

ARCHITECTURAL SHEET METAL INSPECTION GUIDE



**SHEET METAL AND AIR CONDITIONING CONTRACTORS'
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FIRST EDITION — OCTOBER, 2004



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4201 Lafayette Center Drive
Chantilly, VA 20151-1209
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FOREWORD

One definition of inspect is “to view closely and critically.” In building construction the term “inspection” can encompass many other terms: completeness, code compliance, quality assurance, and as specified are just a few that come to mind.

This guide is based on the assumption that the roof under inspection has been properly installed by well trained, experienced sheet metal craftsmen under the leadership of a qualified custom sheet metal roofing contractor. In new construction it is further assumed that a knowledgeable individual who had a role in the design of the roofing system—such as the architect or general contractor—inspected that the roof was installed and completed according to the original design intent.

This guide should provide an individual who is NOT a roofing expert sufficient guidance to inspect an existing roof on a logical, periodic basis. The inspection can determine if maintenance is required beyond cleaning debris from elements of a roofing system to renewing caulking that has aged to the point of failure. If more detailed and involved maintenance is required, then a professional, qualified custom sheet metal roofing contractor should be called in.

The sources for the information contained in this Guide are:

- Architectural Sheet Metal Manual
- Residential Sheet Metal Guidelines
- Standard Practice in Sheet Metal Work

All of the above publications were created under the oversight of experienced custom sheet metal contractors so; ultimately, the information comes directly from contractors with decades of in-the-field experience.

This Guide should not be considered as a substitute for the above publications, they provide many obligatory details and alternate constructions. Of course, many of the details are left to the judgment of the custom sheet metal roofing contractor.

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CHAPTER 1

INTRODUCTION

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1.1 CUSTOM METAL ROOF INSPECTION

Architects and owners are attracted to custom metal roofs because it can be a major element in making a building's appearance dramatic and unique. When installed by an experienced architectural sheet metal roofing contractor a custom metal roof can last a lifetime.

This document provides an approach to inspection that would benefit building owners with custom metal roofs—standing seam, batten seam, or Bermuda-type roofs. It provides a list of typical architectural elements, the purpose of each, and what to look for during periodic inspections.

A custom metal roof is an investment that protects your entire building, its contents, and the occupants. Inspections should be conducted by a professional sheet metal roofing contractor or informed, knowledgeable facilities management staff. Generally, repairs that are more involved than applying new sealant should be left to the custom metal roofing contractor.

A typical metal roofing system is composed of the metal roof panels, gutters, downspouts, and the necessary flashing. Flat roofs and roofs with walled sections can also have gravel-stop fascia, copings, and roof drains. Most roofs will also have penetrations and many have roof mounted equipment that must be supported through roof penetrations. All the individual roofing elements should be designed, constructed, and maintained to provide a protective barrier system for the building. Effective inspections require that each element be examined individually but be considered in the context of the entire roofing system.

Regular and appropriately timed inspections are important because:

- a small problem discovered early can be fixed at a low cost
- minor damage can be stopped from becoming a major problem
- leaks can create interior damage that can be extremely costly to restore
- major water-related problems can be created by small, seemingly insignificant water intrusions.

A minimum of two yearly inspections by a person who understands the roof system's design are advisable. A spring inspection assures that a harsh winter's freeze and thaw cycles has not caused any breaks in the integrity of the roof assembly. A late fall or early winter inspection assures that no leaves or similar debris has accumulated in sufficient quantity to interfere with natural runoff, this assures proper drainage during the upcoming winter months. Appropriate consideration should be given to how factors within special climate areas—desert and very wet—can affect the roof.

Roof inspections should also be conducted prior to, if possible, and after each severe meteorological episode—hurricane, tornado, hail storms, strong winds, extreme snow accumulation, etc. One should also be cognizant when extraordinary nearby events occur—major fire, explosion, chemical release, earthquakes, etc. and conduct a roof inspection after any such event.

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