GUIDE FOR FREE STANDING STEEL STACK CONSTRUCTION

SHEET METAL AND AIR CONDITIONING CONTRACTORS'
NATIONAL ASSOCIATION, INC.
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THIRD EDITION – SEPTEMBER, 2011

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FOREWORD

This Third edition of *Guide for Free Standing Steel Stack Construction* formerly known as *Guide for Steel Stack Construction* – is intended for use by contractors, fabricators, and designers of heating equipment and industrial process facilities.

The Steel Stack Task Force was formed to expand, review, and revise this standard of practices for the selection, fabrication and installation of steel stacks. This document is the result of that effort.

The main changes and additions contained in this edition are:

- A technical review of all the stack selections was completed and a considerable number of improvements made. The vast majority of the changes came in two categories: First, the previous edition contained a number of stacks selected on the basis of resonant vibration where the critical wind speed plus a 20% cushion exceeded 60 MPH, not recognizing that steady state wind conditions are necessary for resonance to be experienced, and steady state wind is not encountered in practice above 60 MPH. Second, the task force established a limit in both stack diameter and material thickness for stacks to be fitted with test platform and access ladder. Therefore, stacks must be 24 inches in diameter or greater and the section to which the platform is to be welded must be a minimum of 10 gage. These two concepts resulted in the vast majority of changes to the stack selection tables.

- All the stack selection tables were expanded to include from one to three larger diameter stacks than the previous edition, up to a new maximum of 120 inches in diameter.

- New requirements for anchoring to Concrete in ACI 318 (Appendix D) resulted in larger bases and anchor bolts than previous editions. Additionally, for some of the larger stacks, this resulted in unusually large anchoring components, forcing consideration of custom designed anchoring systems instead of a standardized schedule.

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