Recent Developments in Braiding and Narrow Weaving

Yordan Kyosev
Editor

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Springer

Editor
Yordan Kyosev
Faculty of Textile and Clothing Technology
Hochschule Niederrhein
Mönchengladbach
Germany

ISBN 978-3-319-29931-0 ISBN 978-3-319-29932-7 (eBook)
DOI 10.1007/978-3-319-29932-7

Library of Congress Control Number: 2016932866

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Preface

"*Recent Developments in Braiding and Narrow Weaving*" presents selected works on recent developments in the area of braiding, narrow weaving and related technology topics, presented during the "International Week of Narrow Fabrics" in March 2016 at the Hochschule Niederrhein—University of Applied Sciences in Mönchengladbach, Germany.

The faculty of Textile and Clothing Technology at the Hochschule Niederrhein has a unique position in the area of education and research of narrow fabrics, having professorship and several regular classes at the bachelor and master levels, covering machines, technologies, and applications of narrow woven and braided fabrics. The international week of narrow fabrics hosted two conferences—the "2nd Mönchegladbach braiding colloquium" and the "1st Monchengladbach narrow weaving colloquium", where leading industries, researchers and students met and discussed the recent topics intensively.

The chapters are grouped into four parts, where the first part covers two new machines. Daniel Denninger's new method and machine for covering profiles creates triaxial woven-like structures, similar to the braided structure, although it is a winding structure interlaced as a woven one. Multibifurkation branches produced on the Herzog variation braiding machine is the topic of the second chapter in this part.

The part "modelling and testing" comprises two papers on experimental investigations of linen double-braided ropes and two papers on prediction of the geometry and properties of braids with modern software. The last chapter in this part presents the possibilities of application of the Wisetex software for modelling dense technical tapes.

The part "technical applications" includes chapters on end fasteners and new applications of woven tapes as narrow woven conveyors and batteries. The other three chapters cover experimental investigations of different parameters of the braiding process for composites.

The part “materials and modifications” includes competitive price-performance analysis of Chinese HMPE fibres in textile semi-finished parts, followed by a chapter on surface modifications of narrow fabrics and concludes with an overview of the sustainable materials for composites.

I hope you will enjoy this work and will get several new useful ideas and information for your praxis.

Mönchengladbach Yordan Kyosev
January 2016

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