

	MAINTENANCE SPECIFICATION 2.13	2/16/2014
	Ductwork	Revision 9

PURPOSE:

This document contains specifications for the complete removal of existing ductwork from condominium attics and the installation of new flexible air ducts and related components. This specification addresses ductwork used for heating. If the new ductwork is to be used for heating and air-conditioning, its size and insulation value may need to be increased.

The scope, methods, material and inspection requirements are also documented. This specification should be referred and attached to any contract for specified work.

The Contractor's acceptance of this specification and signature is required prior to start of work (see page 3 of 3).

Copies of this specification & related specifications shall be kept on the job site at all times.

SPECIFICATIONS:

1.0 GENERAL

- 1.1 The Contractor shall adhere to the requirements of the current version of Maintenance Specification I.I, "General Provisions". That specification covers general matters, license & insurance, code compliance & permits, safety, material storage & disposal, job sites, supervision, performance of work, employees, vehicles & parking, inspection & certification, and warranty & guarantee.
- 1.2 Access to the attics of Phase 5-11 condominiums is through louvers at both ends of buildings. The louvers shall be carefully removed, protected from damage and firmly re-attached using the same screws that were removed. If there are problems with any louvers, advise the Manager's Representative (Mgr Rep).
- 1.3 Access to the attics of Phases 12 & 13 condominiums is through a hatch in the interior of the residence. Insure the personal property of residents within their residence is protected from dust, debris and damage.

2.0 SUPERVISION

- 2.1 Installation of the new ductwork and related components shall be performed under the supervision of a journeyman HVAC technician.

3.0 REMOVALS

- 3.1 Remove all existing flexible ducts, distribution junctions, connection sleeves & collars. Junctions, sleeves & collars may be re-installed if they are cleaned and in good condition (Section 5.3).

- 3.2 Remove all insulation from plenums. **Note: Plenums in Phase 6 are insulated with asbestos materials.**
- 3.3 Remove all loose HVAC components that may have been left by others.
- 3.4 Dispose of all materials at an offsite location in a manner prescribed by law.

4.0 INSPECTION & REPAIR OF VENTS AND ATTIC SPACES

- 4.1 Inspect all flue vents and exhaust-fan vents in attic spaces for safety code violations. Report the results to the Manager's Representative (Mgr Rep).
- 4.2 After being authorized by the Mgr Rep, re-connect loose vents and/or replace damaged and/or missing vents. Appropriate change orders will be issued.
- 4.3 Report obvious damages to the building structure, utility lines and/or unusual conditions observed to the Mgr Rep.

5.0 MATERIALS & INSTALLATION

- 5.1 Install new ductwork in the same size and with the same configuration as the existing ductwork. If the existing ductwork was removed by others, the size and configuration of the new ductwork shall be approved by the Mgr Rep prior to installation.
- 5.2 The new flexible air ducts shall meet the following standards:
 - 5.2.1 Class I open-ended flexible air duct
 - 5.2.2 Inner core - Smooth, 2-ply air-tight polyester encapsulating support helix
 - 5.2.3 Support - Galvanized or coated, spring-steel wire helix encapsulated within an inner core
 - 5.2.4 Insulation - R 6.0, formaldehyde-free fiberglass
 - 5.2.5 Vapor barrier- Metalized, scrim-reinforced polyester (MRP)
 - 5.2.6 Compliance- UL 181, NFPA 90A & 90B, HUD/FHA 515.2.1 and California & Huntington Beach building codes
 - 5.2.7 Certification-ADC, ETL, GREENGUARD and HARDI
 - 5.2.8 WaiTanty- 10 years
 - 5.2.9 Manufacturer's Model - QuietFlex "Rip Stop" Silver Jacket or equal
- 5.3 Distribution junctions, connection sleeves & collars shall be galvanized steel metal. Removed junctions, sleeves & collars (Section 3.1) may be re-installed if they are approved material, cleaned and in good condition.
- 5.4 Installation of the new ductwork shall conform to the Air Diffusion Council's (*ADC Flexible Duct Performance & Installation Standards (Green Book)*) and the duct manufacturer's installation instructions. These documents specify the proper routing and supporting methods to be employed. Variations shall be approved by the Mgr Rep prior to installation. Specific attention shall be directed to the following:
 - 5.4.1 Run ducts above wires, cables, pipes, etc. Do not use ducts to support other ducts or wires, cables, pipes, etc.

- 5.4.2 Provide required clearances between ducts and furnace or water heater vent flues.
- 5.4.3 Protect ducts from damage by sharp objects such as truss gusset plates, vent lines, support straps and nails.
- 5.4.4 Extend ducts to their full length in order to reduce frictional losses. Excess duct material in a run should be less than 5 percent. Cut off all excess material.
- 5.4.5 Run ducts out of plenums and junctions boots at least 12" before making a bend in order to reduce pressure losses.
- 5.4.6 Insure there is no exposed fiberglass inside plenums, distribution junctions or connection sleeves.
- 5.4.7 Remove all loose and/or uninstalled HVAC components after installation of the new ductwork has been completed.

5.5 Connections, joints & splices shall be made in accordance with any one of, or a combination of, the three standardized installations set forth in the Air Diffusion Council's *(ADC) Flexible Duct Performance & Installation Standards (Green Book)* and the duct manufacturer's installation instructions. Alternative methods shall be approved by the Mgr Rep prior to installation. After sealing, all connections, joints & splices shall be insulated with a double wrap of fiberglass duct-wrap insulation providing an insulation value of R-6.0.

5.6 Insulate plenums with R-6.0 Reflectix Duct Insulation installed in accordance with Reflectix's installation instructions *N20 Revised 1211*. The required 0.75" air gap between and plenum and the insulation may be created by any one of, or a combination of, the three spacer configurations described in Reflectix's installation instructions *N20 Revised 1211*.

6.0 INSPECTION & CERTIFICATION

6.1 The Contractor shall certify the specified materials were used and installed in compliance with the Air Diffusion Council's *(ADC) Flexible Duct Performance & Installation Standards (Green Book)*, the duct manufacturer's installation instructions, Reflectix's installation instructions *N20 Revised 1211* and the requirements of this specification.

I have read, understand and agree to adhere to the requirements of this specification and to keep a copy on hand at the job site at all times:

Signature

Printed Name

Company Name

Date