



*Sound Ideas. Proven Products.*

**ACOUSTIC CEILING PRODUCTS  
Presents**

***The Evolution to  
Specialty Grid Systems***



# Course Objectives

Upon completion of this course, design professionals should:

- Understand why specialty grid systems for ceilings were developed,
- Be aware of the factors involved when selecting a specialty grid system, and
- Be able to select a specialty grid system for a particular application.

# ***The Evolution to Specialty Grid Systems***

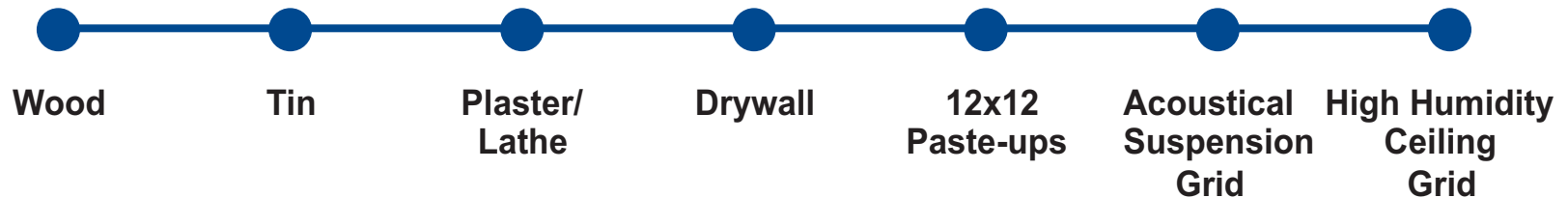
As long as buildings have been around there have been three major systems that create the interior space of the structure:

- **Floors**
- **Walls**
- **Ceilings**

All three systems continue to evolve through new ideas and new products. These new products provide the architectural community the ability to improve the form, function, safety and beauty of their buildings.

Ceilings, the largest unobstructed system in the building, have had some of the most significant changes over the last century.

## The Evolution of Ceilings



Through improvements, these different ceiling applications have evolved, giving Architects a variety of solutions to their needs.

# ***The Evolution of Ceilings***

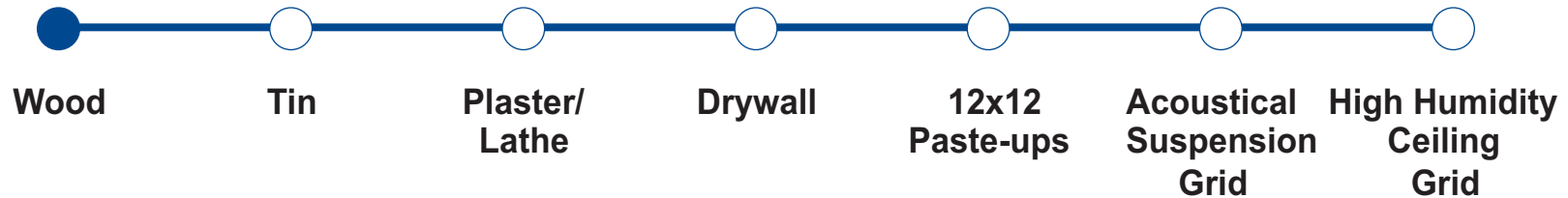
# Wood Ceilings

## Pro's

- Abundant resource
- Aesthetics

## Con's

- Labor intensive
- High per square foot cost



Wood ceilings were common practice due to the abundant resources. Through the years, as they became more decorative, the cost rose and labor to install outpaced their benefits. Metals became more abundant and tin ceilings began to replace wood ceilings.

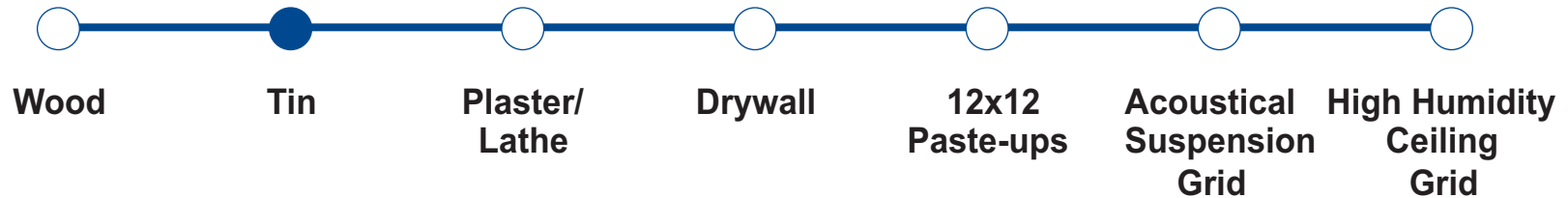
# Tin Ceilings

## Pro's

- Durability
- Aesthetics

## Con's

- Expensive
- No acoustic benefits
- Labor intensive



Tin ceiling panels were mass produced in a variety of patterns. But as buildings became larger and budgets became smaller, the plaster/lathe ceiling became the most cost effective option.



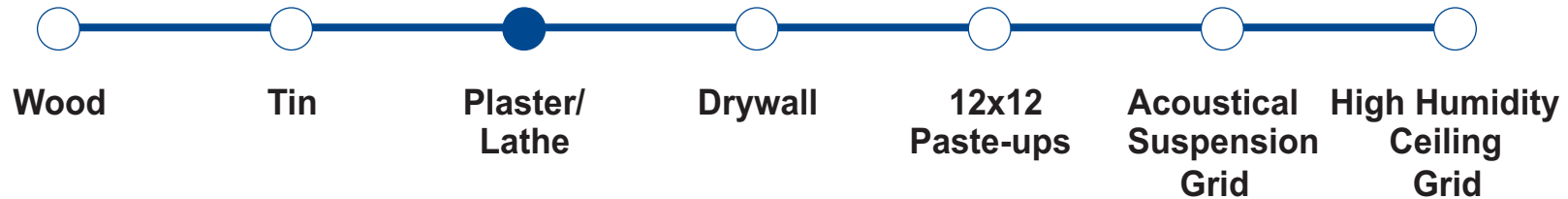
# Plaster/Lathe Ceilings

## Pro's

- Durability
- Longevity

## Con's

- Limited aesthetics
- Labor intensive
- No access to plenum



New technologies in air conditioning, electrical and plumbing systems, combined with the aesthetic desire to hide those systems, helped spur the development of drywall. The reduced material costs and labor hours associated with drywall quickly led to a reduction of the amount of plaster/lathe ceilings installed.

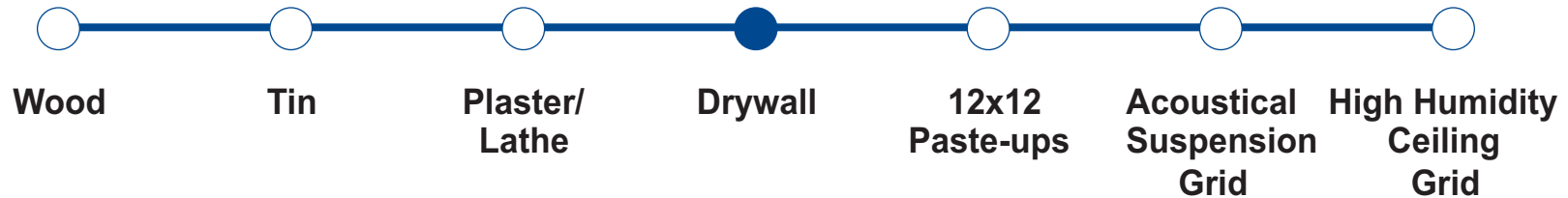
# Drywall Ceilings

## Pro's

- Ease of installation
- Durable

## Con's

- No acoustic benefit
- No access to plenum



Drywall ceilings were much more cost effective and easier to install but still did not allow continual access to the ceiling plenum. As building populations grew, noise control and acoustics became an area of focus. The 12x12 paste-up acoustical tile became an option.

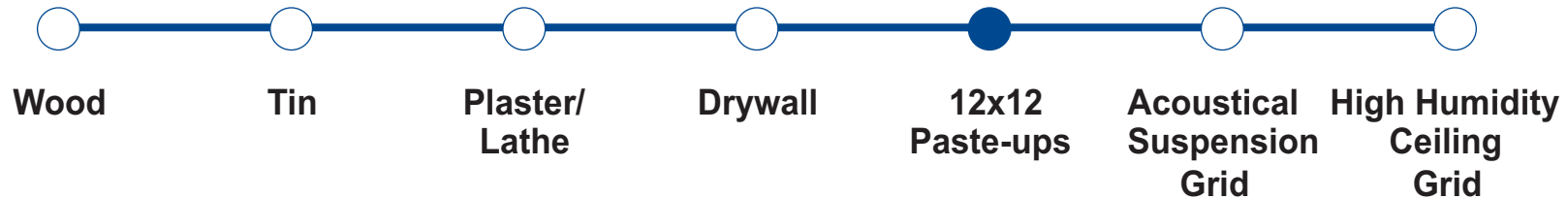
# 12x12 Paste-up Ceilings

## Pro's

- Acoustical benefits
- Light weight

## Con's

- No access to plenum
- Low aesthetics



Although acoustically superior, 12x12 paste-ups still did not provide access to the ceiling plenum.

## **Alternative: Surface Mount Grid System**

This light weight system was developed as an alternative to 12x12 paste-ups. It provided the low clearance or direct apply acoustical control while still providing future access to the ceiling plenum.

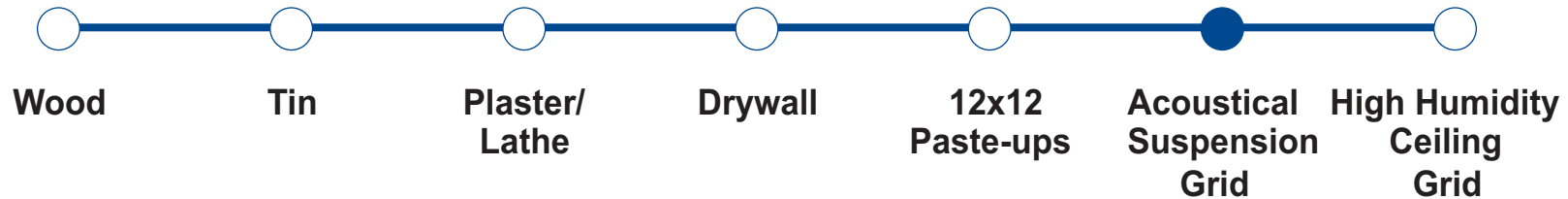
# Acoustical Suspension Grid Ceilings

## Pro's

- Accessibility
- Low cost
- Acoustical benefits

## Con's

- Cosmetic deterioration
- Low life expectancy



Because these grid systems are made from metal, over time they may rust, peel or discolor. Repair or replacement of those systems are disruptive and costly.

## **Alternative: Ceiling Grid Covers**

Vinyl grid covers were developed to reduce the cost of repair or replacement and to avoid significant facility down time.

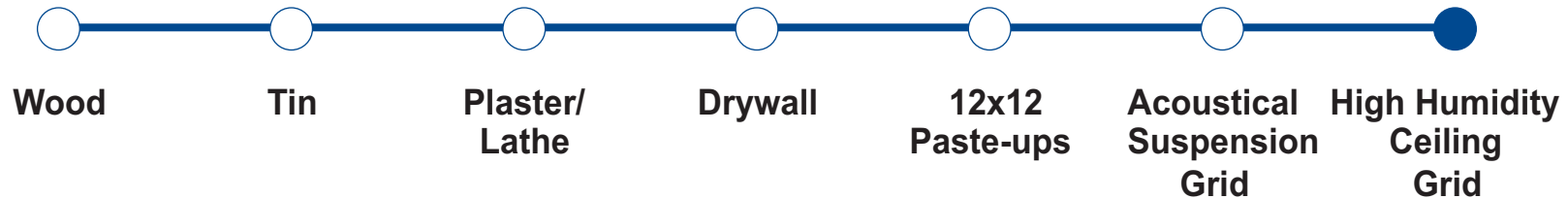
# High Humidity Ceilings Grid

## Pro's

- Durability
- Acoustical benefits

## Con's

- Limited aesthetics
- High costs



High humidity grid systems like aluminum, fiberglass and stainless steel were developed to prevent rust and deterioration. Fiberglass and stainless steel systems may not be economic solutions and paint or aluminum still tends to corrode or fail over time.

## **Alternative: Vinyl Suspension System**

A low-cost easy to install system which will never rust or corrode.

# ***The New Specialty Grid Systems***

- **Surface Mount Grid System**



- **Ceiling Grid Covers**



- **Vinyl Suspension System**



***Decision Factors  
For Selecting A  
Specialty Grid System***



# Decision Factors

Factors used to determine when a specialty ceiling system is a suitable alternative to a standard system:

- **Budget**
- **Environment**
- **Aesthetics**
- **Physical Constraints**
- **Application**
- **Acoustics**
- **Schedule**
- **Durability/  
Maintenance**

# Surface Mount Grid System

## Decision Factors



# Surface Mount Grid System

## Decision Factors



- **Budget**

Provides surface mount application with access to plenum.

Eliminates demolition and reinstallation costs and downtime.

Surface mounting provides up to 6" more headroom in low clearance applications.

- **Environment**

Corrosive resistant.

Installer friendly.

# Surface Mount Grid System

## Decision Factors

- **Aesthetic**

Traditional suspension ceiling look.  
Multiple color variations.

- **Physical Constraints**

Not intended for suspension.  
Extreme hot and cold applications.



# Surface Mount Grid System

## Decision Factors



- **Application**

Can be used over low clearance ceiling.

Can be used over plaster, drywall, 12x12 paste-ups or concrete.

- **Acoustics**

Uses any 2x2 or 2x4 acoustical tile to gain immediate access to plenum.

Maintains or adds acoustical value.

# Surface Mount Grid System

## Decision Factors



- **Schedule**

- Very freight friendly.
  - Reduce facility downtime.
  - Quick installation.

- **Durability/Maintenance**

- Virgin grade PVC vinyl.
  - Color-through product.
  - Will not rust or scratch.
  - Less damage during installation and shipping.
  - Cleans with mild cleaner.

# Surface Mount Grid System Application



# Surface Mount Grid System

A high-grade vinyl grid system designed by a journeyman acoustical installer. After years of frustration with the slow production of 12x12 surface mount systems and the inability to re-access the ceiling after installation, the zero-clearance system was designed to combine the benefits of suspended grid and the 12x12 system.



A skilled installer or novice will improve his production rate by over 50% over the 12x12 tiles. The system will accept any 2x2 or 2x4 acoustical ceiling tile.



# Surface Mount Grid System

In the event of subsurface failure, such as water leaks, individual tiles can be replaced by simply unsnapping the grid around the damaged tiles.

The vinyl grid system is ideal for renovating old plaster, drywall, or paste-up ceilings. Surface mounting saves up to 6" of ceiling height over a suspension system.

Eliminates demolition and reinstallation cost mess and downtime and provides an acoustic solution. Provides the ability to replace tiles and access the plenum at any time.

# Surface Mount Grid System



Application:  
Installed over  
12x12 paste-ups.



Application:  
Installed over  
plaster/lathe.



Application:  
Installed over  
open joists.

# Surface Mount Grid System

- **Sample Applications**

## School Gymnasium



Before



After

## School Classroom



## Restaurant



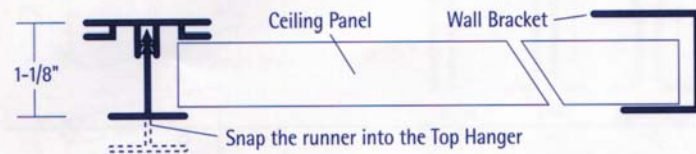
## Indoor Pool



# Surface Mount Grid System

Grid Face	Item#	Description	Dimensions	Sectional Views
15/16"	100 105	8' Top Hanger 2,400 mm Top Hanger	96" x 1-1/2" x 15/32" 2,400 mm x 38 mm x 12 mm	
15/16"	110 115	8' Runner 2,400 mm Runner	96" x 15/16" x 15/16" 2,400 mm x 24 mm x 24 mm	
15/16"	120 125	2' Cross Tee 600 mm Cross Tee	23" x 15/16" x 15/16" 576 mm x 24 mm x 27 mm	
15/16"	150 155	8' Wall Bracket 2,400 mm Wall Bracket	96" x 15/16" x 1-3/16" 2,400 mm x 24 mm x 30 mm	
15/16"	121 126	25" Tee	25" x 15/16" x 1" 635 mm x 24 mm x 30 mm	

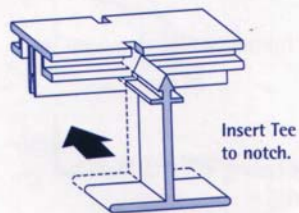
## PROFILE



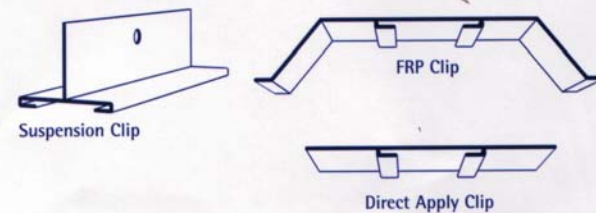
## GRID INTERFACE OPTIONS



## CROSS TEE JOINT



## ACCESSORY OPTIONS



# Surface Mount Grid System

<b>Surface Burning Characteristics</b>	ASTM E 84 Class A V.O. rating under U.L. 94
<b>Load</b>	Intermediate duty.
<b>Safety</b>	Approved for food manufacturing/processing.
<b>Durability</b>	Rust and corrosion resistant.
<b>Materials</b>	Virgin grade vinyl.
<b>Colors/ Finishes</b>	9 standard colors/finishes. Custom colors available.
<b>Compatibility</b>	Available in Imperial or Metric. Listed items are compatible up to 7/8" thick tile. 15/16" gridface is compatible with any standard 2x2 or 2x4 tile.

# Ceiling Grid Covers

## Decision Factors



# Ceiling Grid Covers

## Decision Factors

- **Budget**

Saves costs of replacing or repainting rusted, stained or deteriorated metal grid.  
Eliminates costly down time.

- **Environment**

Corrosive resistant.  
Installer friendly.  
Works with any standard metal grid.





# Ceiling Grid Covers

## Decision Factors



- **Aesthetic**

Multiple color variation.  
Immediate new look.

- **Physical Constraints**

Some architectural revealed edge tiles may not fit.  
Extreme hot and cold applications.



# Ceiling Grid Covers

## Decision Factors

- **Application**

Works on any ceiling grid: 9/16", 15/16", or 1."

- **Acoustics**

Maintains existing acoustical value.



# Ceiling Grid Covers

## Decision Factors

- **Schedule**

Very freight friendly.  
Eliminates facility downtime.  
Quick installation.

- **Durability/Maintenance**

Virgin grade PVC vinyl.  
Color-through product.  
Will not rust or scratch.  
Less damage during installation and shipping.  
Cleans with mild cleaner.



# Ceiling Grid Covers

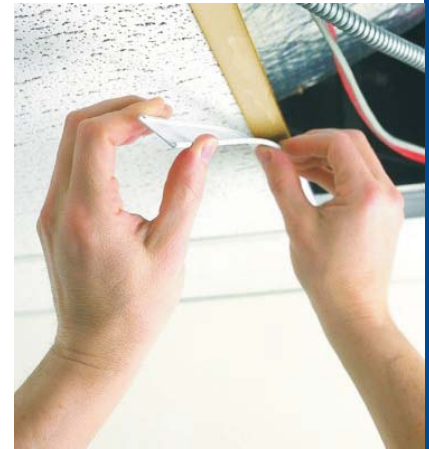
## Application



# Ceiling Grid Covers

A vinyl cover system that works on 2x2 and 2x4 ceiling grid systems. Doesn't rust or show scratches.

Easy, one-person installation. High-grade vinyl is easy to cut and work with. Main covers are pre-notched to provide seamless transitions at cross tee intersections. Components are factory cut to standard grid dimensions.



Can be installed for less than 25 cents per square foot. Available in colors.

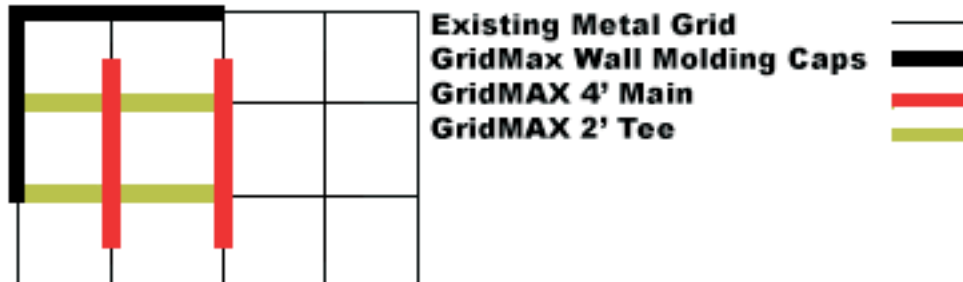
# Ceiling Grid Covers

A lowcost alternative to replacing or repainting rusted, stained, or deteriorated metal grid. Eliminate costly facility downtime from demolition and replacement.

<b>Deteriorated Ceiling Solution Option</b>	<b>% Savings Compared to Replacement</b>	<b>Facility Downtime*</b>	<b>Grid Finish Expectancy</b>
Contractor ceiling demo and total reinstall	–	4 days	7 years
Contractor to paint grid and install new tile	28%	4 days	2 years
Contractor installs <b>GridMAX</b> and new tile	34%	3 days	7 years
Contractor installs <b>GridMAX</b> with existing tile	80%	1 day	7 years

# Ceiling Grid Covers

## 2' x 2' Tile and Grid System

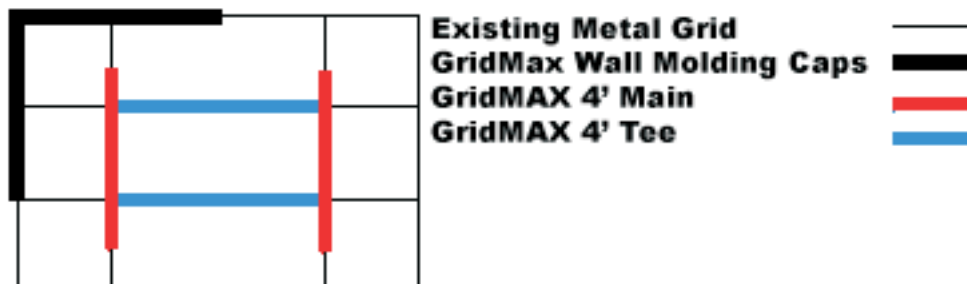


4' Wall Molding Cover - Perimeter divided by 4

4' Main Cover - Room Square Footage divided by 8

2' Tee Cover - Room Square Footage divided by 4

## 2' x 4' Tile and Grid System







4' Wall Molding Cover - Perimeter divided by 4

4' Main Cover - Room Square Footage divided by 16

4' Tee Cover - Room Square Footage divided by 8

# Ceiling Grid Covers

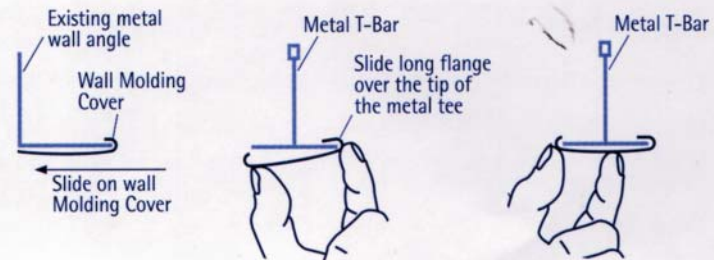
Grid Face	Item#	Description	Dimensions	Sectional Views
15/16"	210	4' Main Cover	48" x 1" x 1/8"	 *
1"	212	4' Main Cover	48" x 1-1/8" x 1/8"	
9/16"	213	4' Main Cover	48" x 1/2" x 1/8"	
24 mm	215	1,200 mm Main Cover	1,200 mm x 25 mm x 3 mm	
15/16"	220	2' Tee Cover	23" x 1" x 1/8"	
1"	222	2' Tee Cover	23" x 1-1/8" x 1/8"	
9/16"	223	2' Tee Cover	23" x 1/2" x 1/8"	
24 mm	225	600 mm Tee Cover	574 mm x 25 mm x 3 mm	
15/16"	230	4' Tee Cover	47" x 1" x 1/8"	
1"	232	4' Tee Cover	47" x 1-1/8" x 1/8"	
9/16"	233	4' Tee Cover	47" x 1/2" x 1/8"	
24 mm	235	1,200 mm Tee Cover	1,174 mm x 25 mm x 3 mm	
15/16"	250	4' Wall Molding Cover	48" x 1" x 1/8"	
1"	252	4' Wall Molding Cover	48" x 1-1/8" x 1/8"	
9/16"	253	4' Wall Molding Cover	48" x 1/2" x 1/8"	
24 mm	255	1,200 mm Wall Molding Cover	1,200 mm x 25 mm x 3 mm	

\*Main Covers are pre-notched to provide seamless transitions at cross Tee intersections.

## GRID INTERFACE OPTIONS



## APPLICATION



# Ceiling Grid Covers

<b>Surface Burning Characteristics</b>	ASTM E 84 Class A V.O. rating under U.L. 94
<b>Safety</b>	Approved for food manufacturing/processing.
<b>Durability</b>	Rust and corrosion resistant.
<b>Materials</b>	Virgin grade vinyl.
<b>Colors/ Finishes</b>	9 standard colors/finishes. Custom colors available.
<b>Compatibility</b>	Works with any Imperial or Metric grid system. May not be compatible with some shadow line tiles.



# Vinyl Suspension System

## Decision Factors



# Vinyl Suspension System

## Decision Factors



- **Budget**

Saves from 11% to 83% of costs over aluminum, fiberglass or stainless steel systems.

- **Environment**

Corrosive resistant.

Installer friendly.

Works with any standard tile.

# Vinyl Suspension System

## Decision Factors

- **Aesthetic**

Traditional suspension ceiling look.

- **Physical Constraints**

Extreme hot and cold applications.



# Vinyl Suspension System

## Decision Factors

- **Application**

Ideal in high humidity environments.  
Works with any 2x2 or 2x4 tile.  
Ideal for outdoor use.

- **Acoustics**

Maintains existing acoustical value.



# Vinyl Suspension System

## Decision Factors

- **Schedule**

Very freight friendly.

Quick installation.

- **Durability/Maintenance**

Virgin grade PVC vinyl.

Color-through product.

Will not rust or scratch.

Less damage during installation and shipping.

Cleans with mild cleaner.

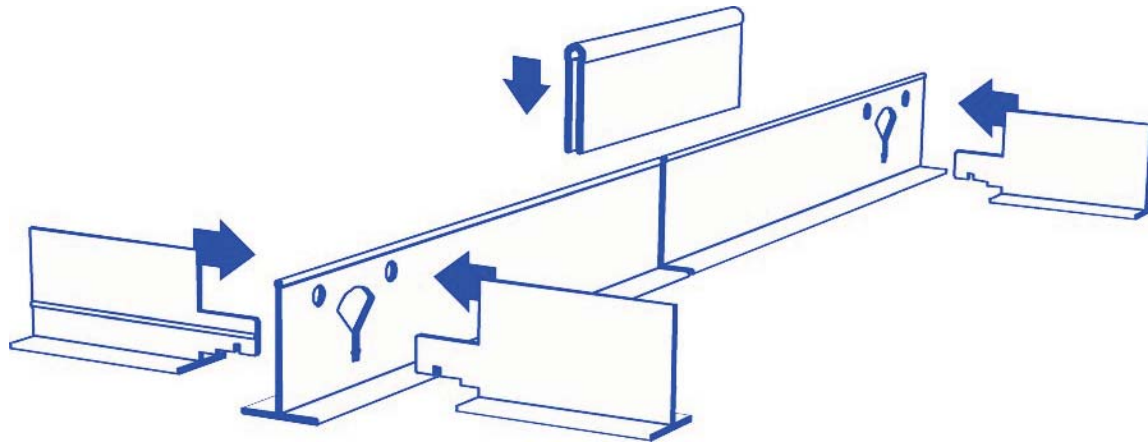


# Vinyl Suspension System Application



# Vinyl Suspension System

A vinyl suspension system that installs like most conventional metal systems. The quick locking keyhole system provides easy installation. It works with any 2x2 or 2x4 acoustical ceiling tile.



# Vinyl Suspension System

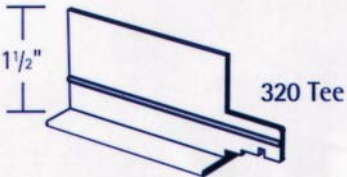
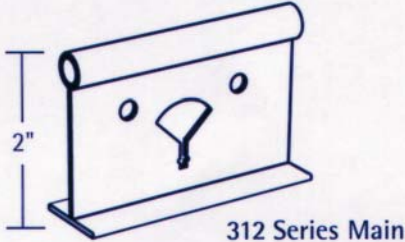
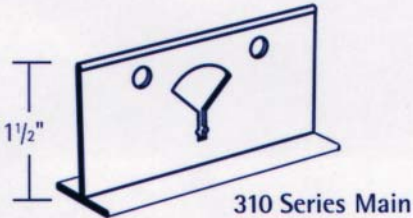
A lowcost alternative for interior or exterior high humidity and corrosive environments. Solid vinyl construction eliminates rust and white corrosion. It also reduces damage and resists scratches during installation and transportation.

Compared To	% Savings
Stainless Steel Suspension System	83 %
Fiberglass Suspension System	80 %
Aluminum Suspension System	11 %



# Vinyl Suspension System

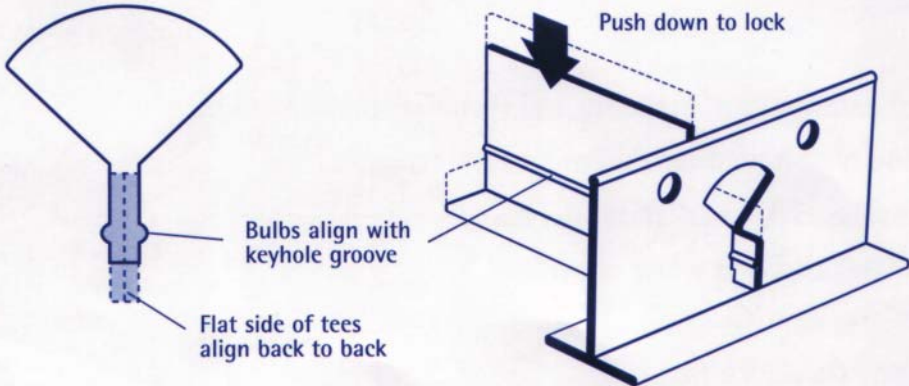
## SYSTEM PIECES



## GRID INTERFACE OPTIONS



## KEYHOLE OPERATION



# Vinyl Suspension System

<b>Surface Burning Characteristics</b>	ASTM E 84 Class A V.O. rating under U.L. 94
<b>Load</b>	Available in light duty and intermediate duty. (Load rating per ASTM C 635 using 2' hanger spacing)
<b>Safety</b>	Approved for food manufacturing/processing.
<b>Durability</b>	Rust and corrosion resistant.
<b>Materials</b>	Virgin grade vinyl.
<b>Colors</b>	White. Custom colors available.
<b>Compatibility</b>	Works with any 2x2 or 2x4 tile.



*Sound Ideas. Proven Products.*

# ***The Evolution to Specialty Grid Systems***

## **It's Test Time.**

- Close the course window.
- Return to the course header and click the “Take Test” button.