FCIA Webinar Series

The Standards Development Process

Bill McHugh, Executive Director of FCIA
Diane Haithcock, UL Standards and Engagement
Rich Walke, CTI, Consultant to FCIA

FCIA
Firestop Contractors International Association

April 12, 2023

FCIA – Firestop Contractors International Association

- **Fire Exits??**
- **Housekeeping….**
- **Thanks to FCIA Members**
  - Firestop Contractors
  - Manufacturers, Consultants
  - Firestop Distributors, Reps, Friends
  - **FCIA Board of Directors**

FCIA BOARD OF DIRECTORS
LEADERSHIP OVER DECADES

Welcome, Thanks, From FCIA…..

Firestop Contractors International Association

FREE PDF MOP, SPECIFICATION & Life Safety Digest for Code Officials, Fire Marshals, & Specifiers with Design Firms

Info@FCIA.org

www.FCIA.org

FCIA – Firestop Contractors International Association

- **FREE Life Safety Digest**
- **UL/ULC, FM 4991 Contractor Programs**
- **IAS AC 291 Inspection Agency Accreditation Program**
- **Firestop Certificate &** Individual Knowledge
- **ASTM Inspection Standards**
- **Tools @ FCIA.org** for Specifiers, AHJ's, Building Owners, Firestop Contractors & Inspection Agencies
- **Watch FCIA.org for Webinar Announcements!**

FCIA Actions –2023

Firestop Contractors International Association

- Conferences
  - FCIA MENA - India
    - Doha – Feb. 5
    - FSBI – Feb. 9, 10
    - Dubai – Feb. 15
    - Riyadh – Feb. 18
  - FCIA ECA @ New Orleans, USA – May 10-13
  - FCIA CAN @ Ottawa, Ontario – Sept. 24-26
  - FCIA FIC @ ABQ, NM – Oct. 23-27
- Webinars & Symposiums
- Code Development & Standards Discussions
- Committee Action
- International Discussions

FCIA Actions – 2021 & 2022

- ***NEW Education for Careers in Firestopping!!***

- ***FCIA's Firestop Certificate of Achievement & Education Program***
  - ***3.5 Hours Level 1***
  - ***16.5 Hours Level 2***

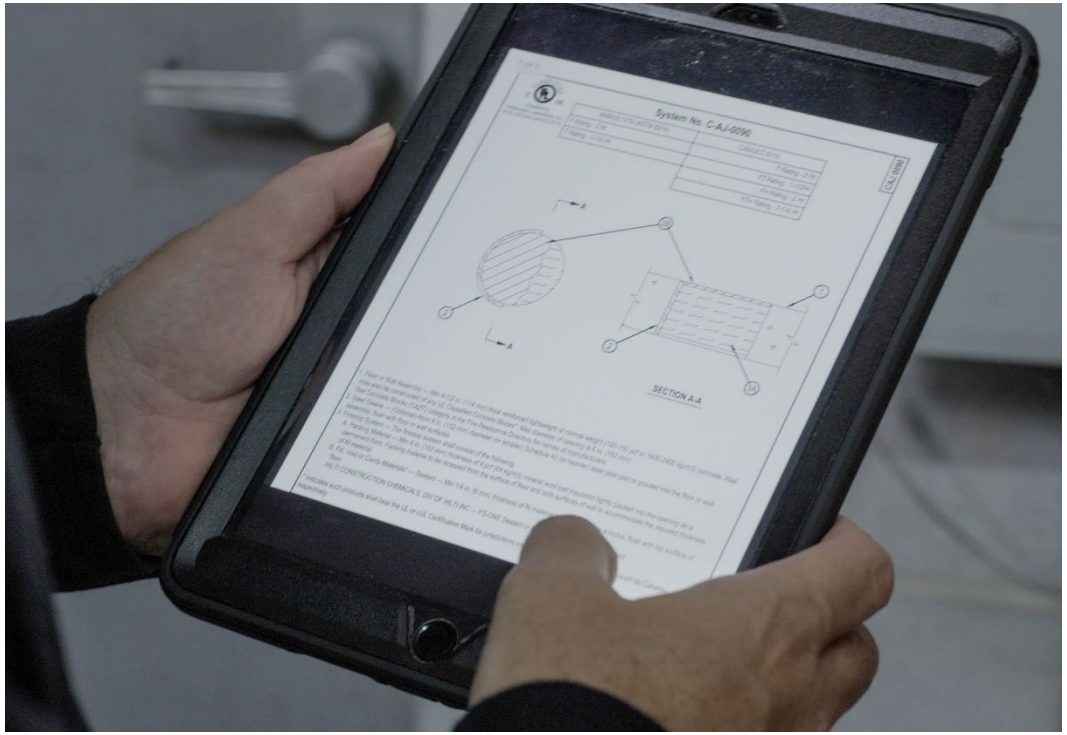
- ***30 Hours Education & Exams –***
  - ***Members – Unlimited Subscription***
  - ***Non-Members – Visit FCIA.org***

FCIA Actions - 2022

Firestop Contractors International Association

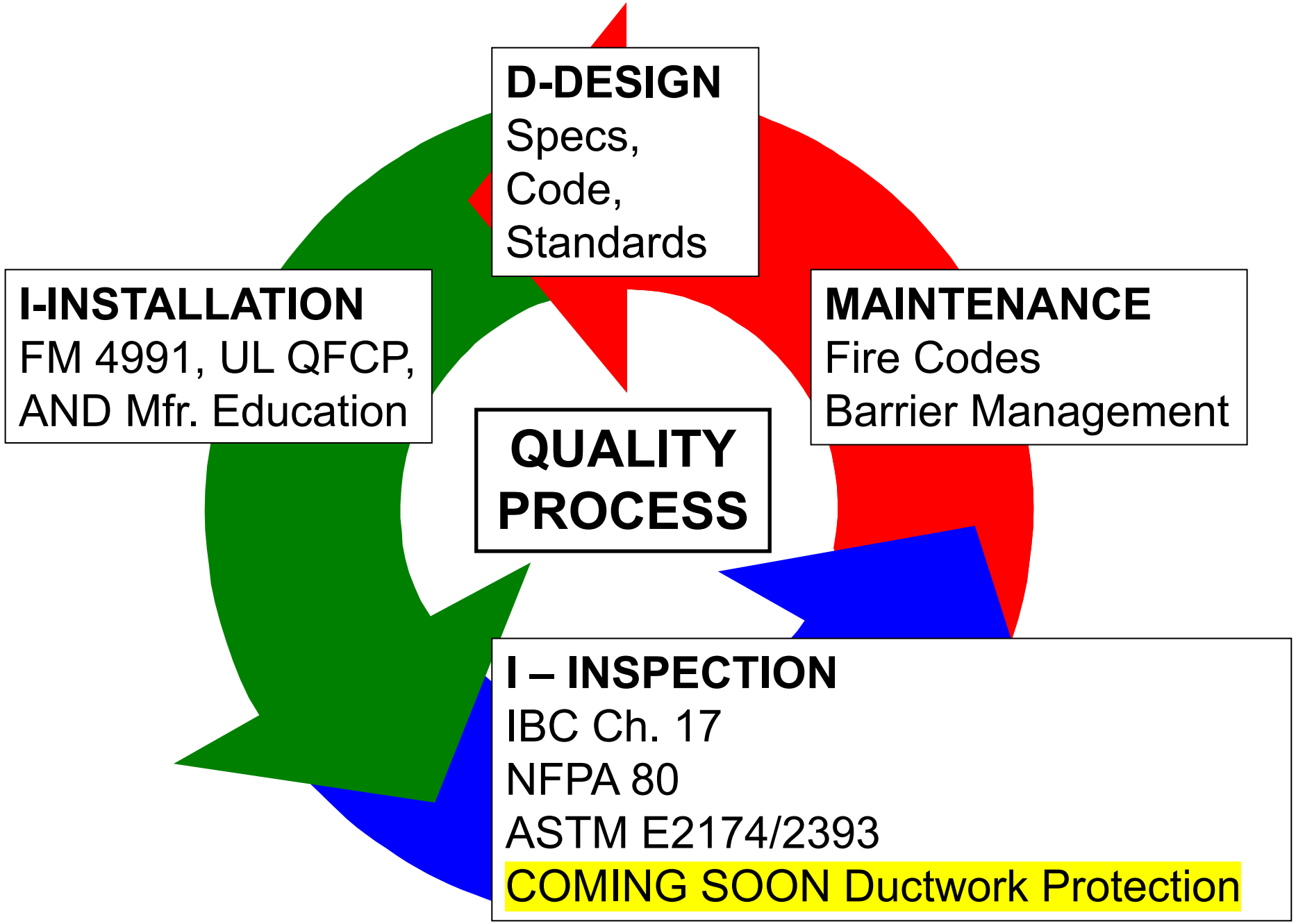
- ***NEW Education for Careers in Firestopping!!***
  - ***FCIA's Firestop Certificate of Achievement***
    - ***4 Levels***
      - ***Level 1 – General Knowledge Certificate***
      - ***Level 2 – In Depth Materials & Systems Certificate***
      - ***Level 3 – SOON***
      - ***Level 4 - SOON***
    - ***Career Path Education***
  - ***FCIA Education Respected Worldwide***

Systems & Materials….



“TOTAL FIRE PROTECTION”

- Effective Compartmentation
  - Fire Barriers, Fire Walls, Floors, Smoke Barriers
  - Firestopping, Fire Dampers, Swinging and Rolling Fire Doors, Fire-Rated Glazing
  - Fire-Resistive Protection for Ductwork
- Detection & Alarm Systems
- Sprinkler Suppression Systems
- Education & Egress –
  - Building Owners & Managers, Building Occupants and Firefighters


D-DESIGN
Specs,
Code,
Standards
MAINTENANCE
Fire Codes
Barrier Management
I-INSTALLATION
FM 4991, UL QFCP,
AND Mfr. Education
QUALITY
PROCESS
I – INSPECTION
IBC Ch. 17
NFPA 80
ASTM E2174/2393
COMING SOON Ductwork Protection

Agenda

- The UL/ULC Standards Development Process
- The ASTM Standards Development Process
- UL/ULC Standards Being Revised
  - UL 1479 / UL 2079 Expansion Factor Test
  - UL 2079 Movement of Base Isolated Buildings
  - Multiple changes intended to harmonize ULC-S115 with UL 1479 / UL 2079
  - Differentiation of the Types of Membrane Penetrations and How Each is Tested
  - Inclusion of Cotton Waste Test
  - Inclusion of M Rating
- ASTM Standards Being Developed
  - Firestop and Joint System Marking Requirements

Standards & Engagement

Standards Development Process

Diane Haithcock
Director, Standards Program
April 12, 2023

Safety Science in Action™

ANNOUNCING OUR NEW BRANDS

Three organizations.
One shared mission.

Working for a safer world since 1894.

UL Standards & Engagement: Working for a Safer World

UL Standards & Engagement is a global, nonprofit standards development organization (SDO).

- Multidisciplinary approach to developing and updating standards that address safety, security and sustainability issues
- Global reach and local representation
- First Standard published in 1903
- Over 60 Partnerships and MOUs with premier global safety and standards organizations

Standards & Engagement

Over

1,700 Standards

Published

APPROX. 4,000

VOLUNTEERS PARTICIPATING AS UL TC MEMBERS

60+

COUNTRIES

REPRESENTED ON UL TC

OVER 400

UL STANDARDS TECHNICAL COMMITTEES (TC)

OVER 100

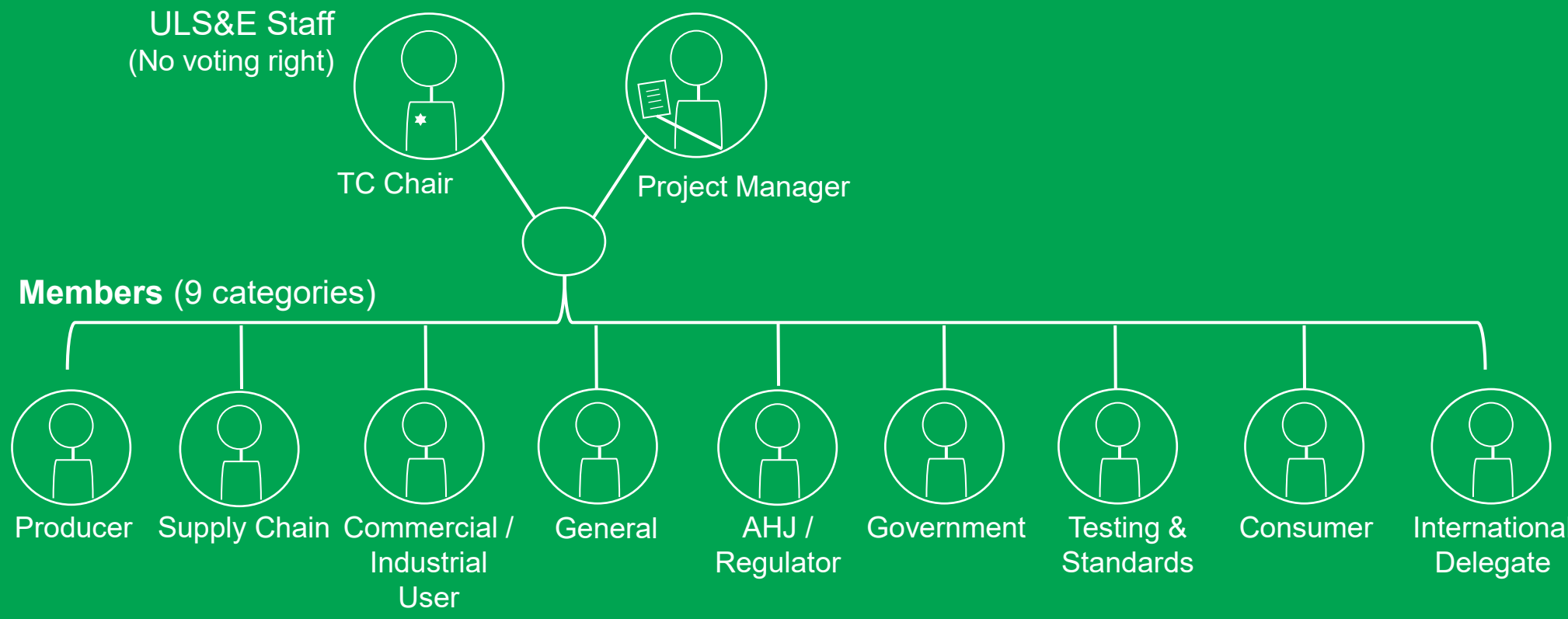
DEDICATED STAFF

LOCATED IN 8 COUNTRIES

OVER 50,000

REGISTERED SUBSCRIBERS AND STAKEHOLDERS

UL Standards Technical Committees



Stakeholders: Participants with all participation rights except for voting

Standards & Engagement

Balance

No interest category over 33%

Interest categories over 50% means the TC is out of balance

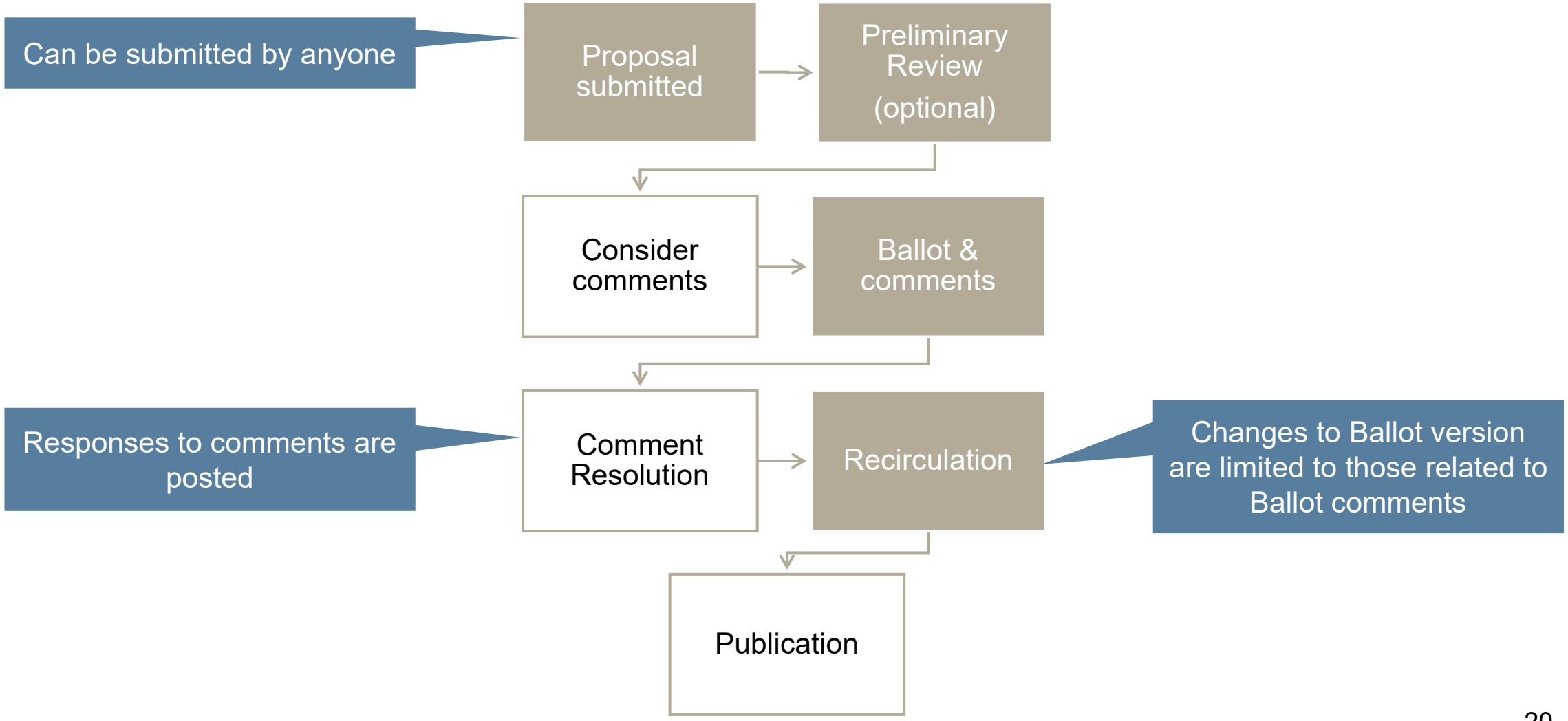
Not all Interest Categories must have representation

Standards & Engagement

Benefits & Importance of TC membership

- Participation is free, online, 24/7
- Access to complimentary copies of latest standards
- Influence and awareness of new requirements
- Opportunity to network
- Contributing to making a safer world

UL Standards & Engagement Development Process



Voting

- ☐ Yes
- ☐ No
- ☐ Abstain

An affirmative vote can be with or without comment

A negative vote should be accompanied by a comment

A negative ballot without comment, or with comment about material not under consideration is treated as a Vote Not Cast when calculating consensus

An abstain vote, will be taken into consideration while calculating consensus

Voting- Consensus

ANSI

Majority of the members who are eligible to vote cast a ballot

+

Minimum of 2/3 of the votes cast are affirmative

SCC

Majority of the members who are eligible to vote cast an affirmative ballot

+

Minimum of 2/3 of the votes cast are affirmative

CSDS- Collaborative Standards Development System

- ULC's Collaborative Standards Development System (CSDS) provides online access for reviewing and submitting information for UL's Standards Development Process
- General access is also available to non-TC members for information on TC meetings, submitting proposals and proposals available.

Access CSDS Here

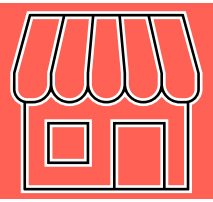
Standards & Engagement

Resources

MyInfo- Edit personal information

Learn

CSDS



Standards Store

Standards & Engagement

Thank you

Diane Haithcock
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+1 919-549-1909

ASTM Standards Development Process

- Join ASTM
- Participate in Committee
  - E05 – Fire Standards
  - E06 – Performance of Buildings

ASTM Standards Development Process

- Email staff to request joining ‘Task Group’
  - E06.21.16 Firestop Inspection Standards
  - E06.21.xx others…
- Participate in LIVE meetings
- Ballots –
  - ANYONE CAN SUMBIT
  - Votes limited to Approved Committee Members
- Committee Balance

ASTM Standards Development Process

- Vote on Ballots –
  - Subcommittee Ballots
  - Main Committee Ballots
- Task Group/Subcommittee Adjudication
  - Persuasive
  - Not Persuasive – Reason
- If Persuasive, removes Ballot from process
- Start over with another Ballot

UL/ULC Standards Currently Being Revised

- UL 1479 (Protection of Penetrations) and UL 2079 (Protection of Joints)
  - Method of conducting Intumescent Expansion Factor Testing
- UL 2079 (Protection of Joints)
  - Inclusion of new Class of Joint System in Cycling Table for joint systems intended for use in base isolated buildings

UL/ULC Standards Currently Being Revised Cont.

- ULC-S115 (Protection of Penetration, Joints and Perimeter Fire Containment)
  - Multiple changes intended to harmonize with UL 1479 / UL 2079
    - Length of penetrating items
    - Length of partially insulated penetrating items
    - Inclusion of W Rating
    - Addition of Environment exposure testing
  - Differentiation of the Types of Membrane Penetrations and How Each is Tested
  - Inclusion of Cotton Waste Test
  - Inclusion of M Rating

UL 1479 and UL 2079 – Method of Conducting Intumescent Expansion Factor Testing

- Expansion factor test testing is intended to evaluate the change in performance if any of intumescent materials after exposure to environmental conditions
- Changes being spearheaded by Samantha Peterson of 3M
- Proposal changes the point where the unexpanded thickness is measured from after exposure to environments to prior to exposure to environments

UL 1479 and UL 2079 – Method of Conducting Intumescent Expansion Factor Testing Cont.

- Proposal changes the time where the unexpanded thickness is measured from after exposure to environments to prior to exposure to environments
  - Change is intended to negate impact of shrinking or swelling of material resulting for environmental exposures
- Proposals is open for comments on UL's CSDS website through April 14th
- Assuming no surprises, changes will be balloted shortly

UL 2079 – Inclusion of Additional Class of Cycling for Joints Used in Base Isolated Buildings

- Base isolation is becoming increasingly popular in seismic areas
- Use of base isolation blocks changes the stresses imposed on the structure and the movement of joint systems
- Currently requirements of UL 2079 do not reflect the stresses imposed on base isolated buildings

UL 2079 – Inclusion of Additional Class of Cycling for Joints Used in Base Isolated Bldgs Cont.

- Changes being discussed:
  - Define meaning of Class I, II and III movements
  - Adding a new Movement Class 4 for seismically isolated buildings with the joint being moved at 20 cpm
  - Clarify cycling and fire testing requirements for joints with movement capabilities in multiple planes
  - Fire test the joint at the larger of the nominal joint width plus 10% of the seismic movement capability, or the nominal joint width plus the thermal or wind sway movement capability
  - Anticipate a UL Bulletin seeking comments shortly

ULC-S115 – Harmonization with UL 1479 – Length of Penetrating Item

- Proposes slight changes to the length of penetrating item in ULC-S115 to harmonization with UL 1479
- Comments period is not yet open

ULC-S115 – Harmonization with UL 1479 – Length of Partially Insulated Penetrating Item

- Proposes changes to the length of partially insulated penetrating item in ULC-S115 to harmonization with UL 1479
  - Proposes a minimum 279 mm length of uninsulated penetrant on the exposed side of the assembly to replicate heat transfer into pipe which would occur in a field application
- Comments period is not yet open

Affinity Firestop Photo

ULC-S115 – Harmonization with UL 1479 and UL 2079 – Inclusion of Water Leakage Test

- Proposes the addition of an optional water leakage test (W Rating) from UL 1479 and UL 2079 into ULC-S115 for penetration firestop system and joint firestop systems
- Proposed language supports Canadian listings which already exist
- Comments period is not yet open

Water vessel (PVC pipe) placed over firestop system, siliconed to slab, and once cured, filled with 36 in. of water

UL Photo

ULC-S115 – Harmonization with UL 1479 and UL 2079 – Inclusion of Environmental Exposure Testing

- Proposes the addition of requirements to evaluate the impact of environmental exposures on intumescent materials use in penetration firestop systems and joint firestop systems
- Materials exposed to accelerated aging and high humidity exposures
- After exposure, the material's performance is evaluate based on "small-scale" expansion factor and expansion pressure tests

ULC-S115 – Harmonization with UL 1479 and UL 2079 – Inclusion of Environmental Exposure Testing Cont.

- Materials not meeting the requirements of the “small-scale” tests may be evaluated based on exposing “full-scale” fire test sample to the environmental conditions
- Proposed language supports all US based cUL listings which already exist
- ULC listings may not already comply unless mfr has US based listings on the same product
- Comments period is not yet open

ULC-S115 – Differentiation of the Types of Membrane Penetrations and How Each is Tested

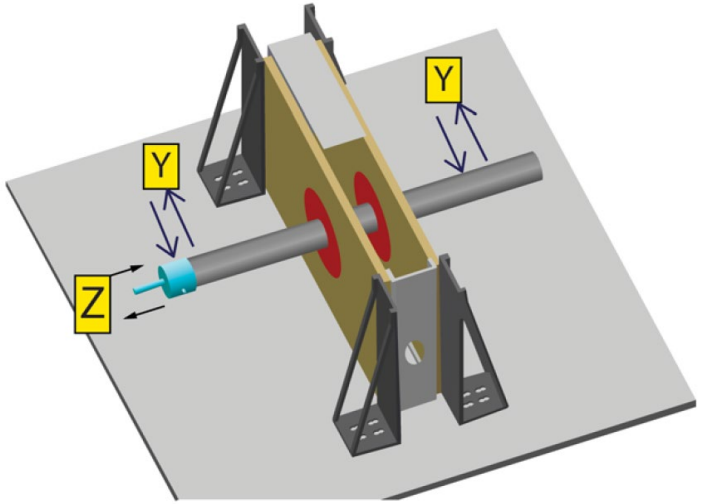
- Clarifies the three types of membranes penetrations:
  - Items other than recessed boxes – Supply and drain lines, etc.
  - Recessed electrical outlet boxes
  - Recessed boxes other than electrical outlet boxes – Washer boxes, dryer boxes, circuit breaker boxes, etc.
- Clarifies testing procedures and thermocouple locations for each type of membrane penetration
- Comments period is not yet open

ULC-S115 – Addition of Cotton Waste Test for Penetration Firestops

- Currently ULC-S115 includes the cotton waste test for joint firestop systems and perimeter firestop systems, but not penetration firestop systems
- Proposal adds the cotton waste test for penetration firestop systems
- Comments period is not yet open
- If successful a similar proposal will be submitted for UL 1479

ULC-S115 – Addition of Cyclic Movement Exposure (M Rating) for Penetration Firestop Systems

- Adds an optional cyclic movement exposure (M Rating) of the penetrating item relative to the barrier
- Movement conducted prior to the fire exposure test
  - Penetrant moved within plane of barrier and perpendicular to barrier
- Comments period is not yet open
- If successful a similar proposal will be submitted for UL 1479



ASTM Standards Currently Being Developed or Revised

- Identification Systems & Labeling
- Fire-Resistive Ductwork Inspections
- SFRM Fireproofing Inspections
- IFRM Fireproofing Inspections
- Board & Wrap Fireproofing Inspections
- Firestop / Fire Resistive Joint Inspections
- Physical Properties

ASTM INTERNATIONAL

ASTM Standards Currently Being Developed

- Identification Systems & Labeling


WARNING
FIRESTOP MATERIAL
DO NOT TAMPER OR REMOVE
To repair or retrofit contact:
PRO-FIRESTOP INC. 416-290-0903

FCIA Recommended Professional Practice Identification Systems

“Labelling”

-On-

Wall/Horizontal Assy. Penetrating Item Hanging

Hose Stream Test

UL Solutions Image

ASTM Standards Currently Being Developed

- Fire-Resistive Ductwork
- Fire Resistive Ductwork Inspections

ASTM Standards Currently Being Developed

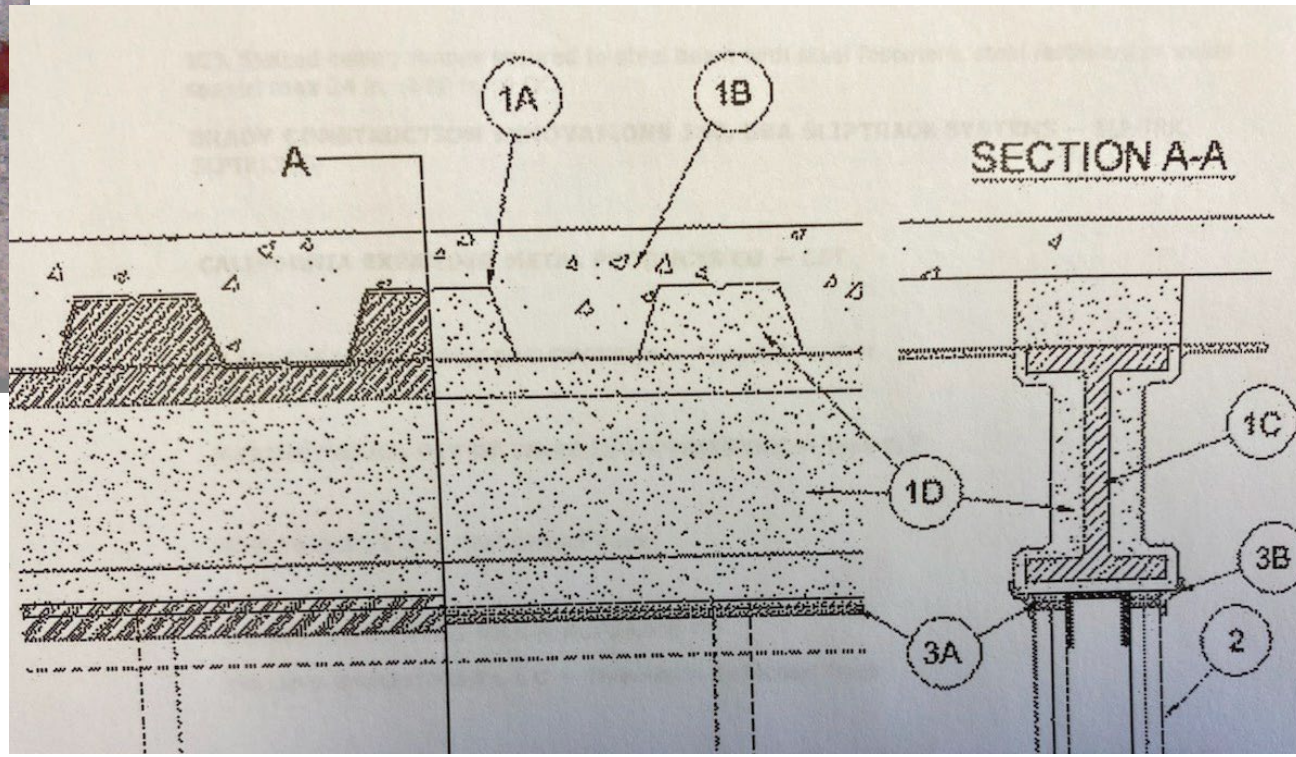
- Board & Wrap Fireproofing Inspections

ASTM Standards Currently Being Developed

- SFRM Fireproofing Inspections
- IFRM Fireproofing Inspections

SFRM Fireproofing

Firestop Solutions Photo



IFRM Inspection Standards.

Pre-Burn

Post-Burn

Intumescent Fire-Resistive Materials expand

10 to 20x the installed thickness

ASTM Standards Currently Being Revised

- ASTM E119, etc.
- ASTM E814 – Committee E-05
  - F, T,
- ASTM E814 – Ancillary Standards – E06
  - M Rating – Movement – E3037
  - H Hose Stream Test – E2226
  - E Exposure – E2785
  - A – Age/Longevity Assessment – E2923

ASTM Standards Currently Being Revised

- ASTM E2174 – Penetration Firestop Inspections
- ASTM E2393 – Fire Resistive Joint Inspections
- ASTM E3038 – Inspector Qualifications
- ASTM E3157 - Guide

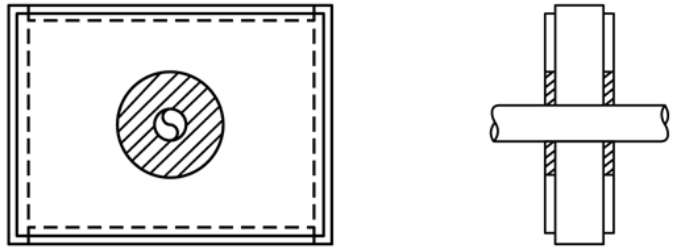
Firestop & Inspection

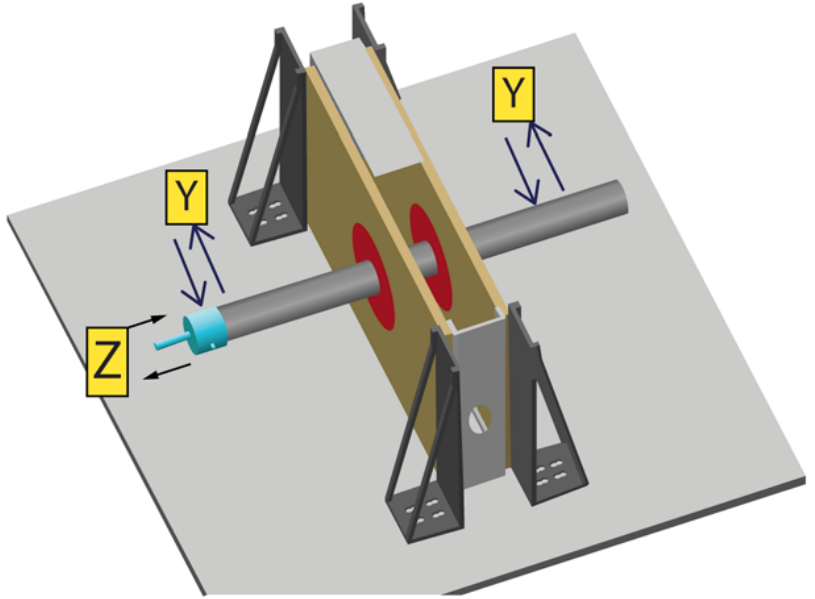
- ASTM E2174 / ASTM E2393 – *“Inspection Process”*





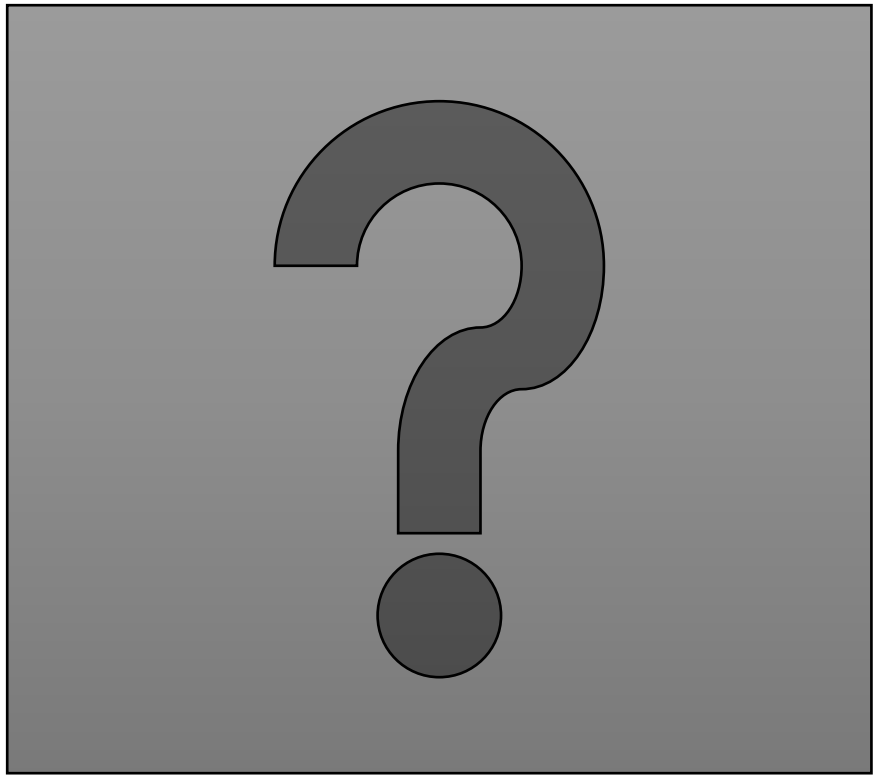
E3037 M Rating (Optional)





ASTM Image

Questions??



Thanks for Attending!!!

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