129,- €



This book was written by Prof. *H. Svensson* with 7 chapters for 30 lectures as a textbook in Dresden University of Technology in Germany. Chapter 1 is “Introduction”, and the chapters 2 to 5 are main contents, including historical development, structural details, preliminary design and erection. Chapter 6 introduced typical examples of cable-stayed bridges, and chapter 7 showed future development. With total 454 pages and over 1300 delicate photos or drawings, this is a versatile and great work in bridge engineering.

In chapter 1, “Introduction”, Prof. *Svensson* uniquely proposed 10 aesthetic

guidelines for bridge design. These guidelines are of bridge aesthetic point of view of structural engineers and the crystallization of close harmonization of structure and art, which have very important inspiration for bridge engineering. In chapter 2, the author recalled the development history of cable-stayed bridges from period of enlightenment in the sixteenth century, initial practice in the seventeenth and eighteenth centuries, failure and withdraw under heavy loads but still used as stiffening measures for suspension bridges after industrial revolution, and approaching modern form in 1950's. Chapter 2 described characteristics and typical examples of steel, concrete, composite cable-stayed bridges and their special systems, and also listed famous experts and engineers who made great contribution to cable-stayed bridge development, which are the most plentiful and exhaustive historical documents with great values.

Chapter 4, “Preliminary Design of Cable-Stayed Bridges”, is the core of this book. Sections 4.1 and 4.2 incisively analyzed rational arrangement of mechanical characteristics and geometrical sizes of cable-stayed bridges. Section 4.3 “Bridge Dynamics” emphasized the importance of A-shaped pylons and girder wind noses against wind induced vibration, and mentioned prevention of vortex-induced vibration and wind/rain induced vibration of stay cables, effective application of TMD system in construction stages, and seismic analysis in brief. Section 4.4 explicitly provided analysis methods and prevention measures of anti-collision for piers. Section 4.5 pro-

posed approximate calculation and parameter modulation for preliminary design, which is very important for students to study conceptual design. It is very special in the book to arrange structural details in chapter 3 prior to preliminary design content. With this arrangement, students can learn structural characteristics of cable-stayed bridges first, and may begin with preliminary design practice in more reality and concrete.

In chapter 6, the author emphatically presented some cable-stayed bridges involved by himself and Leonhardt, Andrä and Partners (LAP), and the others with innovative structures or span-length records. Modern cable-stayed bridges were created by German Prof. *Dischinger*, and were firstly developed and popularized in Germany from 1950's to 1970's. Many innovative structural details and various erection methods mentioned in chapter 5 were almost proposed by Germany experts, who also made the greatest contribution to calculation theory.

In conclusion, Prof. *Svensson*, with his 40 years productive and successful experiences, contributed to us the colorful development process of cable-stayed bridges, and annotated the quintessence of design and construction of modern cable-stayed bridges in his book. This great work has been the best academic book in cable-stayed bridges since construction and design of cable-stayed bridges authored by *W. Podolny* and *J. B. Scalzi* published in 1976.

*Haifan Xiang, Yaojun Ge, Shanghai*