

RetroWAL™

INTERIOR CURTAIN WALL RETROFITS by
THERMOLITE 



www.RetroWAL.com
574-234-4004

RetroWAL™

THE **WORLD'S FIRST** DO-IT-YOURSELF
COMMERCIAL WINDOW RETROFIT SYSTEM



REDUCES ENERGY USE BY 20%



BETTER ALTERNATIVE TO FILM



EASY-TO-INSTALL (DIY)

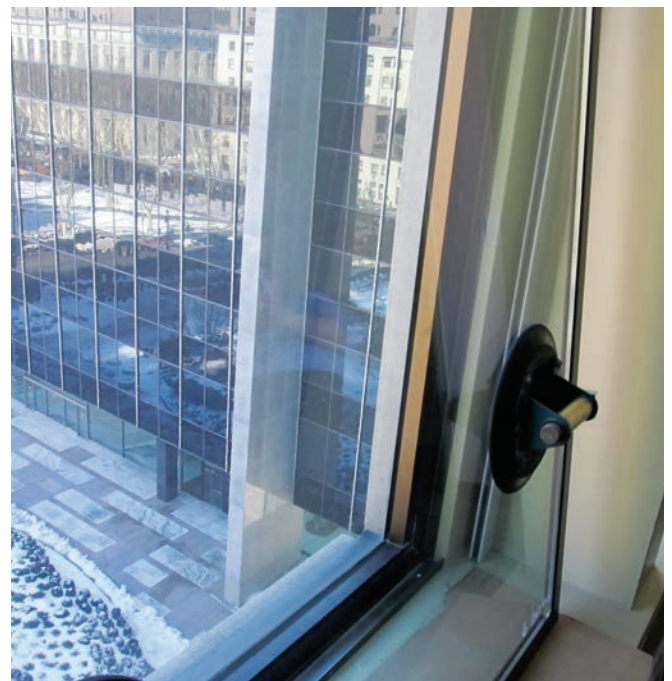


LIGHTWEIGHT AND SAFE

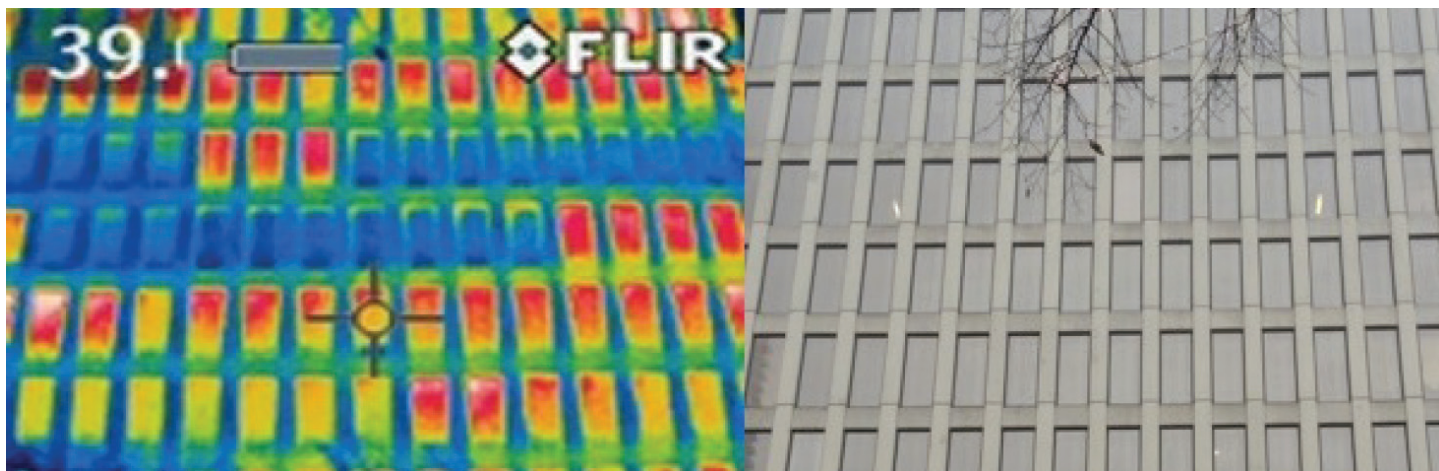


IMPROVES SOUND CONTROL

RetroWAL™ is the most affordable and effective solution for improving the energy efficiency of curtainwall, storefront and window wall buildings. Unlike traditional replacement windows, the RetroWAL™ system installs quickly and easily on the interior of a building's existing windows, creating an insulating dead air space. The existing glass stays in place, eliminating the costly need for scaffolding or intrusive downtime. RetroWAL™ not only reduces energy consumption, but also reduces energy demand and provides sound control.



RetroWAL Energy Savings is Obvious



	1/4" clear	+ Silver	+ Gold
R Value	1	3	5
U Value	1.02	.36	.18
SHGC	.83	.70	.44
VT	.89	.77	.61
Weight	-	3.3	3.5
Center of Glass Value			

In each case, the RetroWAL™ system utilizes a 2" airspace from the existing window. These values are for COG or Center of Glass. One factor not taken into consideration in this table is the reduction in air leakage around the gaskets of the glass. RetroWAL™ has been tested to dramatically reduce air leakage.

R Value: This is the measure of thermal resistance and is in the English units BTU/(h °F ft²).

U Value: This is the reciprocal of the R value and is used in the fenestration and window industry.

SHGC: This is the Solar Heat Gain Coefficient and is the energy transmittance of the glass window due to solar radiation. It ranges from 0 (totally blocked) to 1 (direct sunlight).

VL: This is the Visible Light transmitted through the glass. The idea is to maximize the amount of natural light but to minimize the solar heat of infrared radiation. The values range from 0 to 1.

Weight: This is the additional weight per square foot that the RetroWAL™ system adds to the window opening. In large curtain wall buildings it is important to maintain the structural integrity of the window and add as little weight as possible.

Silver Series



PERFORMANCE OVERVIEW

The RetroWAL™ Silver Series uses monolithic low-e glass to simulate the performance of an insulating glass unit by creating a one- to two-inch air gap. The center of the glass U value is improved from 1.02 to .36. RetroWAL™ Silver not only improves insulation values, but also reduces solar heat gain and virtually eliminates air infiltration in the window opening. In buildings with high window to wall ratios, Thermolite has documented case study savings of more than 23% of the annual utility costs.

EASY INSTALLATION

RetroWAL™ is the world's first Do It Yourself (DIY) commercial retrofit window system for curtain wall, storefront and window wall buildings. The RetroWAL™ system installs easily and quickly on the interior of existing windows, eliminating the need for costly scaffolding or intrusive downtime. No special tools, drilling or fixture alteration is required. In fact, RetroWAL™ installation is such a simple process that building owners and tenants can be trained to install RetroWAL™ windows themselves, further reducing labor costs.

ADDITIONAL BENEFITS

- RetroWAL™ windows weigh less than 4 lbs. per square feet, yet contribute significantly to the building's frame structure
- The air cushion created by RetroWAL™ reduces the flexibility of the exterior glass (which causes breakage), extending the life cycle of the building's original window panes
- Eliminates condensation
- RetroWAL™ windows can be fitted with laminated glass, reducing outside noise to a STC level of 49

Silver Series

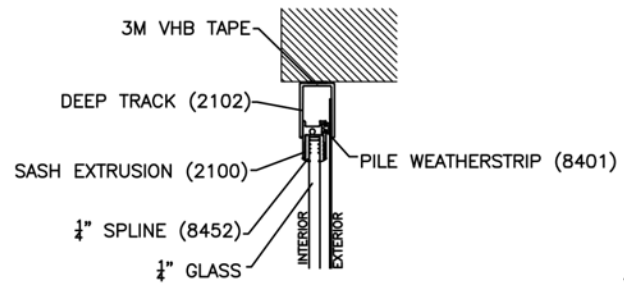
Color Infrared Frame Head



without Thermolite

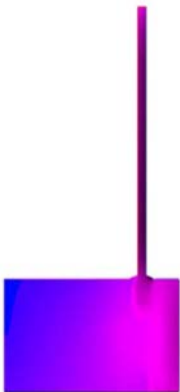


with Thermolite

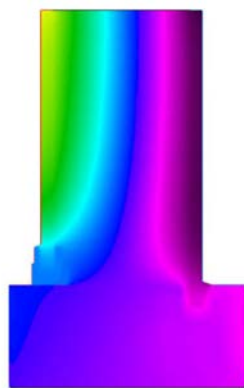


1 HEAD DETAIL
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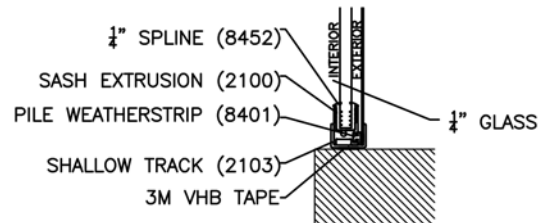
Color Infrared Frame Sill



without Thermolite

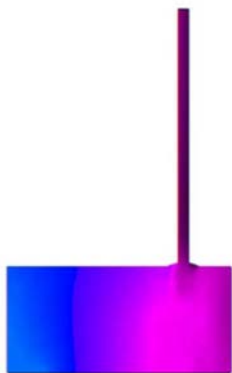


with Thermolite

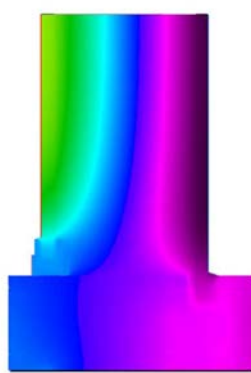


3 SILL DETAIL
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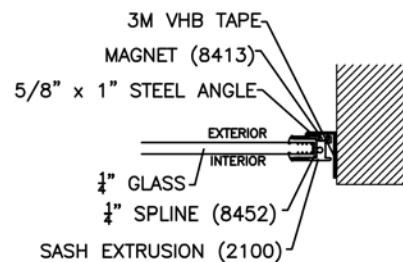
Color Infrared Frame Jamb



without Thermolite



with Thermolite



2 JAMB DETAIL
SCALE: 3"=1'-0" ARCH. REF.:



Gold Series



PERFORMANCE OVERVIEW

For deeper energy retrofits, building owners are upgrading to triple pane by choosing RetroWAL™ Gold to achieve a high efficiency glazing system. The RetroWAL™ Gold Series uses insulated low-e glass with an argon fill to simulate the performance of a triple pane glass system. The center of glass U value is improved from 1.02 to 0.18.

RetroWAL™ Gold is used to reduce heating and cooling loads by over 30% and is deployed in buildings where boiler and chiller replacements are most expensive. By improving the building envelope to perform like triple glazing, the need for an expensive HVAC investment is either completely eliminated or reduced so significantly that it pays for the glass window retrofit entirely. RetroWAL™ Gold also reduces the solar heat gain coefficient from .83 to .44, providing a significant improvement in comfort for tenants during warmer months.

Owners and managers of curtainwall buildings constructed between 1950 and 1978 with monolithic glass should look at RetroWAL™ Silver or Gold as a primary strategy to reduce energy consumption, energy demand and greenhouse gases.

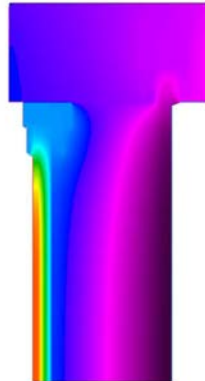
EASY INSTALLATION & ADDITIONAL BENEFITS

Like the RetroWAL™ Silver Series, RetroWAL™ Gold installs quickly and easily on the inside of a building's existing glass, and in a fraction of the time that it takes to install traditional replacement windows. RetroWAL™ Gold features all of the additional benefits as RetroWAL™ Silver, including improvements to the building's frame structure, reduction of the flexibility of exterior glass caused by wind, the elimination of condensation, and laminated glass options for improved sound control.

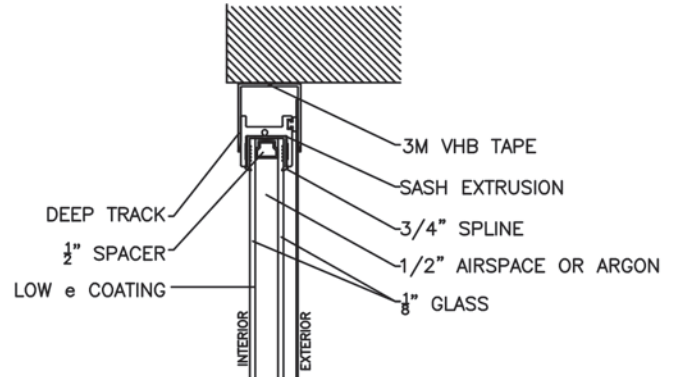
Gold Series



without Thermolite



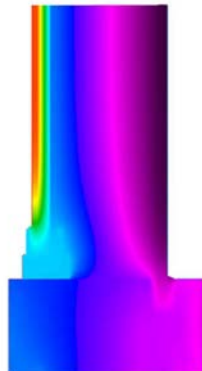
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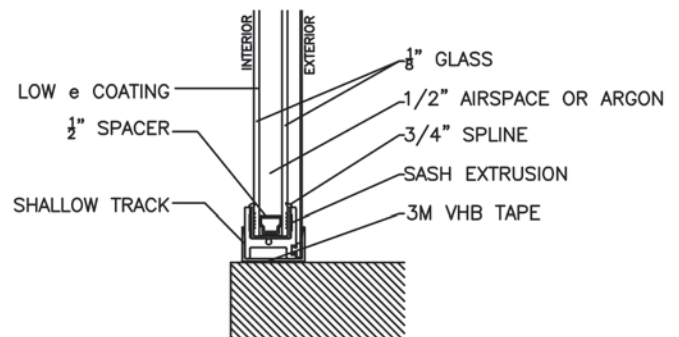
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without Thermolite



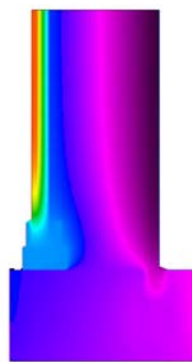
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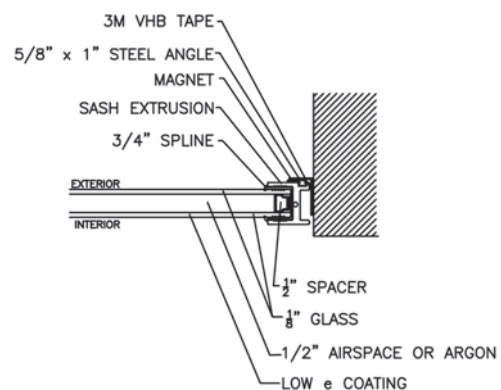
3 SILL DETAIL
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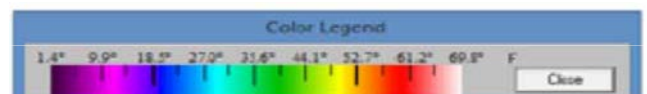
without Thermolite



with Thermolite



2 JAMB DETAIL
SCALE: 3"=1'-0" ARCH. REF.:





ABOUT THERMOLITE, INC: Since 1979, Thermolite has been a leading innovator in secondary interior window systems including energy efficient windows, blast-proof windows, hurricane windows, signal defense windows, sound control windows, and more. A proud member of the U.S. Green Building Council®, Thermolite is a GSA-certified governmental contractor serving areas nationwide, with notable projects in Washington, D.C., New York City, Chicago and Detroit. To learn more about our patented window systems, visit www.thermolitewindows.com.

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