Weatherproofing Exterior Pipes and Ductwork

Patrick J Dunn Sr. 2006

Polyguard

History

Increasing construction costs and the value of interior space is causing architects and engineers to locate bulky HVAC ductwork on the roof.

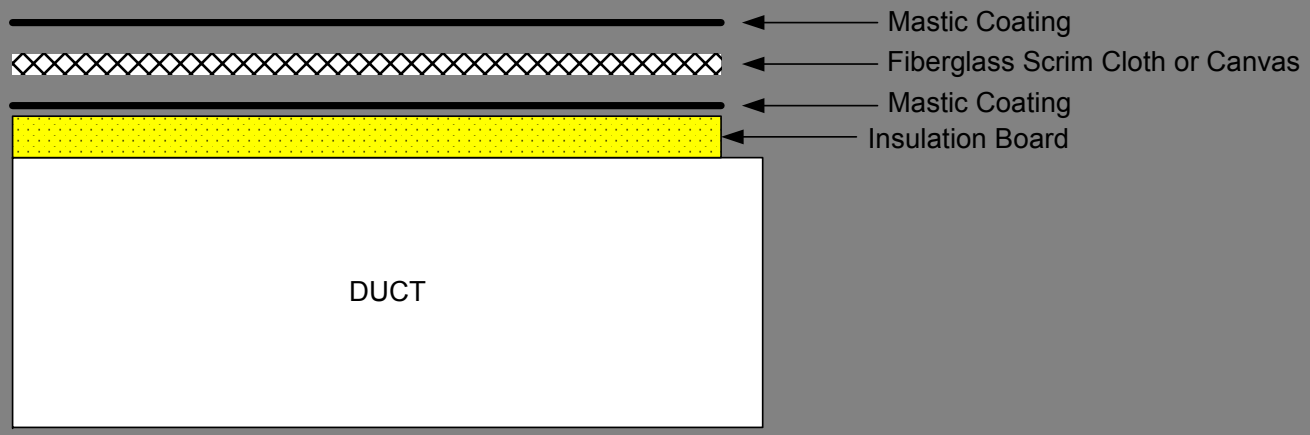
This trend has challenged insulation and waterproofing methods of the past and has ushered in a ‘new era’ of weather and vapor barriers.

OLD WAYS

In the past exterior weatherproofing on pipe and duct was very limited.

- Mastic/Fab/Mastic
- Tar paper and fiberated asphalt
- Metal or PVC jacket (lagging)
- Canvas and mastic

Mastic/fab/Mastic
Canvas and mastic



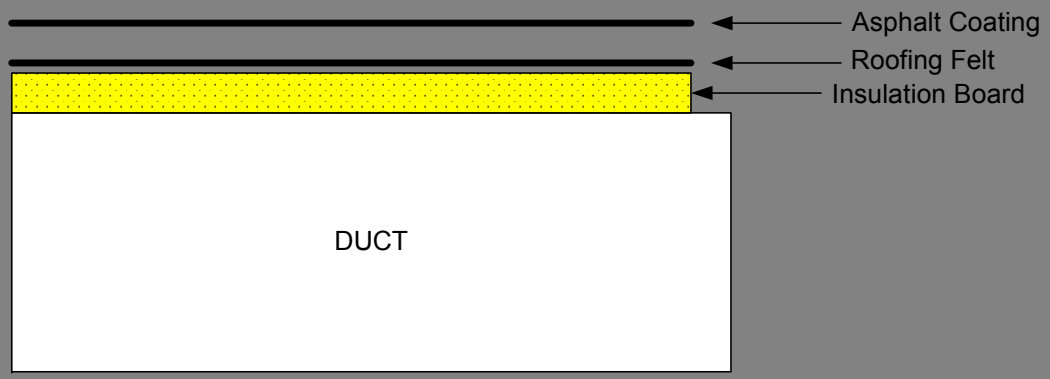
Process:

- Insulate Duct
- Apply weatherproofing mastic
- Imbed fiberglass cloth into wet mastic
- Let dry
- Apply second coat of mastic

CONCERNS

- Rarely properly installed
- *Not* impervious to ponding water
- Temporary waterproofing
- Must be re-coated every 3 years
- Not UV stable over time
- Susceptible to hail damage

Asphalt Coating



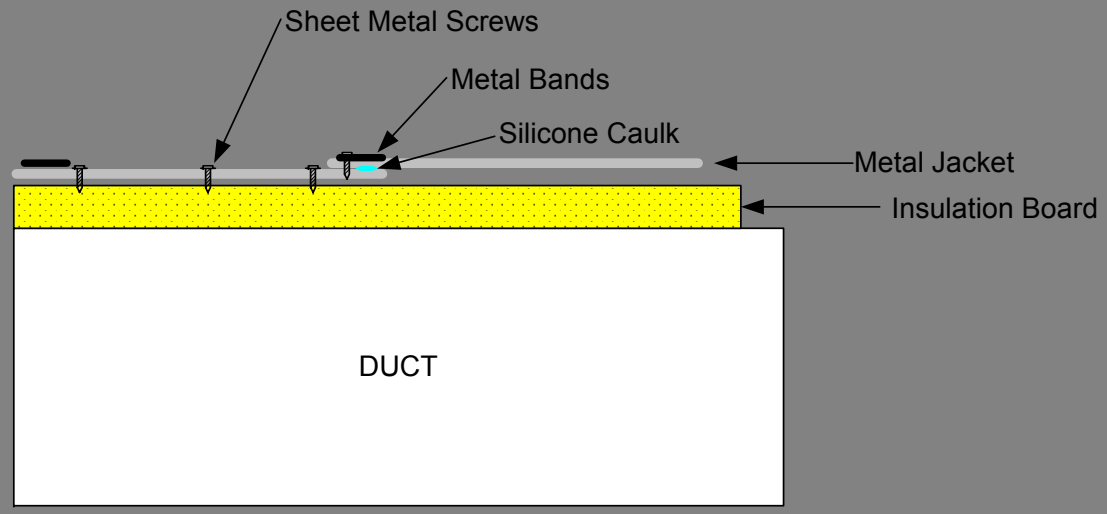
The Process:

- Insulate Duct
- Apply felt roofing paper
- Apply A coat of fibrated asphalt

CONCERNS

- Not impervious to ponding water
- Must be re-coated every 3-5 years
- Not UV stable over time
- Susceptible to hail damage
- Black mastic reduces thermal efficiency of the insulation due to it’s poor emissivity.

Metal Jacket



Process:

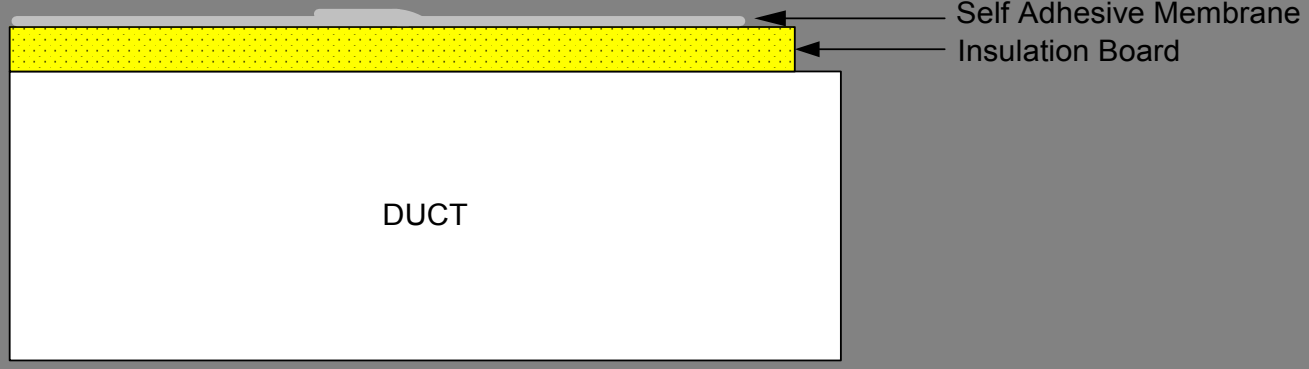
Insulate Duct

Install metal jacket (lagging)

CONCERNS

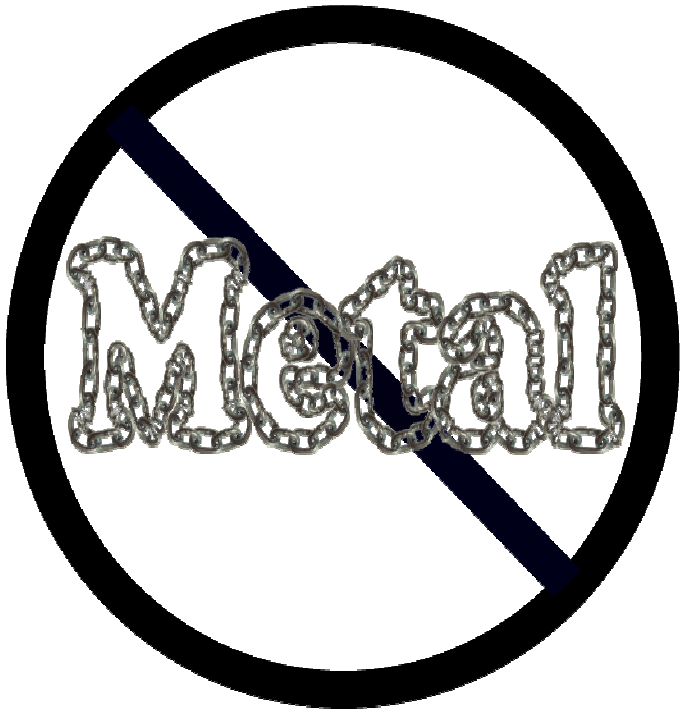
- Not impervious to ponding water at seams
- Screws will allow water penetration
- Banded system will be loose
- Weather seal is dependant on a caulk bead

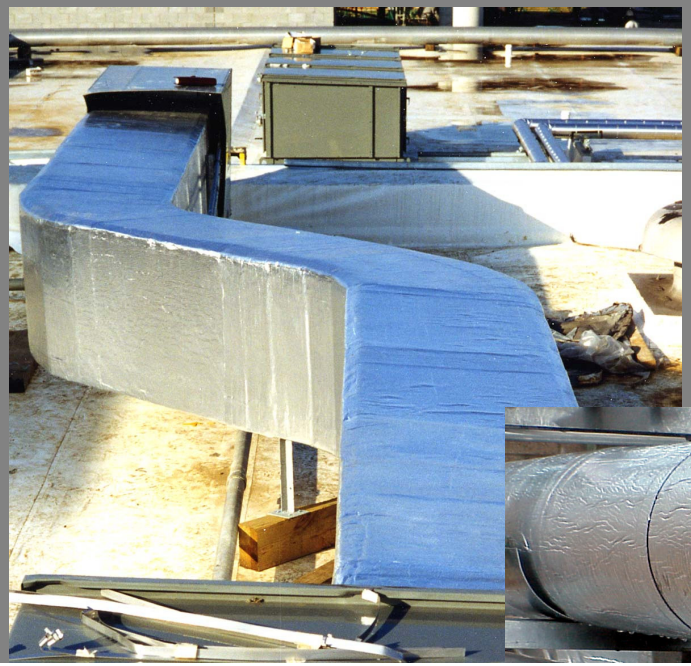
New Methods



Eight years ago Polyguard revolutionized the exterior duct and pipe waterproofing market, replacing mastic and metal systems with a self adhesive membrane designed specifically for the HVAC market.

There is now a better way!





Think of it as “peel and stick” mastic

“peel and stick” metal

or “peel and stick” PVC

Advantages

- Simple peel and stick installation
- Excellent emissivity
- Expand and contract with system (with some products)
- Extended warranties (up to 10 years)
- Self healing (with some products)
- Cost effective (less cost than mastic or metal)
- Sound attenuation (with some products)

CONCERNS

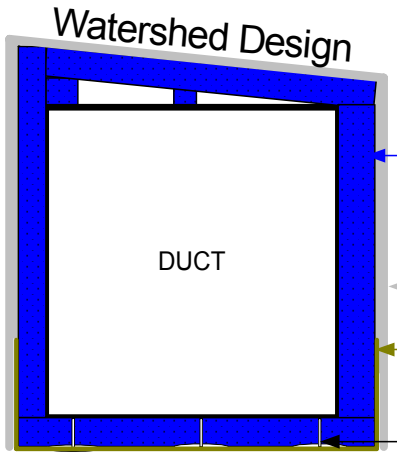
- Air tight seal (leaky ducts will cause air bubbles)
- Slightly wrinkled appearance
- Insulation pin punctures (some products)
- Strong adhesive (once it's stuck, IT'S STUCK)
  (once it is placed on the surface; IT'S STUCK, no moving it around for fit)

Specification

- Call out **self adhesive membrane**
- Specify SELF-HEALING variety
- Specify sound attenuation properties
- Specify class 1 duct sealing
- Specify 400% elongation
- Specify water shed on ductwork

The *Best* System

Small Ducts



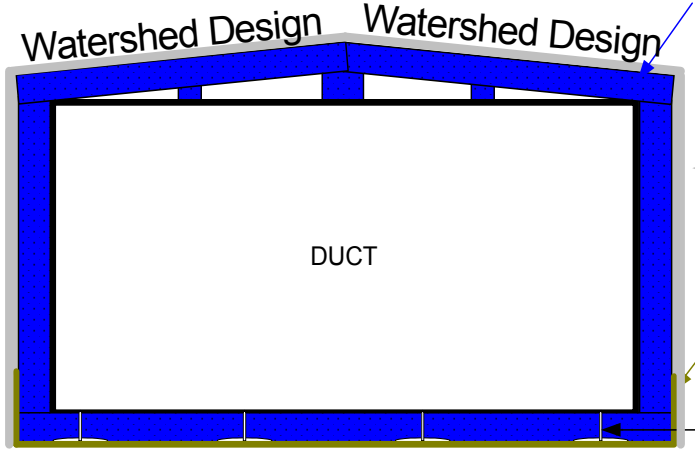
Rigid extruded urethane or polystyrene board
(foil faced)

60 mil self healing membrane

5 mil self adhesive membrane
(on bottom ONLY)

Insulation Pins

Large Ducts



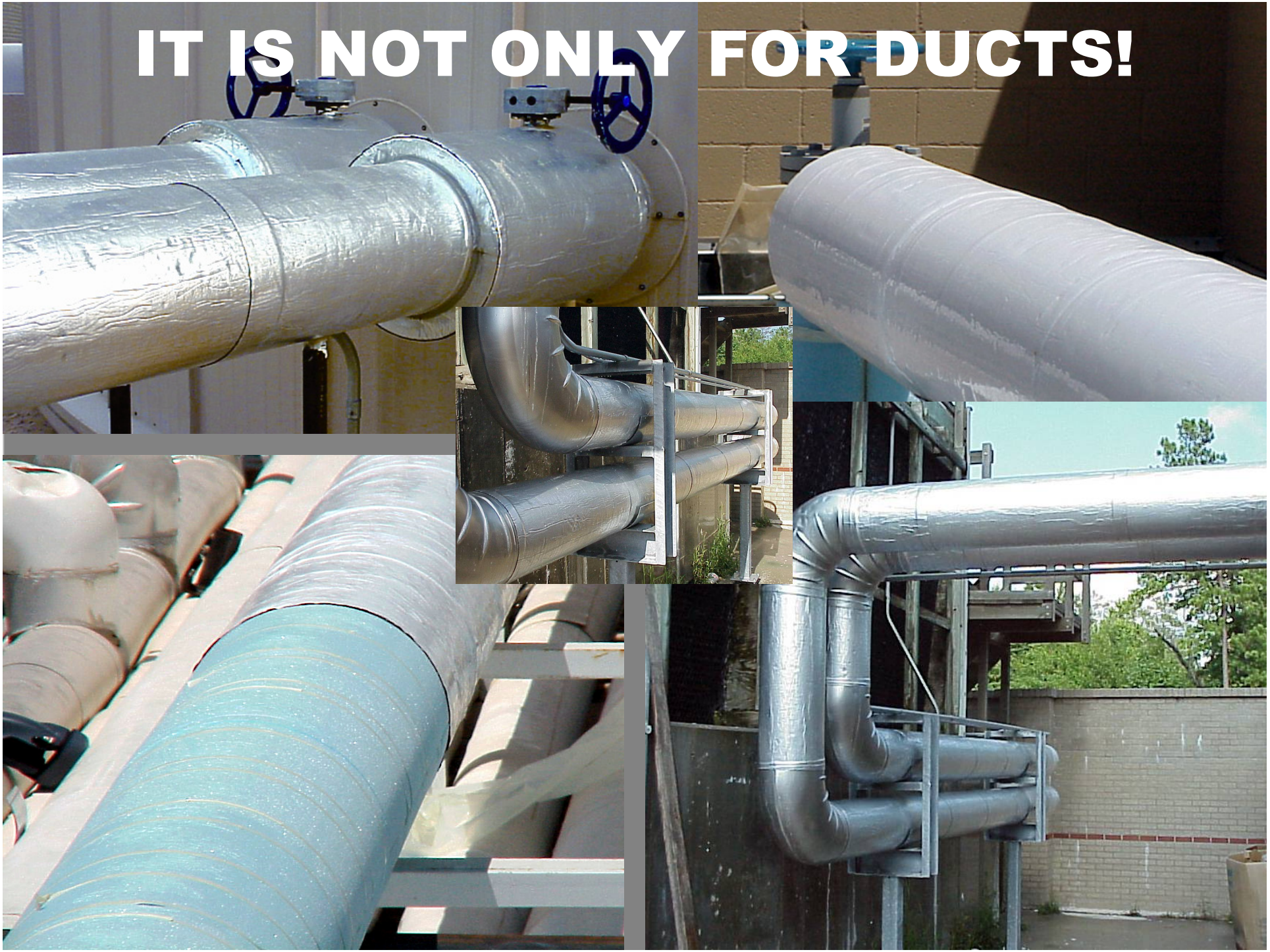
Rigid extruded urethane or polystyrene board
(foil faced)

60 mil self healing membrane

5 mil
self adhesive membrane
(on bottom ONLY)

Insulation Pins

IT IS NOT ONLY FOR DUCTS!



Polyguard

POLYGUARD PRODUCTS, INC.

ENNIS, TEXAS

FOR CORROSION PROBLEMS

IT STOPS CORROSION UNDER INSULATION

RG-2400®

WWW.RG2400.com