The Aluminum Association

ALUMINUM DESIGN MANUAL 2020

2020 ALUMINUM DESIGN MANUAL

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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, illustrative design examples, guidelines for aluminum sheet metal used in construction, and a code of standard practice for fabricating and erecting structural aluminum.

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.

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The Engineering and Design Task Force thanks Debra Campbell Weston for assisting in the production of the Aluminum Design Manual.

The *Aluminum Design Manual* is offered as a guideline only and the Aluminum Association, Aluminum Association's Engineering and Design Task Force and 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.

Please check **www.aluminum.org** for postings of 2020 *Aluminum Design Manual* errata.

PART I

SPECIFICATION FOR ALUMINUM STRUCTURES

The Aluminum Association

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PART I

Specification for Aluminum Structures

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, 2005, 2010, and 2015. This 11th edition of the *Specification*, developed as a consensus document, includes new or revised provisions concerning

- Adding 6005A-T5 extrusions, 6063-T832 drawn tube, and 6360 extrusions
- Deleting 7178-T6 rivets
- The strength of weld-affected zones
- Elevated temperature exposure of weldments
- Deleting bridge-type structures from the scope
- Strength and buckling constants for curved elements
- The strength of elements with an intermediate stiffener
- Post weld heat treated strengths for 6005A and 6061
- Units
- Pull-out strength of screws in screw chases
- Flexural strengths
- Block shear strength
- Flanges and webs with concentrated forces
- The strength of PJP groove welds normal to tension or compression
- Evaluation by load testing
- Bracing

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

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