

GENERAL:

1. To provide minimum standards for design and installation of mechanical insulation

A. Design General

A. The following Table and statements shall be included in the contract specifications.

DUCT INSULATION APPLICATION

Duct Location and Service	Insulation Type	Jacket	Thickness (inches), or ASHRAE
Exterior exhaust Ductwork used with energy recovery systems before energy recovery coils	Flexible Elastomeric	0.016 aluminum	2
Exterior fresh air ductwork used with energy recovery systems after energy recovery coils			2
Exterior exhaust or outside air duct with no energy recovery	None Required	---	---
Supply Duct in ceiling Return Air Plenum or vertical chase	Fiberglass Wrap Insulation: ASTM C553 Minimum density of 1 (one) lb/cu. Ft.	Foil Skrim	90.1
Supply Duct in Unconditioned Space like attic or non-return air plenum			

5. Provide All Service Jacket on duct insulation to be painted.
6. Re-insulate any duct in mechanical room where insulation was removed to attach new duct.
7. Duct wrap on horizontal ducts shall be pinned on the bottom and sides of the duct at 18" intervals to prevent sagging.
8. Duct wrap shall be pinned on vertical ducts to prevent the insulation from sagging.
9. Do not insulate until duct leakage test is complete and acceptable.
10. At connections to equipment such as VAV boxes, all collars, reheat coils, coil return bends shall be insulated as the adjacent duct. All components in contact with 55F supply air shall be insulated and a vapor barrier installed.
11. Provide neatly beveled edge at interruptions of insulation. Coat bare edges of insulation with mastic or sealant to prevent delamination.
12. Do not stretch duct wrap insulation around ductwork.
13. Maintain integrity of vapor-barrier on ductwork insulation, and protect it to prevent puncture and other damage.
14. Extend ductwork insulation without interruption through walls, floors and ceilings, except where fire dampers are installed in fire rated partitions.
15. Insulation thickness may be reduced on a one-to-one basis where internal insulation or sound absorbing linings have been installed and the table calls for insulating wrap. Where the table calls for rigid duct insulation the rigid insulation may be reduced by 1/2" for every 1" of liner.
16. Install corner angles on external corners of insulation on ductwork in exposed mechanical or finished spaces before covering with jacketing.
17. All exterior exposed ductwork shall have an aluminum jacket installed to protect the insulation. The jacket shall be weather-resistant, water-proof, smooth surfaced aluminum, sloped to aid in drainage of rain water. Jacket shall fit neatly over round duct and fittings. Seams shall overlap so they do not catch water. Secure jackets with aluminum sheet metal screws. Seal all joints and seams on the top and sides but leave the bottom unsealed.
18. Contractor shall be responsible for re-insulating existing equipment, duct work and piping where insulation has been removed for new piping connections, duct connections or where asbestos insulation has been abated.

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