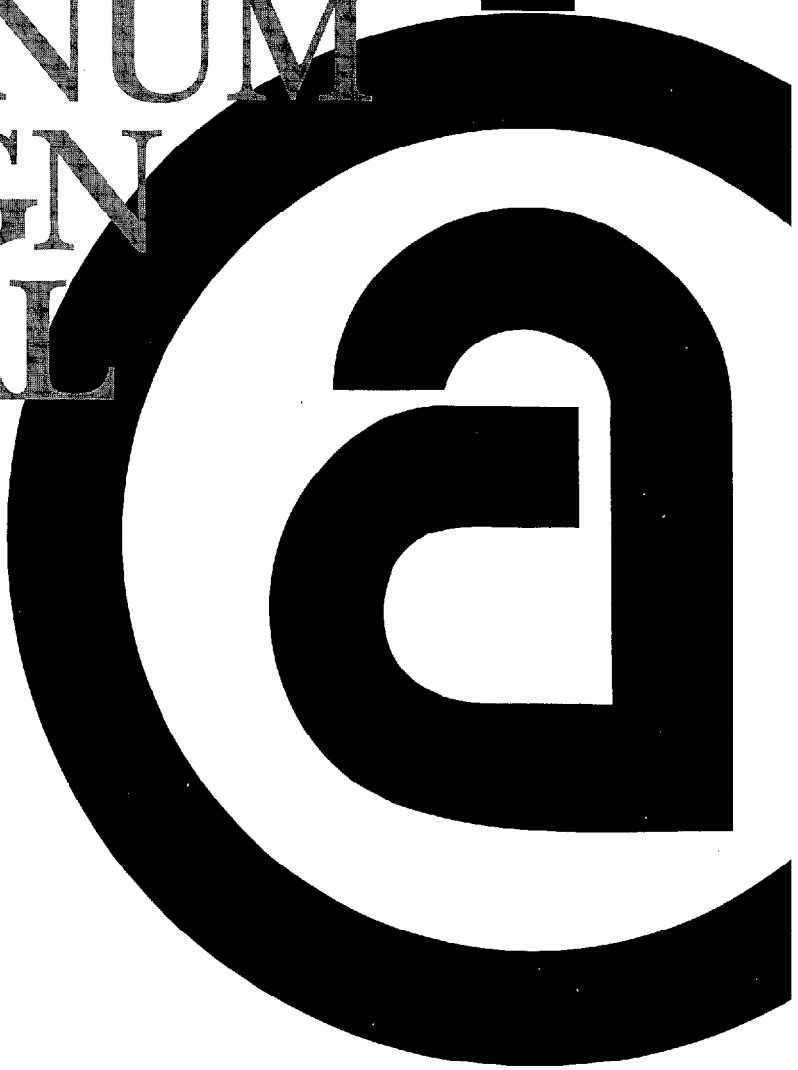
ALUMINUM DESIGN MANUAL



The Aluminum Association

SPECIFICATIONS & GUIDELINES FOR ALUMINUM STRUCTURES

900 19th Street, N.W., Washington, D.C. 20006

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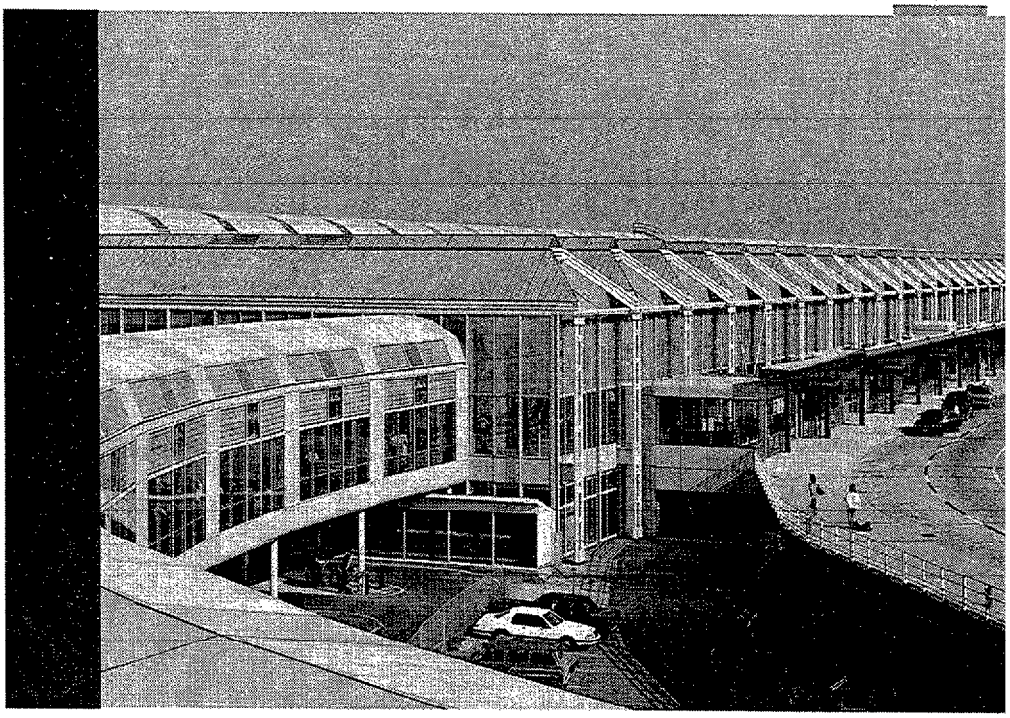


Aluminum Design Manual

Part Directory

FOREWORD

Foreword

This second edition of the *Aluminum Design Manual* retains the organization of the first edition, with one exception - the addition of a new part, titled Guidelines for Aluminum Sheet Metal Work in Building Construction. This Part IX is based on the earlier Aluminum Association publication number 35. The Manual includes structural design specifications and accompanying commentary, a supplemental design guide, material properties, section properties, design aid tables and graphs, and illustrative design examples.

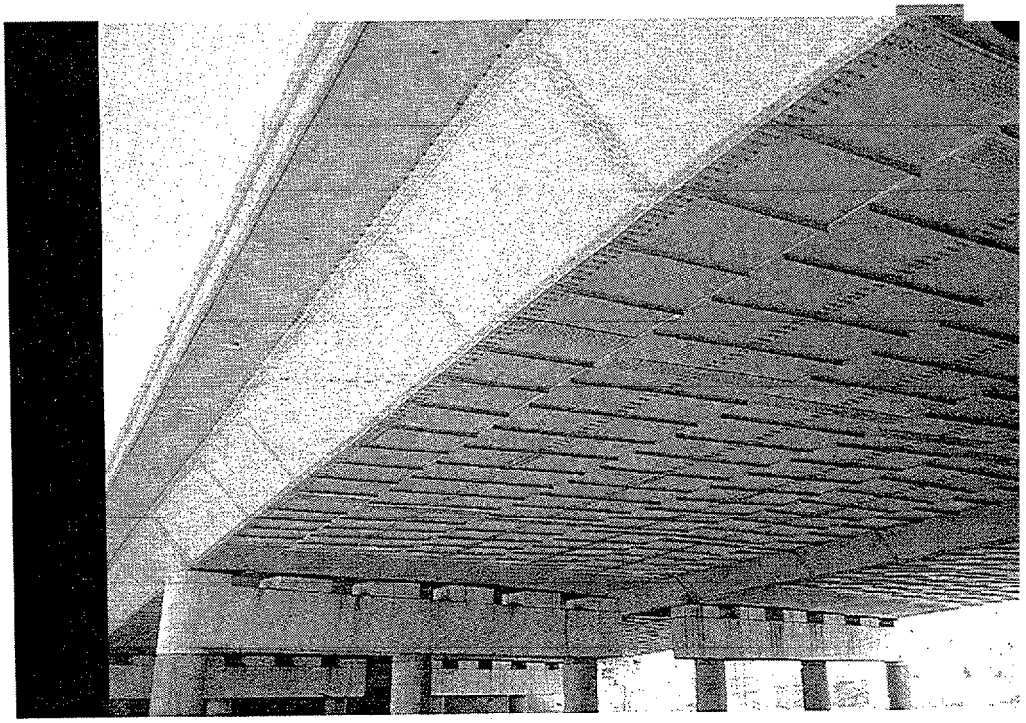
This edition of the *Aluminum Design Manual* is the product of the efforts of the Aluminum Association Engineering and Design Task Force, whose members are listed below.

The Aluminum Association Engineering and Design Task Force

Steven Ducotey, Conservatek Industries, Inc.
Andrew J. Hinkle, Alcoa, Inc.
Randy Kissell, The TGB Partnership
Brian Malloy, Reynolds Metals Company
Greg McKenna, Kawneer Company, Inc.
Craig C. Menzemer, University of Akron
Gerald Orrison, Temcor
Teoman Peköz, Cornell University
Luann Sun, Hydro Raufoss Automotive, North America
Stephen P. Sunday, Reynolds Metals Company
Kenneth A. Walker, Washington Aluminum Company

The *Aluminum Design Manual* is offered as a guideline only and The Aluminum Association, Association's Engineering and Design Task Force and the members thereof assume no responsibility or liability whatsoever for any information contained herein and make no representation, warranty, expressed or implied, or guarantee whatsoever as to the accuracy of the information or the applicability of such information with respect to the design, engineering or construction of any structure. The use of this Manual by members and non-members of The Aluminum Association is voluntary and the issuance or existence of this Manual does not in any respect prevent or restrict any member or non-member from manufacturing, designing, supplying, constructing, or using products not in conformance with this Manual.

SPECIFICATIONS FOR ALUMINUM STRUCTURES - ALLOWABLE STRESS DESIGN



PART I A

Aluminum Design Manual

PART I-A

Specification for Aluminum Structures Allowable Stress Design

The Aluminum Association, Inc.
900 19th Street, NW, Washington, DC 20006

Seventh Edition, January 2000

FOREWORD

The first edition of the *Specifications for Aluminum Structures* was published in November, 1967, followed by subsequent editions in 1971, 1976, 1982, 1986, and 1994. This seventh edition for allowable stress design, developed as a consensus document, includes new or revised provisions concerning

- allowable stress increases for wind or seismic loads
- nomenclature
- alloy/tempers included in the minimum mechanical property tables
- metrication of the minimum mechanical property tables
- design stresses for axial compression for plastic behavior
- design stresses for axial tension
- fatigue, especially mechanically fastened connections
- design stresses for bearing
- screw pull-out
- block shear rupture
- slip-critical bolted connections
- tests for mechanical properties

The title has also been revised to *Specification for Aluminum Structures.* These improvements and additions are the result of studies sponsored by the Aluminum Association and others. The Aluminum Association gratefully acknowledges the efforts of the Engineering and Design Task Force in drafting the *Specification* and the Engineering Advisory Committee in reviewing it.

The Aluminum Association Engineering and Design Task Force

Steven Ducotey, Conservatek Industries, Inc.
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The Aluminum Association Engineering Advisory Committee

Includes the members of the Engineering and Design Task force and the following persons:

Robert E. Abendroth, Iowa State University
Terence Cavanagh, TJC and Associates, Inc.
Karen C. Chou, The University of Tennessee
John Crispin, Reynolds Metals Company
Ted Galambos, University of Minnesota
Malcolm Kerley, Virginia Department of Transportation
Dimitris Kosteas, University of Munich
Leroy Lutz, Computerized Structural Design
Ray Minor, Hapco
George Olive, Oates Associates
Carl Wagus, American Architectural Manufacturers Association
Robert W. Walton, Texas Wall Systems

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

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

Director, Engineering
The Aluminum Association
900 19th Street, NW
Washington, DC 20006 Fax: 202-862-5164

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 sketches 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.