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# Polyvinyl-Coated HDG Sheet

## Description

Polyvinyl-coated hot dipped galvanized (HDG) sheet is carbon steel coated in zinc and then laminated or coated with a durable polyvinyl (PVC) layer. It is designed for enhanced corrosion resistance, chemical durability, and surface protection.

## Purpose in HVAC

Used for ductwork in high-humidity or corrosive environments (such as swimming pools, laboratories, wastewater treatment, coastal areas), where added protection beyond standard galvanized is needed.

## Material

Base metal is typically G90 HDG sheet per ASTM A653. A PVC or thermoplastic film (typically 4–10 mils thick) is factory-applied to one or both sides.

Hercules standard coating is 4 mils, both sides.

## Coating Properties

The polyvinyl layer resists chemicals, UV exposure, and abrasion. Available in colors such as white or gray for cleanroom or visible duct systems.

## Specs

Often meets ASTM A653 for substrate, and complies with SMACNA standards for duct applications. Fire-rated versions (UL 181) available.

(Note standard 4X4 coating will not meet a smoke spread rating)

## Thickness Range

Typically, 24 to 18 gauge (approx. 0.025" to 0.050"). Coating thickness is not included in steel gauge.

## Formability

Good formability for typical HVAC duct construction. Coated surface should not be scored or stretched excessively to prevent delamination.



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### **Weldability**

Not typically welded; mechanical fastening or adhesive systems are preferred to maintain coating integrity.

### **Corrosion Resistance**

Excellent due to dual protection—zinc coating and polyvinyl barrier.  
Withstands chemical exposure and salt air.

### **Cleanability**

Smooth vinyl surface is easy to clean and resists microbial growth.  
Commonly used in healthcare, food processing, and cleanroom environments.

### **Pros**

Superior corrosion and chemical resistance, long service life, clean aesthetic, low maintenance.

### **Cons**

Higher cost than standard HDG, not suitable for high-temperature applications,  
limited repairability if coating is damaged.