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MECHANICS AND DESIGN OF TUBULAR STRUCTURES

EDITED BY

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This volume contains 295 illustrations

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PREFACE

The use of tubular structures in offshore platforms initiated intensive research work, mainly on the static and fatigue strength of welded connections. Due to their advantages, tubular structures have been successfully applied also in buildings, vehicles, roofs, spatial structures, radio telescopes and transmission line structures. Their advantages are related to high torsional stiffness, increased overall buckling strength due to their radius of gyration, low resistance against wind pressure, low weight and low surface area relative to equivalent open sections, improved aesthetics. The welded joints of trusses can be constructed using simple welds with clean lines uncluttered by gusset plates.

The CISM course contained herein aimed to bring together the latest scientific and engineering results obtained in this field. In the International Institute of Welding, Subcommission XV-E has been very active in the organisation of a series of international Symposia on tubular structures, sponsored also by an international association of tube manufacturers (CIDECT). CIDECT itself has published a very useful series of design guide booklets on tubular structures too.

The course has been realised by the participation of experts, who are famous for their published articles and organisation of symposia. These lecturers are the authors of the chapters in this book. The authors express their thanks to CISM for the possibility of convening this course in such a beautiful and historical building and such a congenial environment. We hope that this

publication will help readers in the field of engineering design and fabrication to widen their knowledge to be able to contribute to the development of modern tubular structures. Acknowledgements are due to professors Sándor Kaliszky and Carlo Tasso for helping organisation of the course and preparation of this volume and all participants of the Course for their questions and comments, which helped to improve the initial version of the notes.

Károly Jármai
József Farkas

CONTENTS

Page