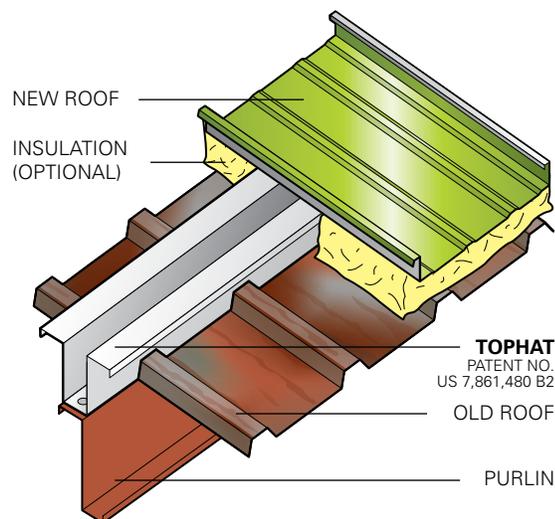




TOPHAT
enhanced engineering

TOPHAT™: THE LEADER IN RETROFIT METAL ROOFING SOLUTIONS



PUT ON A BETTER ROOFING ALTERNATIVE ... TOPHAT

Need to replace an existing metal roof? Retrofit metal roofing is an economical and efficient way to get the job done. By putting a new and improved roof right over the existing roof structure, you achieve lower labor costs and minimal business interruption.

TopHat is the industry's most advanced retrofit framing system. Featuring superior energy efficiency, a stronger structural profile and superior compliance with newly strengthened building codes, TopHat is the unchallenged leader in retrofit metal roofing solutions.



TOPHAT BREAKS THROUGH STRUCTURAL BARRIERS

BREAKTHROUGH #1

TopHat can bring existing metal buildings up to tougher building code standards.

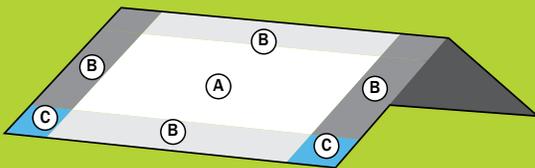
Many existing metal buildings no longer meet building code standards. New building code standards call for the wind uplift strength in metal structures to be increased for safety reasons. A TopHat installation reinforces the existing roof structure, thereby increasing the building's uplift strength (negative loading) by as much as 28% and its dead load capability (positive loading) by as much as 65%.

BREAKTHROUGH #2

TopHat meets high wind load requirements (see diagram below) with customized clip spacing.

Building codes now require roofs to withstand higher wind uplift pressures, especially at critical edge and corner zones. If required, you can install TopHat along with our revolutionary Deflection Limiter that allows clips to be installed at various spacing intervals in order to meet the most stringent engineering requirements in hurricane-prone coastal areas.

ROOF ZONES

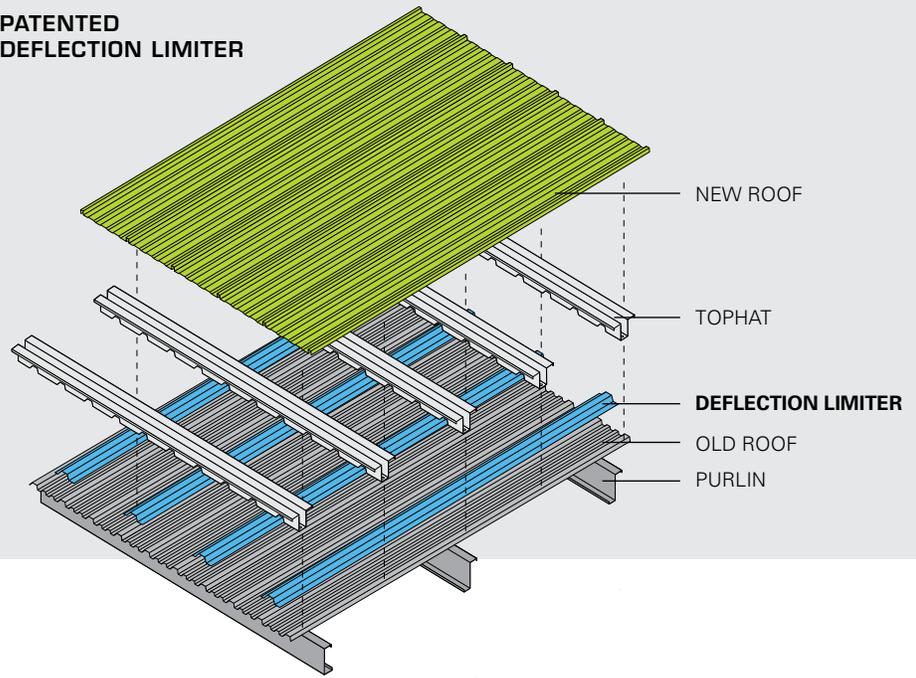


A: FIELD

B: EDGE ZONE (area of higher wind load)

C: CORNER ZONE (area of higher wind load)

PATENTED DEFLECTION LIMITER



SAVE THE ROOF AND STRENGTHEN THE STRUCTURE*

TOPHAT IMPROVES STRUCTURAL INTEGRITY WITH:

Innovative Deflection Limiter

The TopHat roofing system's patented design includes a deflection limiter, which allows for a sturdy, structural attachment between existing purlins. This feature is particularly beneficial when applied in high-load roof zones and meets reduced clip spacing mandated by new building codes.

- Clips can be spaced as required in the critical edge and corner zones without reinforcement of the existing steel.
- The deflection limiter is particularly beneficial in hurricane-prone coastal areas, where stringent engineering requirements are in place.

Sturdy and Customizable Shape

The TopHat roofing system features a shape unlike other retrofit metal roofing options. Sturdier than a traditional "zee," a TopHat roof does not require additional bracing for tall members. Plus, the special TopHat design can accommodate virtually any existing metal roof and can be roll-formed to custom lengths as needed.

Code-Conforming Features

The TopHat roofing system helps your new roof meet or exceed the latest national commercial building codes and provides a safe structural enhancement to your building.

- The increased dead load strength allows for additional rooftop equipment and fire sprinkler systems to be installed, increases the snow-load capacity of the roof, and helps support the increased weight of the roof.
- The combination of increased uplift strength and ability to install clips at various spacing intervals allows the roof to meet tough engineering design and helps the roof meet new wind load requirements.

*Always consult with a registered engineer before installing a new roof. Contact TopHat for approved TopHat system installers.



INCREASE THE LOADS AND MEET THE CODES

SUPERIOR ENGINEERING PERFORMANCE TESTED TO AISI** STANDARDS

In the tests shown below, increased R-Values and A-Values reflect an increased ability of the TopHat system to provide lateral and torsional bracing to the purlins to which it is attached. Visit www.tophatframing.com for complete results and additional engineering tests.

R-Value (Moment Reduction Factor)

determines the normal flexural strength of a purlin in *negative* bending.

16 ga. 3½" TopHat Uplift Test			
Base Purlin	Published R-Value	Tested R-Value	Increase
16 ga.	0.65	0.78	20%
14 ga.	0.65	0.80	23%
12 ga.	0.65	0.83	28%

A-Value (Moment Amplification Factor)

determines the normal flexural strength of a purlin in *positive* bending.

16 ga. 3½" TopHat Gravity Test			
Base Purlin	Published A-Value	Tested A-Value	Increase
16 ga.	1.00	1.65	65%
14 ga.	1.00	1.52	52%
12 ga.	1.00	1.22	22%

RAISE THE ROOF AND REDUCE ENERGY COSTS

A TOPHAT ROOF WORKS TO BOOST ENERGY SAVINGS WITH:

Additional Air Space

The structural space between the existing roof and the new TopHat roof creates a thermal break. This air space not only results in increased energy efficiency, but also allows for the application of additional insulation, which can generate even greater energy savings. TopHat will minimize or eliminate the negative effects of condensation.

Customized Depth

The TopHat roofing system can be fabricated to suit a variety of building specifications and to accommodate a range of insulation requirements.

Cool Metal Capability

Use cool metal roofing materials with the TopHat roofing system for optimal energy savings. Choosing cool metal roofing on your next project is both cost effective and good for the environment. Visit www.coolmetalroofing.org for more information.

This unique combination of energy-saving thermal break, additional insulation and cool metal roof can also generate tax savings for the building or business owner. By helping meet ENERGY STAR® or Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ standards, the TopHat roofing system can increase potential tax credits, lower heating and cooling costs and add to an environmentally friendly building.

When your TopHat roofing system goes on, energy efficiency goes up.



THE TOPHAT ROOFING SYSTEM MEETS YOUR SPECIFICATIONS

Regardless of your role in a retrofit roofing project, you can choose a TopHat roofing system with confidence.

A TopHat roof offers something for everyone	Contractor	Architect	Building Owner	Roofing Consultant
Lower cost roofing option	✓	✓	✓	✓
Simplified construction	✓			✓
Compliance with building codes	✓	✓		✓
Savings on labor costs	✓	✓	✓	✓
Attractive building addition		✓	✓	
Increased energy efficiency		✓	✓	✓
Minimal business interruption			✓	
Enhanced structural integrity	✓		✓	✓

“Each TopHat roof being tailored to the job-specific panel profile allowed for a custom fit ... to anyone who requires replacement of their existing leaking metal roof, I would recommend the TopHat retrofit roofing system.”

Joseph B. Pride, Vice President
Pride Industries Incorporated



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