

## FOREWORD

These duct construction standards are intended for use by contractors, fabricators and designers of air pollution control, pneumatic conveyance and industrial ventilation systems.

The 1980 edition of these standards was the first publication dealing with the selection of duct gauge and reinforcement for rectangular industrial duct systems. While the first edition served industry very well for many years, technology has continued to evolve and in response to our membership's request, SMACNA's Rectangular Industrial Duct Construction Task Force led a comprehensive review and update of the first edition, resulting in this greatly expanded and more "user friendly" version of the original publication.

While the new text includes many of the same assumptions as the original work, a number of new features have been added:

- Six different types of carbon galvanized and aluminized steels
- Seven different types of stainless steel alloys
- Three different types of aluminum alloys
- Consideration of wind, snow, ice, and other loads
- Design check for localized and global modes of side panel buckling
- Design capability for high temperature systems up to 800 °F, and higher with design review by a specialized professional.
- New Chapter of practical examples with step-by-step instructions
- New Duct Class 5 – for systems handling corrosives
- Expanded data for the selection of duct supports, fasteners, gaskets and joint sealants
- Accepted Industry Practice for Rectangular Industrial Ducts
- New Chapter on Welding
- New Guide Specification for the fabrication and Installation of industrial duct systems

The Rectangular Industrial Duct Construction Task Force is deeply indebted to Doctor Michael C. Soteriades who did the original work for the first edition and contributed greatly to the improvements and expansion of the technical scope in the new edition. Likewise, the task force is deeply indebted to Joseph M Plecnik, PhD, P.E. of California State University at Long Beach, who is responsible for the physical testing, finite element analysis (FEA) studies, and design guidance related to the issue of Non-Linear Elastic Buckling of Duct Side Panels on Rectangular Industrial Duct.

SHEET METAL AND AIR CONDITIONING CONTRACTORS'  
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