ACCEPTED INDUSTRY PRACTICES FOR SHEET METAL LAGGING

SHEET METAL AND AIR CONDITIONING CONTRACTORS'
NATIONAL ASSOCIATION, INC.

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FOREWORD

This first edition of *Accepted Industry Practices for Sheet Metal Lagging* is intended for use by contractors, fabricators, and designers of heating equipment and industrial process facilities. Due to high equipment operating temperatures, such equipment often requires the application of thermal insulation which, in turn, is covered, or lagged, with metallic or plastic material systems. The main purpose of the metallic or plastic covering is to protect the more fragile insulating material from both the effects of weather and the destructive action of normal traffic or other forms of damage in an industrial setting.

The Lagging Task Force was formed to collect, review, organize and publish accepted industrial practices for the application of sheet metal lagging materials to industrial duct, pipe, tanks, boilers, furnaces and other appurtenances. This document is the result of that effort.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

1.2 SCOPE

This document contains accepted practices for the fabrication and installation of sheet metal lagging. This document serves to establish standard methods to fabricate and install sheet metal lagging systems. *This document does not provide designs nor does it address safety issues.*

While it is not practical to include every conceivable lagging detail, most common situations are addressed. As in the case of all design, construction and installation procedures, proper engineering judgment must be exercised in conjunction with the specific engineering and detail information being furnished by the designer.

1.3 USES

Lagging is used to cover and protect insulated areas of equipment. Fabrication practices are provided herein to illustrate the requirements of the configurations most commonly encountered such as boiler walls, flues, ducts, precipitators, bag houses, selective catalytic reduction systems, air heaters, economizers, scrubbers, wind boxes, fans, etc. and to provide sufficient examples that reflect industry practices for lagging design and application. Although standardized components of any given lagging design may be representative of industry practices, the lagging system itself shall be individually designed for the particular installation, its configurations and its operating requirements.

1.4 TERMS AND DEFINITIONS

1.4.1 Glossary

See the Glossary for a complete list of terms and definitions related to sheet metal lagging.

1.4.2 Selected Terms and Definitions

1.4.2.1 Lagging

A sheet material, typically steel or aluminum, used to cover a variety of types of insulation. Sheet metal lagging ranges in thickness from 20 gage (1.01 mm) to 16 gage (1.61 mm) for galvanized steel and 0.032 in. (0.81 mm) to 0.063 in. (1.60 mm) for aluminum, and generally does not include a vapor barrier. Both ribbed and flat sheets are used. Thinner or thicker materials may be selected at the discretion of the specifier. All sheet metal lagging shall be sufficiently strong and durable to protect the underlying materials for the design life of the lagging.

1.4.2.2 Cladding

An ambiguous and arcane term also sometimes used to describe sheet materials that cover insulation. In the sheet metal industry, “cladding” has traditionally referred to a protective metallic coating installed over, or bonded directly to, thermal insulation. This is primarily with applications involving round industrial duct.

A 1999 SMACNA survey of members revealed multiple and potentially confusing uses of terms that varied by region. For the purposes of this document, the term “cladding” will not be employed, and in the interests of unifying the industry’s terminology, “lagging” will be used exclusively in this and future SMACNA publications.

1.4.2.3 Jacketing

A light gage covering material (usually over pipe insulation). Jacketing refers to a steel or aluminum sheet and ranges in thickness from 0.010 inch (0.26 mm) to 0.024 inch (0.61 mm) thick. A factory-applied moisture barrier is usually included on the back or underside of the jacketing material.

1.4.2.4 Casing

If the thickness of the steel covering material is greater than 16 gage (1.61 mm), it is *not* considered lagging but is referred to as “casing”.

1.5 PURPOSE

The purpose of this document is to establish accepted industry practices for sheet metal lagging construction and installation. Lagging, as previously defined, is the material, typically steel or aluminum, ribbed or flat, used to cover insulation especially on large flat surfaces such as boiler walls, flues, ducts, precipitators, bag houses, selective catalytic reduction systems, air heaters, economizers, scrubbers, wind boxes, fans, etc.