



ALUMINUM DESIGN MANUAL

2010



The
Aluminum
Association



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FOREWORD

The *Aluminum Design Manual* includes an aluminum structural design specification and accompanying commentary, a supplemental design guide, material properties, properties of common shapes, design aid tables, and illustrative design examples.

This edition of the *Aluminum Design Manual* is the product of the efforts of the Aluminum Association Engineering and Design Task Force, whose members are listed below.

The Aluminum Association Engineering and Design Task Force

Steve Sunday, Alcoa Inc., Chair
Frank Armao, Lincoln Electric Co.
Tanya Dolby, Kawneer Company, Inc.
Steve Ducotey, Conservatek Industries, Inc.
Randy Kissell, The TGB Partnership
George Olive, Larson Engineering, Inc.
Gerald Orrison, Temcor
Teoman Peköz, Cornell University
Frank Shoup, Alcoa Inc.
Robert W. Walton, Consultant
Ronald D. Ziemian, Bucknell University
Michael Skillingberg, The Aluminum Association, Inc.

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Please check www.aluminum.org for postings of 2010 *Aluminum Design Manual* errata.

Aluminum Design Manual

PART I

Specification for Aluminum Structures



Foreword

The first edition of the *Specification for Aluminum Structures* was published in November, 1967, followed by subsequent editions in 1971, 1976, 1982, 1986, 1994, 2000, and 2005. This ninth edition of the *Specification* combines the previously separate allowable stress and load and resistance factor design specifications. The *Specification*, developed as a consensus document, has been completely reorganized and includes new or revised provisions concerning

- safety and resistance factors
- design for stability
- adding 6005A-T61 and 6082-T6
- notch sensitivity of 6005-T5 and 6105-T5
- a glossary
- shear yield strengths
- shear strength of tubes
- screw pull-over
- screw slot pull-out strength
- serviceability
- evaluating existing structures
- axial compressive strength of complex cross sections
- fatigue strength of light pole bases
- members subject to torsion
- local buckling strength of welded elements
- design for fire conditions
- design of braces

The Aluminum Association gratefully acknowledges the efforts of the Engineering Advisory Committee in developing this edition of the *Specification*.

The Aluminum Association Engineering Advisory Committee

Steve Sunday, Alcoa Inc., Chair
Frank Armao, Lincoln Electric Co.
Tanya Dolby, Kawneer Company, Inc.
Steve Ducotey, Conservatek Industries, Inc.
Randy Kissell, The TGB Partnership
George Olive, Larson Engineering, Inc.
Gerald Orrison, Temcor
Teoman Peköz, Cornell University
Frank Shoup, Alcoa Inc.
Robert W. Walton, Consultant
Ronald D. Ziemian, Bucknell University
Michael Skillingberg, The Aluminum Association, Inc.

Robert E. Abendroth, Iowa State University
Joseph Bowman, Hapco American Flag
Francisco Castano, Geometrica, Inc.
Terence Cavanagh, Terrapin Testing, Inc.
Karen C. Chou, Minnesota State University, Mankato
Cynthia Ebert, Larson Engineering, Inc.
Michael Feldberg, Valmont Industries, Inc.
Andrew J. Hinkle, Wyle
James LaBelle, Computerized Structural Design
LeRoy Lutz, Computerized Structural Design
Craig C. Menzemer, University of Akron
Ken Walerius, Permasteelisa North America

Guidelines for the Preparation of Technical Inquiries on the *Specification for Aluminum Structures*

Technical inquiries to obtain an interpretation or request a revision to the *Specification for Aluminum Structures* should be directed to:

Vice President, Technology
mhskilli@aluminum.org
The Aluminum Association
1525 Wilson Blvd, Suite 600
Arlington, VA 22209
www.aluminum.org

Comments on other parts of the *Aluminum Design Manual* are also welcome.

Inquiries should be typewritten and include the inquirer's name, affiliation, and address. Each inquiry should address a single section of the *Specification* unless the inquiry involves two or more interrelated sections. The section and edition of the *Specification* should be identified.

Requests for interpretations should be phrased, where possible, to permit a "yes" or "no" answer and include the necessary background information, including figures where appropriate.

Requests for revisions should include proposed wording for the revision and technical justification.

Inquiries are considered at the first meeting of the Engineering and Design Task Force following receipt of the inquiry.

I
Specification for Aluminum Structures

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