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Guide to the Max Mark Frocht Papers circa 1930s-1964



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Descriptive Summary

Identifier	ICU.SPCL.CRMS151
Title	Frocht, Max Mark. Papers
Date	circa 1930s-1964
Size	5.5 linear feet (11 boxes)
Repository	Special Collections Research Center University of Chicago Library 1100 East 57th Street Chicago, Illinois 60637 U.S.A.

Abstract Max Mark Frocht was an educator and researcher in experimental mechanics. He was an authority on photoelasticity, a method used to visualize stress distribution in materials. His two volume work, Photoelasticity, is a classic text in the field. This collection documents Max Mark Frocht's work as a researcher and educator. The Max Mark Frocht Papers include manuscripts of his major works; technical illustrations including proofs, photographic reproductions and original drawings; technical reports to the United States Army; teaching materials; calculations and notes.

Information on Use

Access

The collection is open for research.

Citation

When quoting material from this collection, the preferred citation is: Frocht, Max Mark. Papers, [Box #, Folder #], Special Collections Research Center, University of Chicago Library

Biographical Note

Max Mark Frocht was an educator and researcher in experimental mechanics. He was an authority on photoelasticity, a method used to visualize stress distribution in materials. Photoelastic methods are used in engineering for the observation of stress on structures and machine parts. Frocht's two-volume work, Photoelasticity, is a classic text in the field.

A student of Steven Timoshenko, Frocht received his Ph.D. from University of Michigan in 1931. He worked at the Carnegie Institute of Technology, and was an important early member of the Society for Experimental Stress Analysis (now the Society for Experimental Mechanics). From 1946 to 1960, Frocht worked in the Department of Mechanics at the Illinois Institute of Technology, where he directed the Laboratory for Experimental Stress Analysis.

Frocht became an honorary member of the Society for Experimental Mechanics (SEM) in 1959. SEM also created the annual M.M. Frocht Award "to honor "outstanding achievement as an educator in the field of experimental mechanics."

Scope Note

This collection documents Max Mark Frocht's work as a researcher and educator from circa 1930s-1964. The Max Mark Frocht Papers include manuscripts of his major works (most with editorial markup and corrections by Frocht); technical illustrations including proofs, photographic reproductions and original drawings; technical reports to the United States Army; teaching materials; calculations and notes.

Series I: Photoelasticity, Volume 1, 1941, contains manuscripts for each chapter of this text, as well as manuscript versions of its front matter and indexes. Two sets of proofs for illustrations follow. Additional illustrations, mainly representing stress patterns, are also included. Material in this series dates from around 1940-1941, with the exception of some files related to a later revision of the text.

Series II: Photoelasticity, Volume 2, 1948, contains manuscripts for each chapter of the text, as well as manuscripts of front matter, indexes, captions and the appendix. It also includes Frocht's original drawings for illustrations in each chapter, and proofs of the frontispiece illustration. Additional material in this series includes manuscripts, illustrations, calculations, notes and reader's comments on individual chapters or topics. Material in this series dates from around 1944-1948.

Series III: Strength of Materials: A First Course, 1951, contains manuscripts for this textbook's front matter, chapters, appendices, problem sets and review questions. Illustrations include Frocht's original drawings, as well as proofs. Unused and superseded drafts are also included, as are additional calculations, illustrations and notes. Material in this series dates from around 1950-1951.

Series IV: Early Research, consists of an undated copy of Frocht's thesis, and a small amount of research material, circa 1930s.

Series V: Teaching, includes lecture notes, calculations, student assignments, and other material related to Frocht's classroom work at the Illinois Institute of Technology. Files in this series are arranged chronologically, spanning the years 1944-circa 1960.

Series VI: Technical Reports, documents photoelasticity research conducted by Frocht and his colleagues for the United States Army. These reports span the years 1953-1964.

Related Resources

The following related resources are located in the Department of Special Collections:

<http://www.lib.uchicago.edu/e/spcl/select.html>

Subject Headings

- Frocht, Max Mark, 1894-1974
- Photoelasticity
- Strains and stresses
- Strength of materials

INVENTORY

Series I: Photoelasticity, Volume I, 1941

Box 1

Folder 1

Preface, manuscript

Box 1

Folder 2

Indexes, manuscripts

Box 1

Folder 3

Introduction and table of contents, manuscripts

Box 1

Folder 4-14

Chapters 1-11, manuscripts

Box 1

Folder 15

Chapters 1-4, illustrations with notes for copies and slides

Box 2

Folder 1-3

Chapters 5-14, illustrations with notes for copies and slides

Box 2

Folder 4-6

Chapters 1-3, proofs of illustrations, mounted

Box 3

Folder 1-7

Chapters 4-11, proofs of illustrations, mounted

Box 4

Folder 1-6

Chapters 12-14, proofs of illustrations, mounted

Box 4

Folder 7-11

Chapters 1-5, proofs of illustrations

Box 5

Folder 1-9

Chapters 6-14, proofs of illustrations

Box 5

Folder 10-20

Chapters 1-11, illustrations of stress patterns

Box 5

Folder 21

Illustrations of stress patterns

Box 5

Folder 22-24

Illustrations

Series II: Photoelasticity, Volume II, 1948

Box 6

Folder 1

Manuscripts of front matter and indexes, correspondence and layout drawings

Box 6

Folder 2

Captions for illustrations

Box 6

Folder 3-8

Chapters 1-8, manuscripts

Box 7

Folder 1-6

Chapters 9-14, manuscripts

Box 7

Folder 7

Appendix, manuscripts

Box 7

Folder 8

Frontispiece, proofs of illustration

Box 7

Folder 9-17

Chapters 1-9, original drawings for illustrations

Box 8

Folder 1-5

Chapters 10-14, original drawings for illustrations

Box 8

Folder 6

Chapter 8, manuscripts, illustrations, calculations and notes

Box 8

Folder 7

Chapters 8 and 10, manuscripts and illustrations

Box 8

Folder 8

Polar and bipolar coordinates, calculations and illustrations

Box 8

Folder 9

Load distribution, manuscripts, calculations and reader's comments

Series III: Strength of Materials: A First Course, 1951

Box 8

Folder 10

Front matter and Chapters 1-3, manuscripts

Box 8

Folder 11-13

Chapters 4-11, manuscripts

Box 8

Folder 14

Chapters 12-14, appendices and solutions to problems, manuscripts

Box 9

Folder 1

Review questions, manuscript

Box 9

Folder 2-15

Chapters 1-14, original drawings for illustrations

Box 9

Folder 16-29

Chapters 1-14, proofs of illustrations

Box 9

Folder 30

Chapter 4, unused draft, calculations and illustrations

Box 9

Folder 31

Chapter 7, unused draft, calculations and illustrations

Box 9

Folder 32

Chapter 12, superseded draft

Box 9

Folder 33

Illustrations and notes

Series IV: Early Research

Box 9

Folder 34

Thesis, manuscript, undated

Box 9

Folder 35-36

Principal stresses by graphical integration, illustrations and calculations, circa 1930s

Series V: Teaching

Box 9

Folder 37

Student assignments, 1944

Box 9

Folder 38-40

Mechanics 301, lecture notes, calculations and assignments, 1947-1960

Box 10

Folder 1

Calculations and exam notes, circa 1960

Box 10

Folder 2

Mechanics 301, errata, undated

Series VI: Technical Reports

Box 10

Folder 3-10

Technical reports to the Office of Ordnance Research, United States Army, 1953-1960

Box 11

Folder 1

Technical report to the Office of Ordnance Research, United States Army, 1960

Box 11

Folder 2

Technical reports to the United States Army Research Office, 1962- 1964