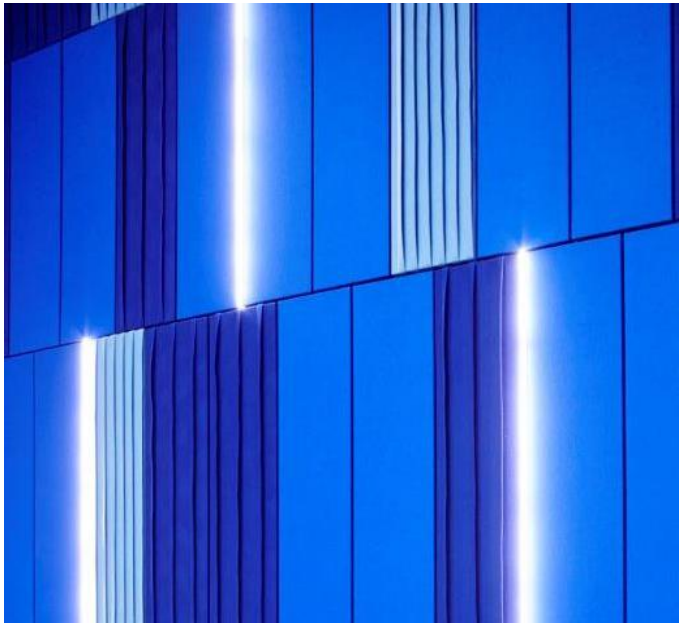
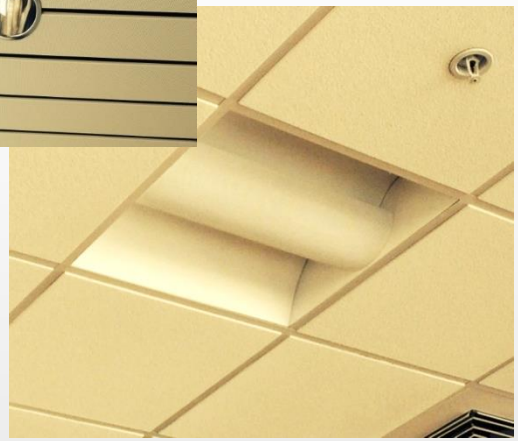
spi

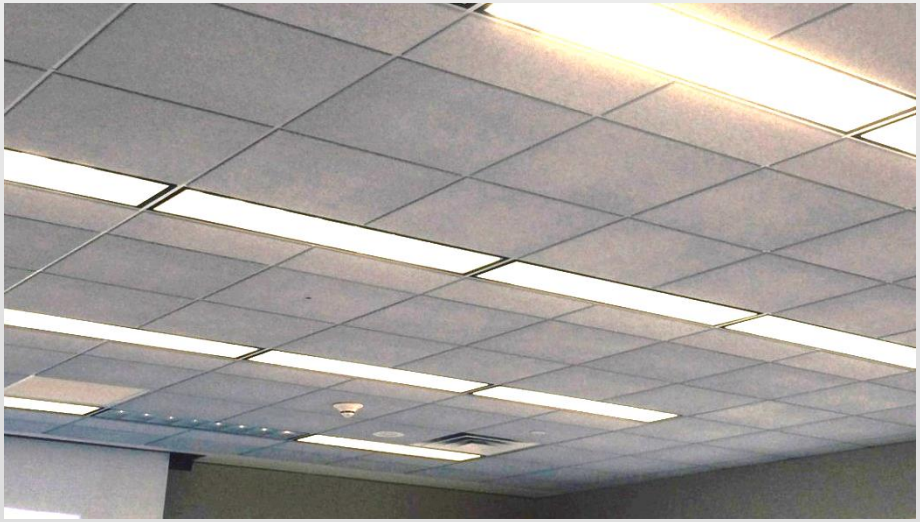


SafeLite® Patented Ceiling Fixture Covers

Documented Fire Protection, Sound Blocking, and Thermal Insulation

Ceiling Fixtures (Lights, Speakers, etc.) Come In Varied Shapes and Sizes





Protection for can lights, 2’ x 2’, 2’ x 4’ 1’ x 4’, <u>end to end,</u> etc. up to 14” tall

Applications For Both Suspended & Drywall Ceilings

(Ceiling penetrations typically make up 10 - 20% of the ceiling area)

Recessed can lights, troffers, speakers, etc. impact Floor/Ceiling and Roof/Ceiling assembly fire ratings, sound transmission and energy losses.

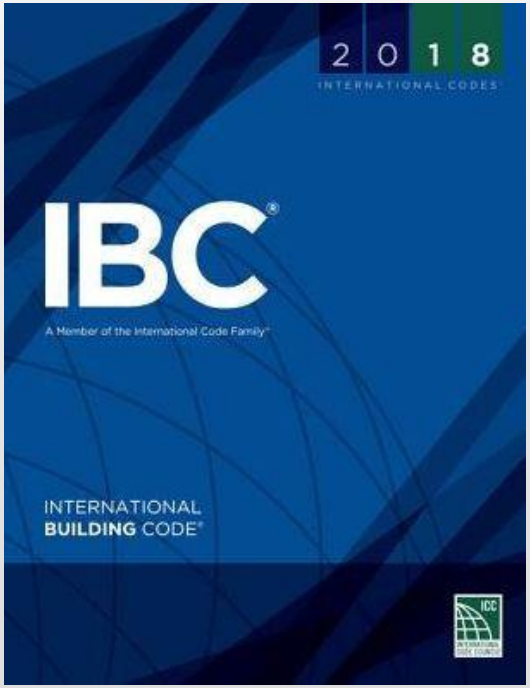
UL / ULC Listings Require Fixture Protection

- Every UL listing of fire rated, suspended and drywall Floor / Ceiling and Roof / Ceiling assemblies require recessed fixture protection
- Items such as recessed light fixtures & speakers must be protected with specified materials

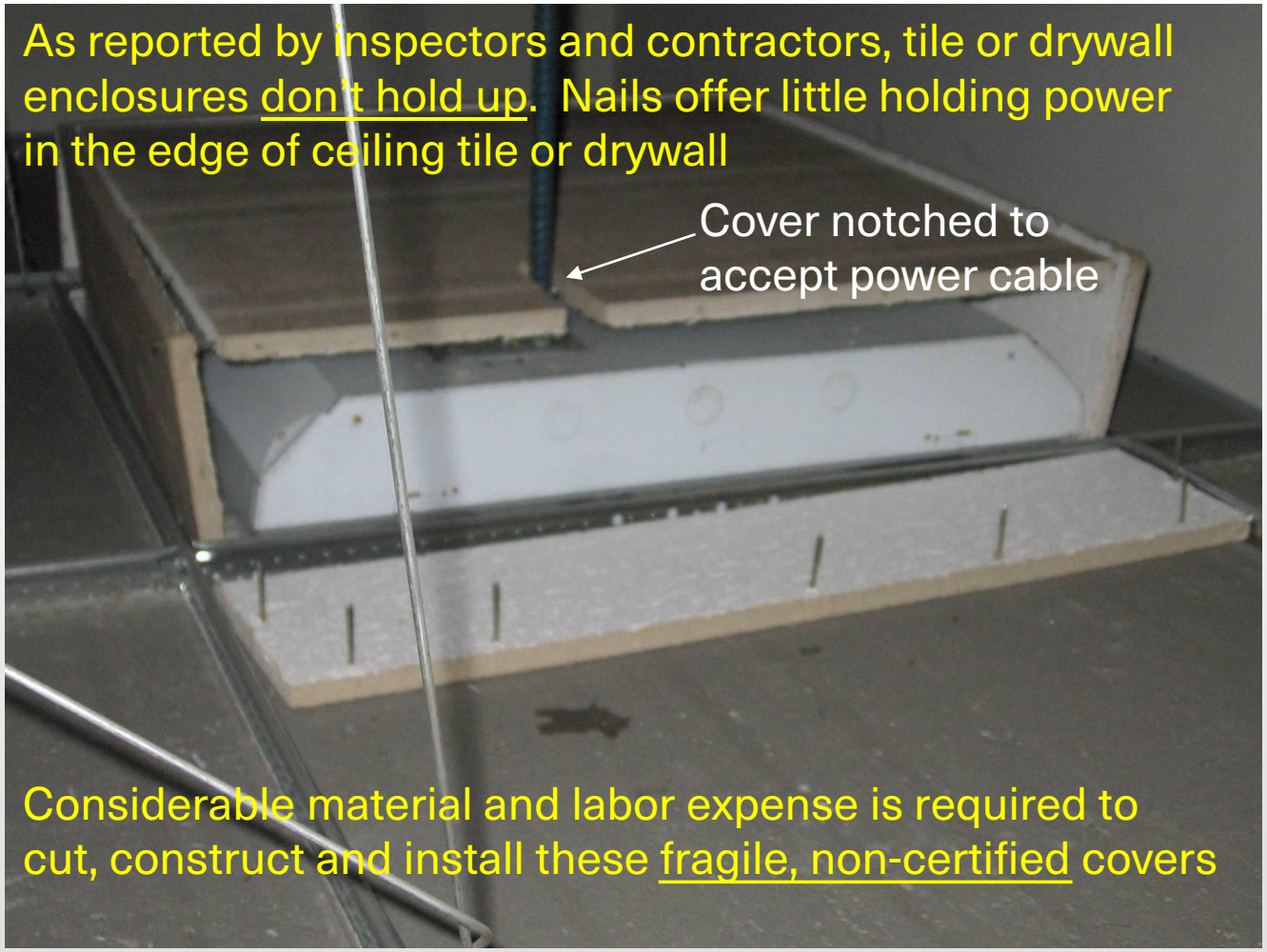
International Building Code (IBC)

713.4.1.2 Membrane penetrations. Penetrations of membranes that are part of a *horizontal assembly* shall comply with Section 713.4.1.1.1 or 713.4.1.1.2. Where floor/ceiling assemblies are required to have a *fire-resistance rating*, recessed fixtures shall be installed such that the required fire resistance will not be reduced.

Ignorance to CODE
does not excuse liability



Historical Approaches – Field Constructed Tile & Sheetrock Enclosures



IMPORTANT: Installers, Architects, and Owners can face liability exposure for assembly failures.

Drywall Enclosure Concerns

Common practice, 2 layers 5/8” rated drywall fastened to steel framing
Joints typically taped & spackled and penetrations firestopped

Non-Certified Fixture Cover

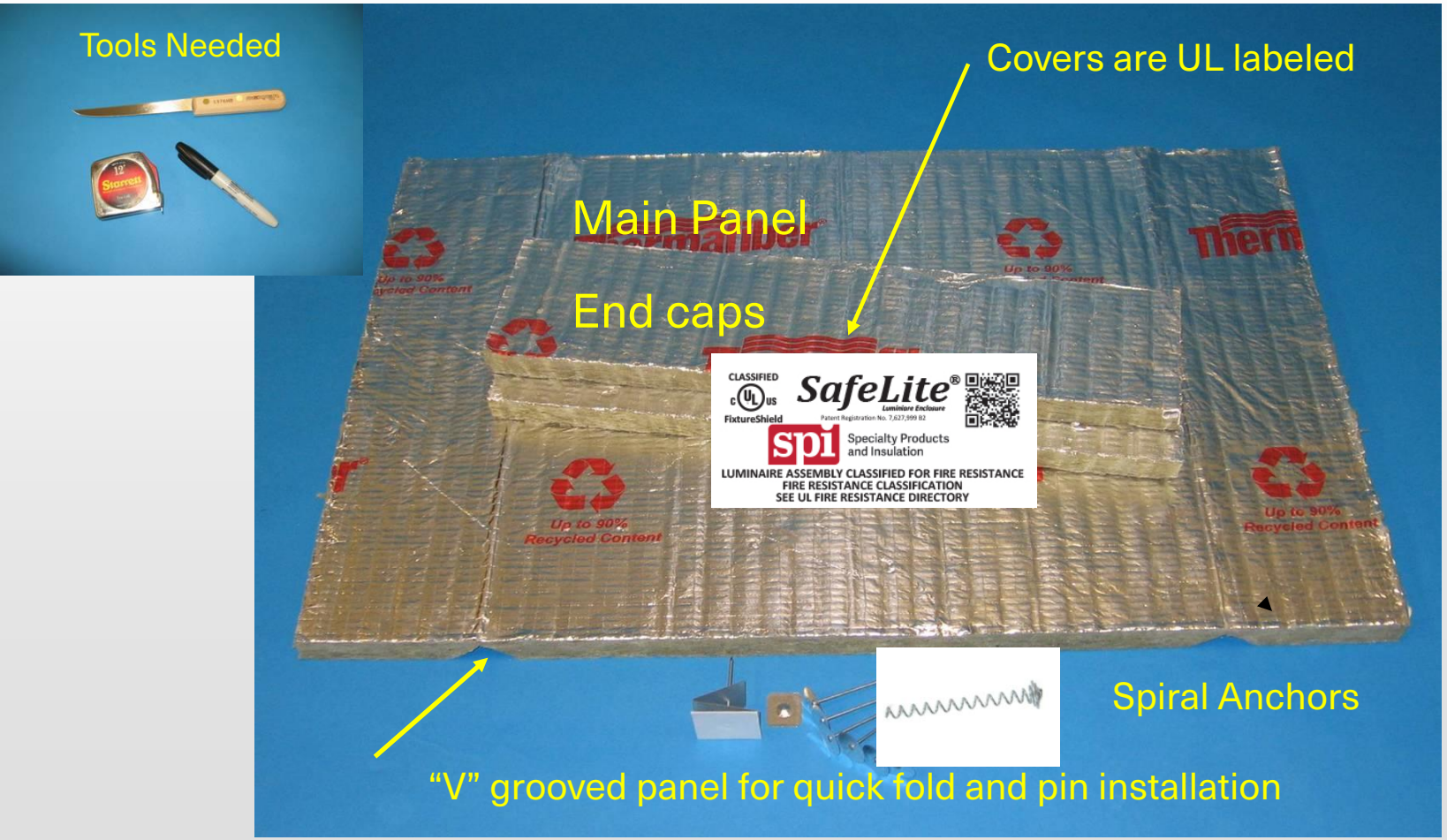
* **CAUTION: Drywall limitations state “avoid exposure to sustained temperatures of 125°F Not a good choice for heat producing applications.** Heat dries out chemically bound water needed for material fire resistance

- Typical florescent light fixture ballasts operate at 68-70°C (**155-160°F**) with a typ. maximum of 135°C (**275°F**).
- Fixture bulbs often generate considerable heat especially in unconditioned ceiling cavity spaces
- **As shown**, field constructed drywall enclosures are subject to variations in construction quality and therefore fire performance
- Power cable and suspension wire notches present clear paths for fire if not properly sealed
- Covers are heavy and labor intensive to construct and install

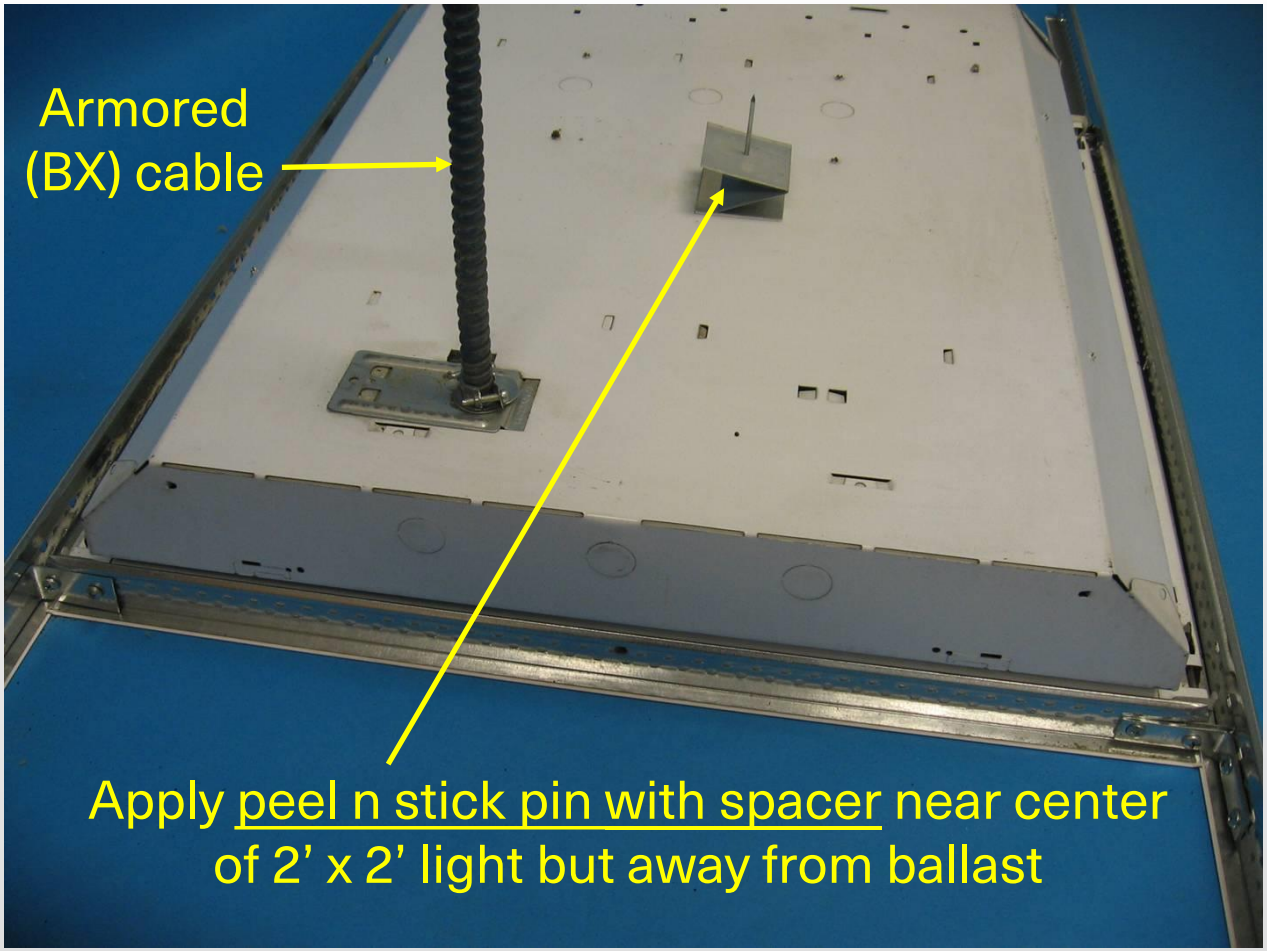
Constructing Steel Framed Drywall Fixture Enclosure

Skilled labor typically constructs 1 steel framed, non-certified drywall enclosure per hour
SafeLite covers install at a rate of 10 -12 per hour, for substantial labor savings!

Installing SafeLite is Quick and Easy (typically 5-6 mins.)



Installation On A Standard 2’ x 2’ Light Fixture, Step 1



Main Panel Installation, Step 2

Slit & Pull Cable into SafeLite, Align cover with Fixture, Step 3

Other molded troffer covers with limited fire ratings, require disconnecting the power cable to pass through a precut cover opening, a more costly installation.

Install End Caps - Step 4

Patented SafeLite®

The only UL Certified fixture enclosure with **up to 3 hour ratings**

SafeLite listings include: Can lights, 2' x 2', 2' x 4', 20" x 60" light troffers including vented fixtures and speakers
SPI fabricates **covers to fit virtually any size fixture**

Patent / U.S. Patent Registration No. 7,627,999 B2

1408/12

Typical SafeLite Users

- Acoustical and Drywall contractors
- Electrical contractors
- General contractors
- Institutional facility maintenance depts. especially at Hospitals, Retirement Homes, Universities, Schools and Worship centers
- A/V specialty contractors
- Firestop contractors
- Modular construction factories

Substantial Contractor Savings!

- Installers report completing 1 drywall enclosure per man hour (cut parts, fit & assemble)

- SafeLite enclosures typically install at 10-12 per man hour

- One contractor documented $10,000 savings on his first SafeLite project versus “field fabricating” drywall enclosures

- **Labor Example -** Using $100/hr (loaded rate) for a project with 200 light covers.

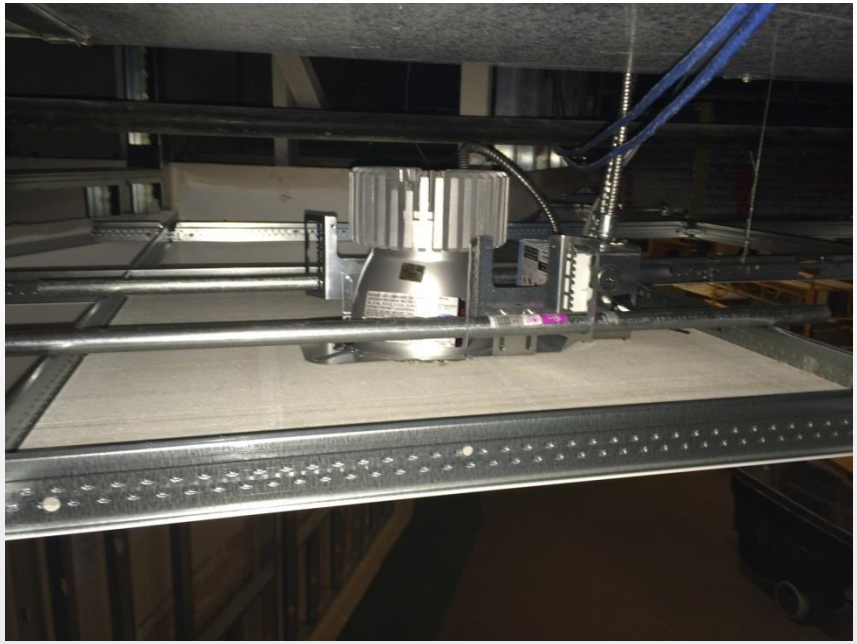
  At 1 drywall cover/hr = 200 x $100=**$20,000** labor cost **($100 per cover)** At 10 SafeLite covers/hr = **$2,000** labor cost **($10 per cover)**

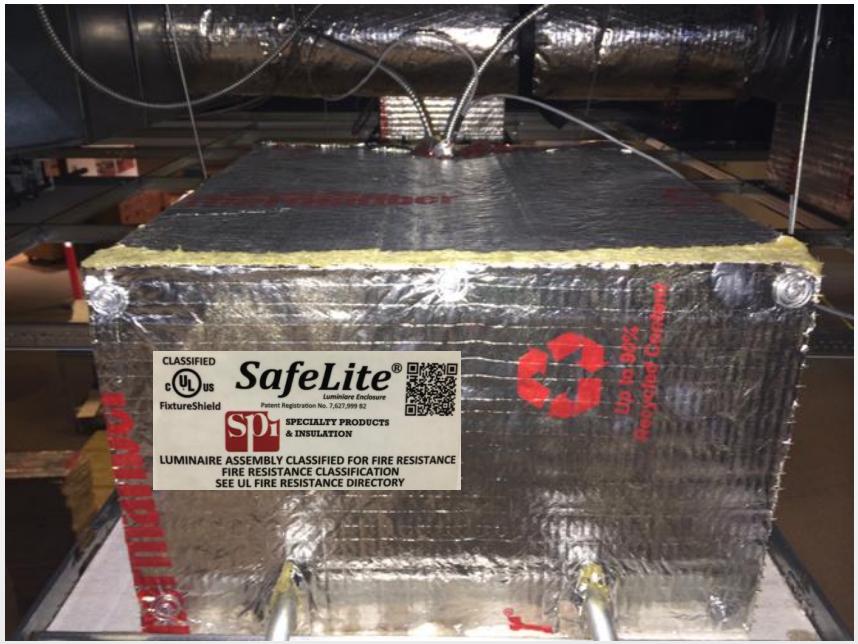
  Labor savings $18,000 on 200 covers = $90 labor saved per cover

Major contractor benefits from using SafeLite

Labor savings, reduced call backs and liability exposure for non-compliance

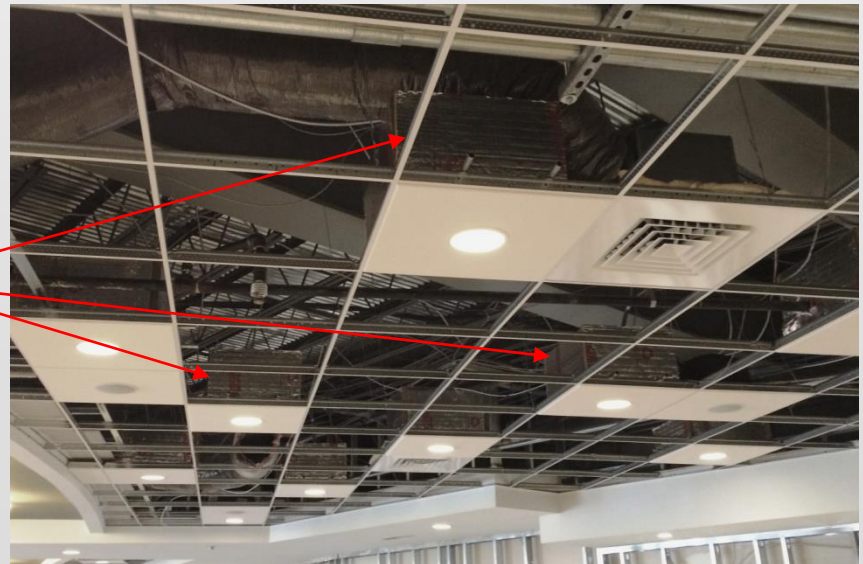
Typical SafeLite Can Light Application



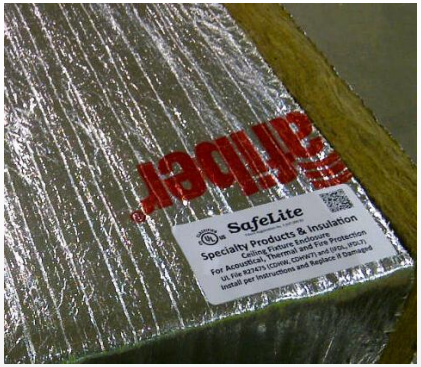


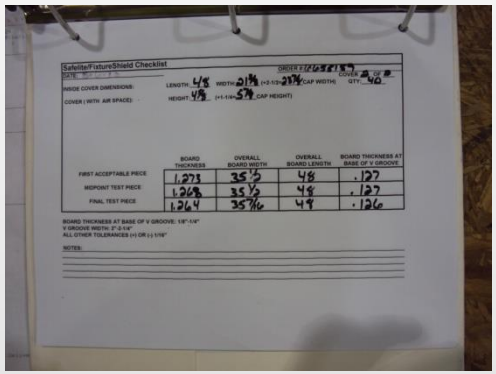
This fixture required minimum 3” clearance all around. SafeLite was fabricated to comply

SafeLite installed in a suspended ceiling system for Fire Protection and Sound Blocking



SafeLite Quality Control / UL Follow-up Service





12A. **Fixture Protection - Luminaires, Luminaire Assemblies and Luminaire Enclosures Classified for Fire Resistance* —** (Not Shown) - As an alternate to Item 12, luminaire enclosure kits consisting of pre-cut pieces of faced batts and assembly hardware may be used to form a five-sided rectangular enclosure over NEMA G recessed light fixtures. Luminaire enclosure kit to be installed in accordance with the accompanying installation instructions. When air supply light fixtures with air boots are used, fixtures and air boots shall be fully enclosed except for the opening needed to accommodate connection to air supply duct.

SPI LLC, dba SPI – Specialty Products & Insulation - SafeLite®

UL Online Directory, SafeLite Certifications

Luminaires, Luminaire Assemblies and Luminaire Enclosures Certified for Fire Resistance

See General Information for Luminaires, Luminaire Assemblies and Luminaire Enclosures Certified for Fire Resistance

SPI LLC R27475
SPI-SPECIALTY PRODUCTS & INSULATION
C/O DUNES POINT CAPITAL
411 THEODORE FREND AVE, SUITE 125
RYE, NY 10580 USA
SafeLite® Enclosure Kits for use with recessed luminaires in Design Nos. D010, D216, D219, G230, G234, G258, G523, G526, J202, L006, P207, P228, P230, P237 and P267.

Last Updated on 2019-02-21

SafeLite UL Design Listings include:
Armstrong, USG, Saint-Gobain, Rockfon and Gypsum Assemblies
Note: Additional UL Design Listings Available for Reference

ULC Online Directory, SafeLite Certifications

Luminaires, Luminaire Assemblies and Luminaire Enclosures Certified for Fire Resistance Certified for Canada

See General Information for Luminaires, Luminaire Assemblies and Luminaire Enclosures Certified for Fire Resistance Certified for Canada

SPI LLC R27475
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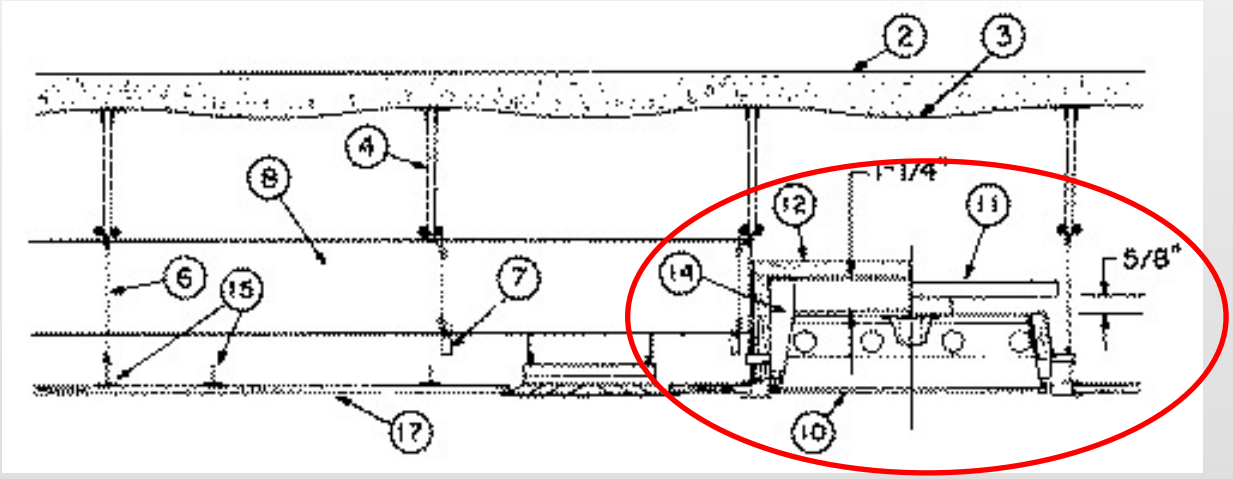
Last Updated on 2019-02-21

SafeLite ULC (Canada) Listings
Note: Additional Listings Available for Reference

Drywall Ceiling Applications

- 1, 2 & 3 hour fire rated drywall (Type X) systems include: Floor/Ceiling or Roof/Ceiling assembly materials.
  - Note: Fire rated drywall ceilings are more common than rated tile & grid systems
- Non fire rated drywall mounted to steel or wood framing ***(sound blocking and energy savings may be the primary concern)***
- Unprotected fixtures are pathways for fire, sound transmission and energy losses

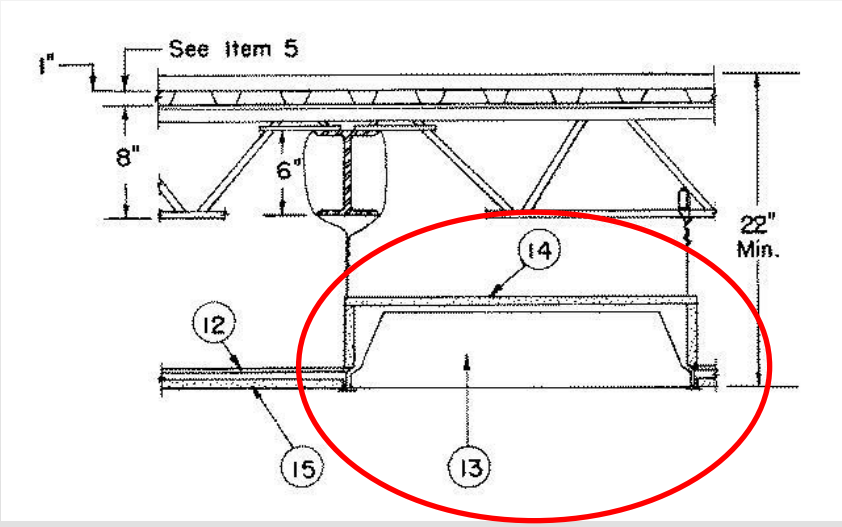
Design No. G523
July 28, 2017
Restrained Assembly Rating — 2 and 3 Hr.



Item 12: SafeLite

Grid & Tile Ceiling Systems (Armstrong, USG, Saint-Gobain, Rockfon)

- 1, 2 & 3 hour fire rated tile and grid systems include: Floor/Ceiling or Roof/Ceiling assembly materials
- Non fire rated tile and grid (selected on esthetics, NRC and CAC performance
- CAC (ceiling attenuation class) ceiling sound blocking performance
- Recessed ceiling fixtures (lights and speakers impact ceiling CAC performance)



Item 14. Fixture Protection – UL P267
Luminaires, Luminaire Assemblies and Luminaire Enclosures Classified for Fire Resistance*
SPI LLC - SafeLite®
dba SPI - Specialty Products & Insulation

Fixture Lamp Types

- Specific fixture lamps or bulb types may not be reported in Certified UL assembly details
- UL details report fixture: housing material, type, size, vented, etc.
- Light fixture manufacturers identify if a specific fixture is IC or Non-IC rated. The application classification lists appropriate fixture lamp types and wattage
- SafeLite fixture covers are regularly installed and approved by the AHJ for: Incandescent, Fluorescent, HID and LED lamped fixtures
- Based on the above, SafeLite can be considered for a variety of lamped fixture types




SafeLite Physical Properties

- Maximum service temperature: 1200F
- Melt Point: > 2000F
- Fire Performance:
  - Non-combustible per ASTM E-136
  - Flame Spread 25, Smoke 0 per ASTM E-84
  - Meets IBC Code requirements for Plenum Applications
- R Value 4.2 per inch per ASTM C-518
  - Effective **R Value 5.25 at 1 ¼" thick**

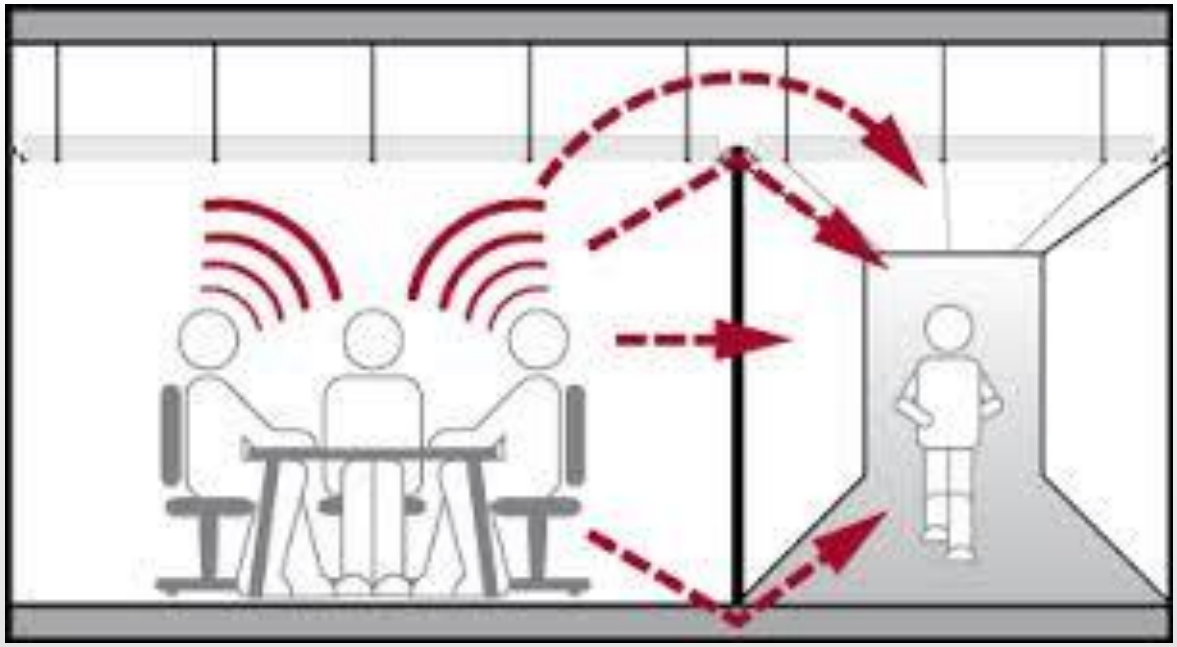
  (Steel housings readily transfers heating or cooling energy)
- SafeLite reduces heating & cooling energy costs
- Acoustical Performance per ASTM C-423, NRC 1.00 at 2" thick

Sound blocking "CAC" information follows

Sound Paths Through Ceiling Fixtures

Ceiling Attenuation Class (CAC) Ceiling System Rating

- CAC is an important ceiling material rating as it controls sound transmission and speech privacy between closed adjacent spaces.



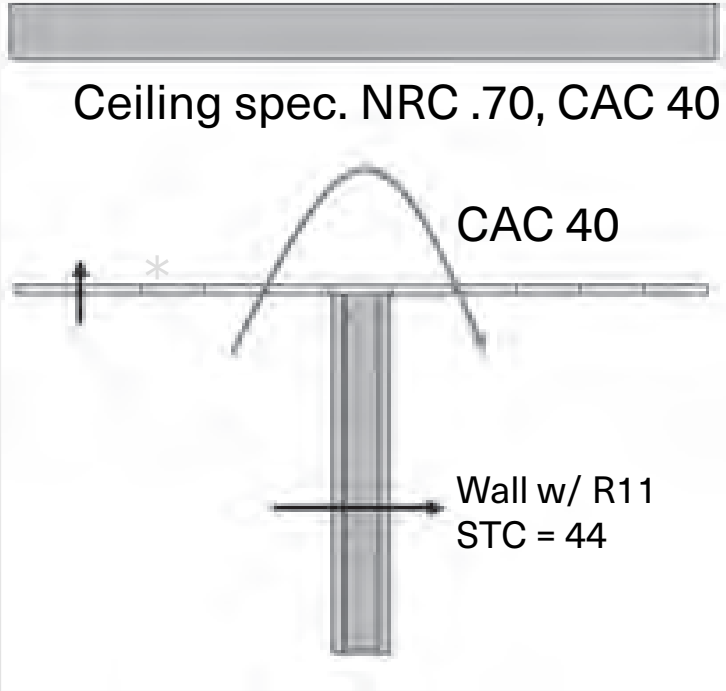
UL Certified SafeLite provides documented sound blocking performance

Ceiling CAC Performance

A measure for rating the performance of a ceiling system as a barrier to airborne sound transmission through a common plenum between adjacent closed spaces such as offices or classrooms.

A CAC less than 25 is considered low performance

Drywall or Suspended Ceiling



Penetrations through the ceiling membrane increase noise transmission to adjacent and above spaces

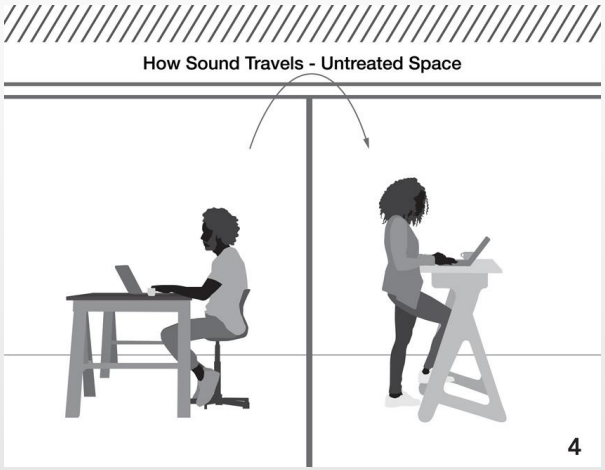
SafeLite has documented sound blocking performance

Especially important in health care and education environments for speech privacy, speech intelligibility and concentration.

CAC – Two Room Transmission Loss – AL20 (TM418) ASTM E 1414

- Armstrong high CAC #1811 Fine Fiss. tile **without light fixtures**, CAC 44
- Armstrong #1811 ceiling system w/ 2 – 2' x 4' light fixtures, **CAC 41**

- Armstrong #1811 tile ceiling w/ 2 – 2' x 4' fixtures & **SafeLite** covers **CAC 45** (4 db improvement is substantial)



Two unprotected light fixtures significantly increased ceiling membrane sound transmission More fixtures = greater sound transmission

SafeLite restored ceiling performance to as if recessed fixtures weren't installed

This documented performance is critical for noise control and sound proofing

HIPAA

- Under Section 164.502 of the Federal Register's Department of Health and Human Services final ruling on Standards for Privacy of Individually Identifiable Health Information it states that:
- "Protected Health Information includes individually identifiable information in any form, **including information that is transmitted ORALLY**, or in written or electronic form.
- This Privacy Ruling requires that covered health care entities make reasonable efforts to limit the use or disclosure of protected health information to the minimum necessary."

HIPAA Regulations Impact

- Hospitals
- Physician Offices
- Medical Clinics
- Pharmacies
- Public Health Authorities
- Military Medical Bases
- Life Insurers
- Billing Agencies
- Information System Vendors
- Service Organizations
- Employers
- Schools

Speech Confidentiality

Common SafeLite Applications (Fire & Sound Blocking and Energy Savings)

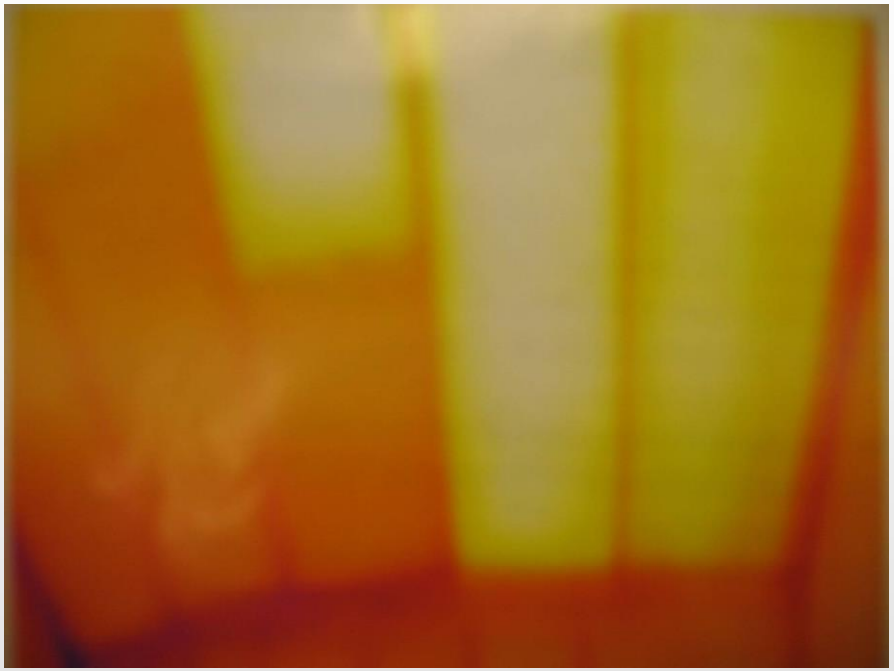
- Hospitals, Medical Facilities, Retirement Homes
- Classrooms, Music rooms
- Office, Restaurants, Mixed Function Space
- Performance Space, Religious & Gov't Facilities

Hebron Platform - 1600 SafeLite installed on lights and speakers

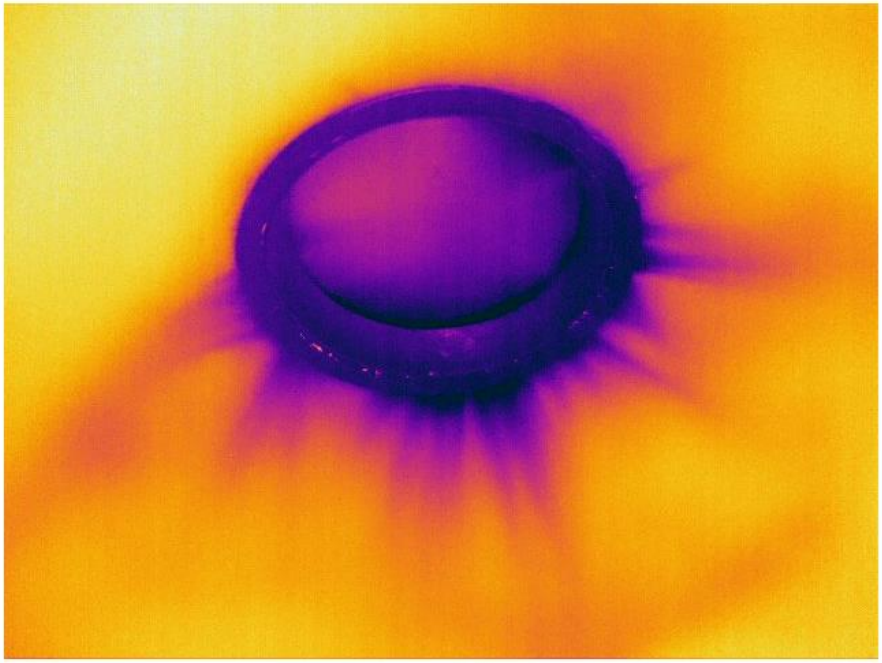
Thermal Image Scan

Uninsulated recessed fixtures represent significant energy loss areas

Missing Ceiling Insulation



Can light air leaks from ceiling cavity to conditioned space



1994 Penn State Engineering Study - 1 can light
$5-30 energy loss/yr. w/ 2-10 CFM leakage

Fixture sheetmetal housings provides no insulation

SafeLite light covers @ 1 ¼" tk. provide an R Value of 5.25 reducing fixture energy losses during heating and cooling seasons

Penn State University, College of Engineering

Mechanical Engineering Dept., **1994 Study**

A commonly referenced light fixture study

- 1 conventional recessed can light fixture loses between **$5 – $30 per year** worth of energy (1994 energy cost)
- Can light air leakage of 2-10 cubic feet per minute (CFM) per fixture
- This dumps ~ 1/3 gallon of condensed moisture daily into unconditioned ceiling or attic space (results in mold growth, ice dams, sheathing and framing damage)

Adjusted for the current cost of electricity (1994-2020)

- According to the U.S. Bureau of Labor Statistics, prices for electricity were 67.94% higher in 2020 versus 1994
- A 2’ x 4’ fixture represents 60 times the surface area opening of a 6” can light

2009 IECC Mandatory Requirements – Recessed Lighting

(502.4.8) International Energy Conservation Code

All recessed luminaries installed in the building envelope

- Type IC rated and sealed with gasket or caulk between housing and interior wall or ceiling covering
- Type IC rated and labeled in accordance with ASTM E 283 to allow ≤ 2.0 cfm of air movement from conditioned space to ceiling cavity
- **CODE = Minimum Requirement**
- SafeLite provides enhanced energy savings, reduces green house gas emissions and can qualify for LEED Credits

Note: State Code / Project Spec may allow Non-IC fixtures

Alternate Ref. ASHRAE 90.1

Hot and cold air readily passes through the steel housing and fixture holes

Per CODE, "Air-Tite" but NO Insulation Value

SafeLite Enhanced Fixture Insulation

Renovation and new projects can include Non-IC fixtures

SafeLite Environmental Benefits

- Sustainable, made from natural materials with a minimum of 70% post- industrial recycled content (and available with up to 90%)
- An effective R value of 5.25 reduces energy losses, greenhouse gas and carbon emissions for cost savings
- Can contribute to LEED credits

Summary SafeLite Advantages

- Maintains or restores assembly life safety fire ratings
- Complies with CODE and UL/ULC designs
- Produced to fit small LED thin lights to large fixtures up to 60” long equals all project requirements from one source
- ¾, 1, 2 & 3 hour ratings for grid, tile and drywall assemblies
- No need to disconnect power cables or shut off power to install on existing fixtures, reduces installation cost and business interruptions
- UL Certified design coverage includes vented fixtures
- Documented sound blocking (CAC): quiets space, speech privacy per HIPAA, creates a better learning environment
- Reduces heating and cooling seasonal energy losses for life cycle cost savings, reduced greenhouse gas and carbon emissions
- Quick and easy installation (5-6 mins.) on new or existing project applications
- Made in the USA

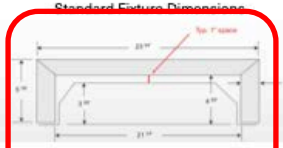
Quote/Order Form

1) Std. Cover sizes
2) Custom Covers
3) Important Info
4) Product properties
   1) Service temp
   2) Melt point
   3) R Value
   4) ASTM E136
   5) ASTM E84
5) Acoustic Test Data
6) UL Design Listings

SafeLite® Order Form

		DATE
COMPANY	CONTACT	PHONE
PROJECT NAME & LOCATION		DATE REQUIRED
SHIP TO LOCATION		P.O. NUMBER

Standard Fixture Dimensions



STANDARD FLUORESCENT LIGHT FIXTURE QUANTITY		CANS AND NON STANDARD FLUORESCENT FIXTURE			
2'x4'	2'x2'	Required Inside Cover Dimensions			Quantity
		L"	W"	H"	N.A.

Notes:

- When ordering can light or non standard fluorescent covers provide accurate fixture dimensions. Include specific manufacturer required air space clearance for non-IC rated lights to ensure correct *Safelite* sizing.
- All covers are produced as 5-sided unless specified otherwise.
- Typical lead time 7-10 days ARO.
- It is the installer's responsibility to review specific U.L. ceiling design and prepare any vent opening.

SafeLite (mineral wool board, faced) Physical Properties:

Maximum service temperature: 1200˚F
Melt point: > 2000˚F

Thermal Resistance:

ASTM C 518 (C177) R value/inch@ 75˚ F: 4.2 (R value 5.25@ 1-1/4" thick)

Fire Performance:

ASTM E 136 Behavior of Materials at 750˚ C (1382˚F): Non-Combustible
ASTM E 84 Surface Burning Characteristics: Flame Spread 25, Smoke Developed 0

Safelite covers are fabricated from material which is approved for use by the New York City Dept. of Building, Report ofMaterials and Equipment Acceptance Division under MEA 210-82-M Vol. 2.

Acoustical Performance:

ASTM C 423: NRC - 1.00 at 2" thick

ASTM E 1414 CAC- Two Room Transmission Loss, AL 20 (TM 418)

1.) A high performance ceiling no light fixtures, CAC 44.
2.) The same ceiling with 2-2x4 light fixtures, CAC 41.
3.) The same ceiling with *Safelite* on the 2x4 light fixtures, CAC 45 (A 4db improvement over unprotected lights)

Note: A 3db (decibel) change sounds half as loud as the original noise.

SafeLite is classified by Underwriters Laboratories, Inc. for use in the fire rated floor and roofceiling designs listed below-

Floor-Ceiling Designs: Design Nos. D010, D216, D219, G230, G234, G258, G523, G526, J202 and L006
Roof-Ceiling Designs: Design Nos. P207, P228, P230, P237 and P267

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Email: fabteam@spi-co.com
April 2022 - SafeLIte

For additional information please visit http://www.spi-co.com

Please ask your Sales Representative about our other fabrication products and services.

spi

Questions

Contact: Fabteam@spi-co.com

Or call (855) 355-5075