

Importance of Conformity and Certification in Life Safety

Cairo, Egypt
November 5th, 2015

Romnish Kapoor



Safety Design in Buildings



Cairo Conference

JW Marriott Hotel Cairo, Thursday, November 5, 2015

Course Description

Introduction to life safety for building materials and systems. The presentation will focus on understanding the stakeholders in the built-environment, importance of conformity, certification, learning lessons on life safety.

Presenter

Romnish Kapoor

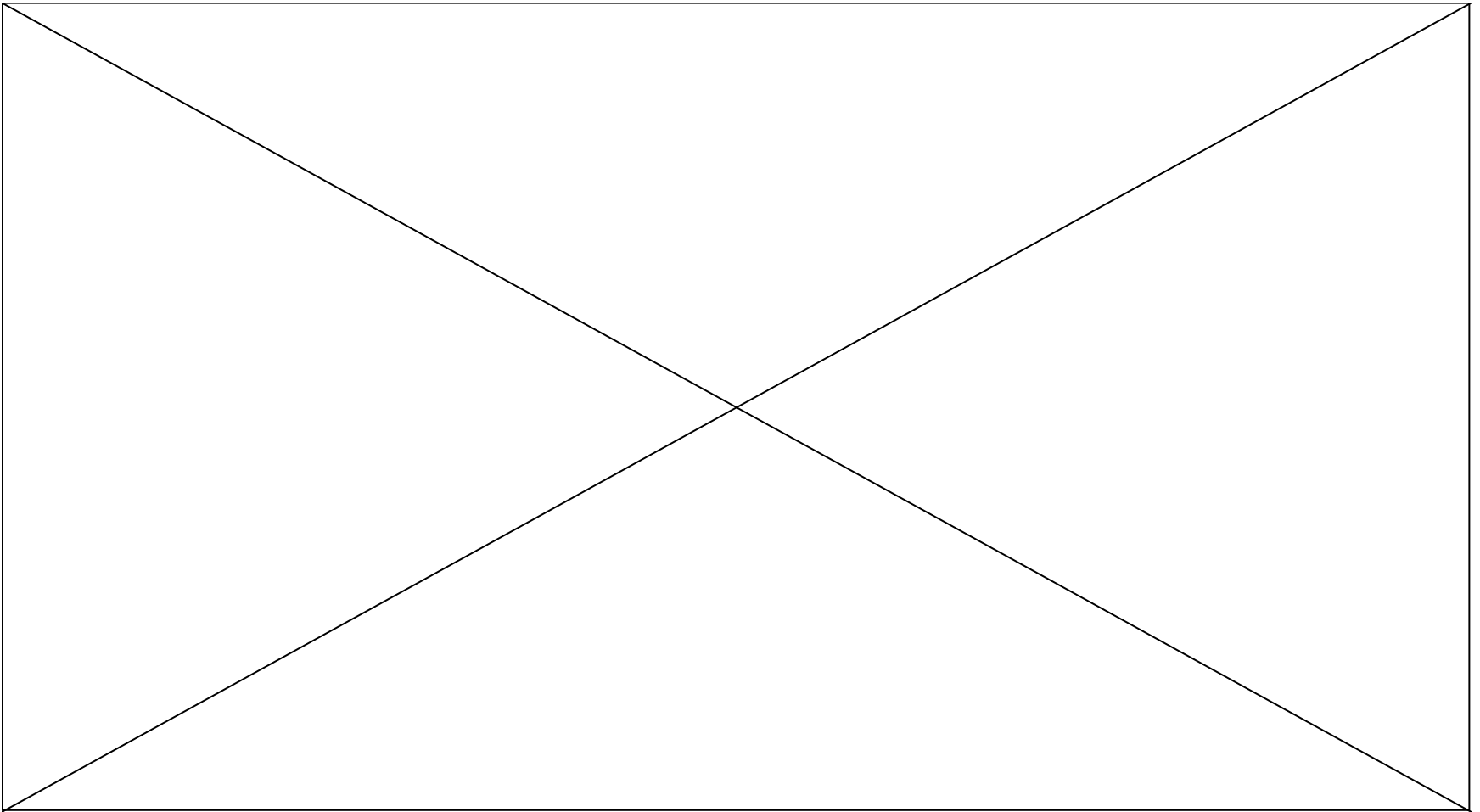
*Sales Manager – Building & Life Safety Technologies,
Underwriters Laboratories Middle East*

My career started as a engineer in the fire industry and then gradually moved towards the Management role. Currently holding the position of Sales Manager for the Middle East region for UL's Building and Life Safety Technologies Division. Have been involved in fire products certification programs and closely work with various stakeholders to ensure safer products enter the market.

Learning Objectives

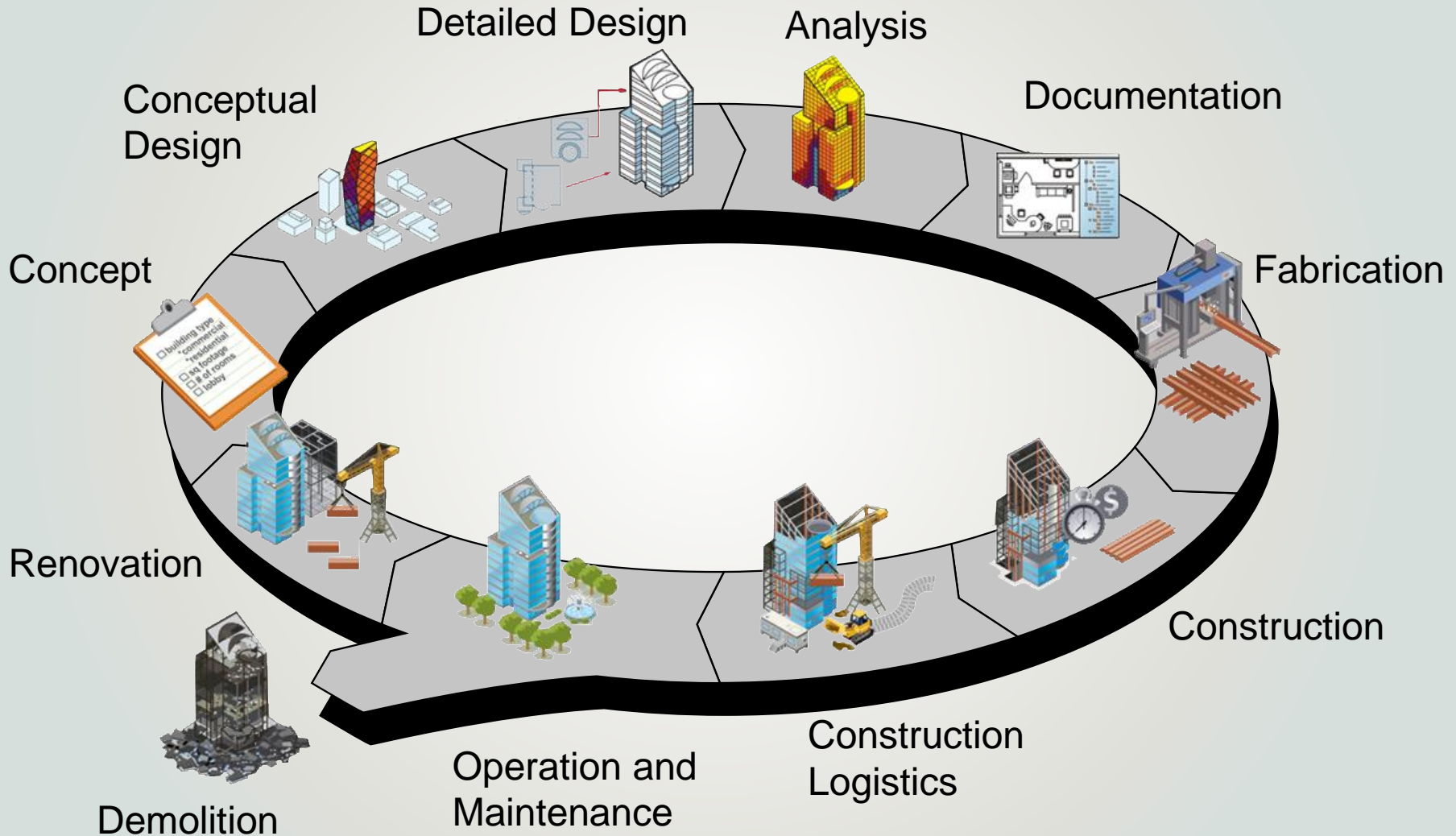
- 1. Stake Holders in the Built Environment**
- 2. Standards and Codes**
- 3. Importance of Certification**
- 4. Learning Lessons**
- 5. How UL can help?**

Modern vs Legacy Room Furnishings



STAKEHOLDERS IN THE BUILT-ENVIRONMENT

Phases of the Built Environment



Stakeholders in Built Environment

**Designer/
Architects**

Manufacturer

Installer/Contractor

**AHJs
(Civil Defense)**

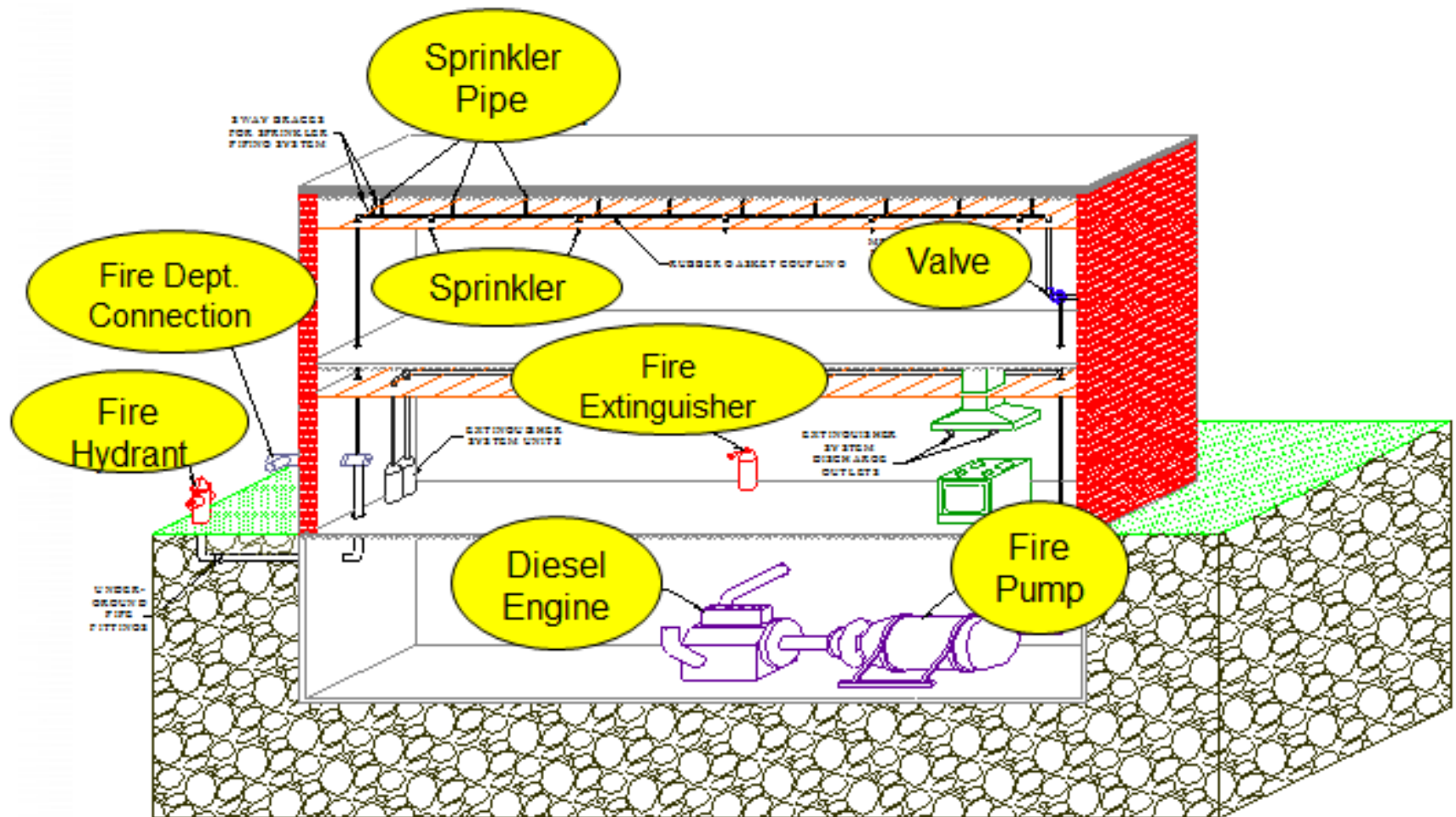
Insurers

Owner/User

**Testing/Certification
Body**



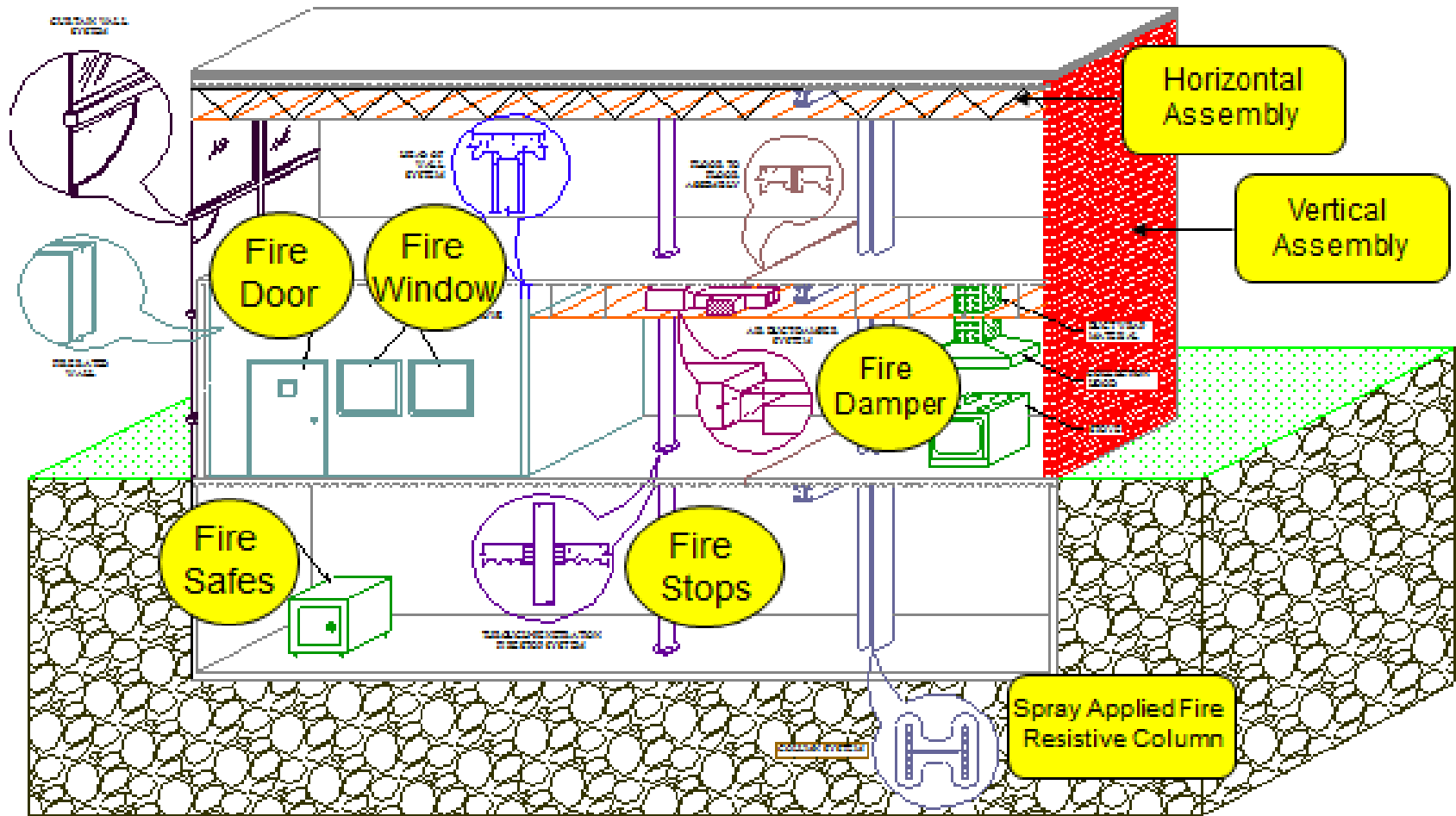
Typical Components - Built Environment



ACTIVE FIRE SYSTEMS



Typical components - Built Environment



PASSIVE FIRE SYSTEMS



CODES AND STANDARDS

Product Requirements

Codes

- Minimum construction requirements
- Indicates where and when to install product

Standards (Certification)

- How to evaluate/test product
- Indicates non-compliance



International Codes - Development Organizations

International Code Council (ICC)

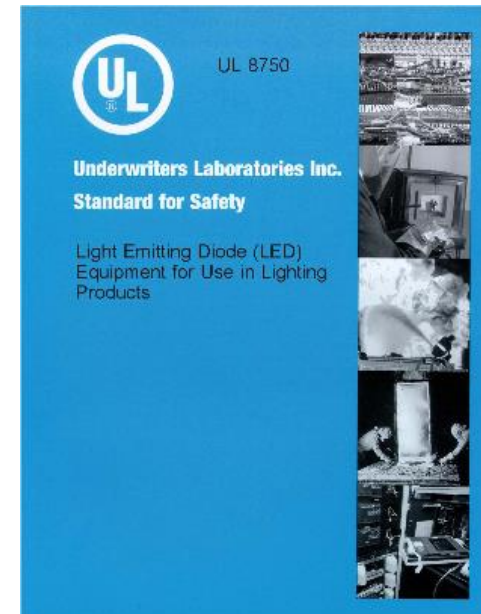
**International Association of Plumbing and Mechanical Officials
(IAPMO)**

National Fire Protection Association (NFPA)



Standards

- **Contain requirements for safety and performance**
- **Reflect the input of interested parties**
 - officials, manufacturers, end users
- **Accreditation (ANSI)**
 - Accredits standards developers
 - Ensures accurate standards
- **Code References**



Standards' Writers

American National Standards Institute (ANSI)



American Society for Testing and Materials (ASTM)



Canadian Standards Association (CSA)

National Sanitation Foundation (NSF)



American Society of Mechanical Engineers (ASME)

American Water Works Association (AWWA)



International Association of Plumbing and Mechanical Officials (IAPMO)

National Fire Protection Association (NFPA)



Underwriters Laboratories Inc. (UL)



IMPORTANCE OF CERTIFICATION

Understanding Certification

Certification is the practice in which product(s) undergo performance/quality testing to meet or exceed safety qualifications as specified by regulations, government and building codes officials, standard committees etc.



Listing

- **Listing is required by the regulating bodies**
- **Provides Testing and Certification**
- **Allows use of trademark to indicate product compliance**
- **Requires factory visits and ongoing QA/QC program**
- **Label and trademarks used by building regulators to determine code compliance**



Certification Scheme – Product Safety

Product Evaluation

Product Testing (fire, electrical, performance etc.)

Reporting and Certification

Marking/Identifier

Follow-Up/Inspection (QA/QC)



Certification Marking



Importance of Certification

The importance of certification and conformity



Monitors & Controls

Improves QA/QC

Increased Safety



Educating Stakeholders

The importance of Installing tested and listed products as per codes

Increased Quality

Increased Safety

Reduced Costs



**Underwriters
Laboratories**

**Qualified Firestop
Contractor Program**

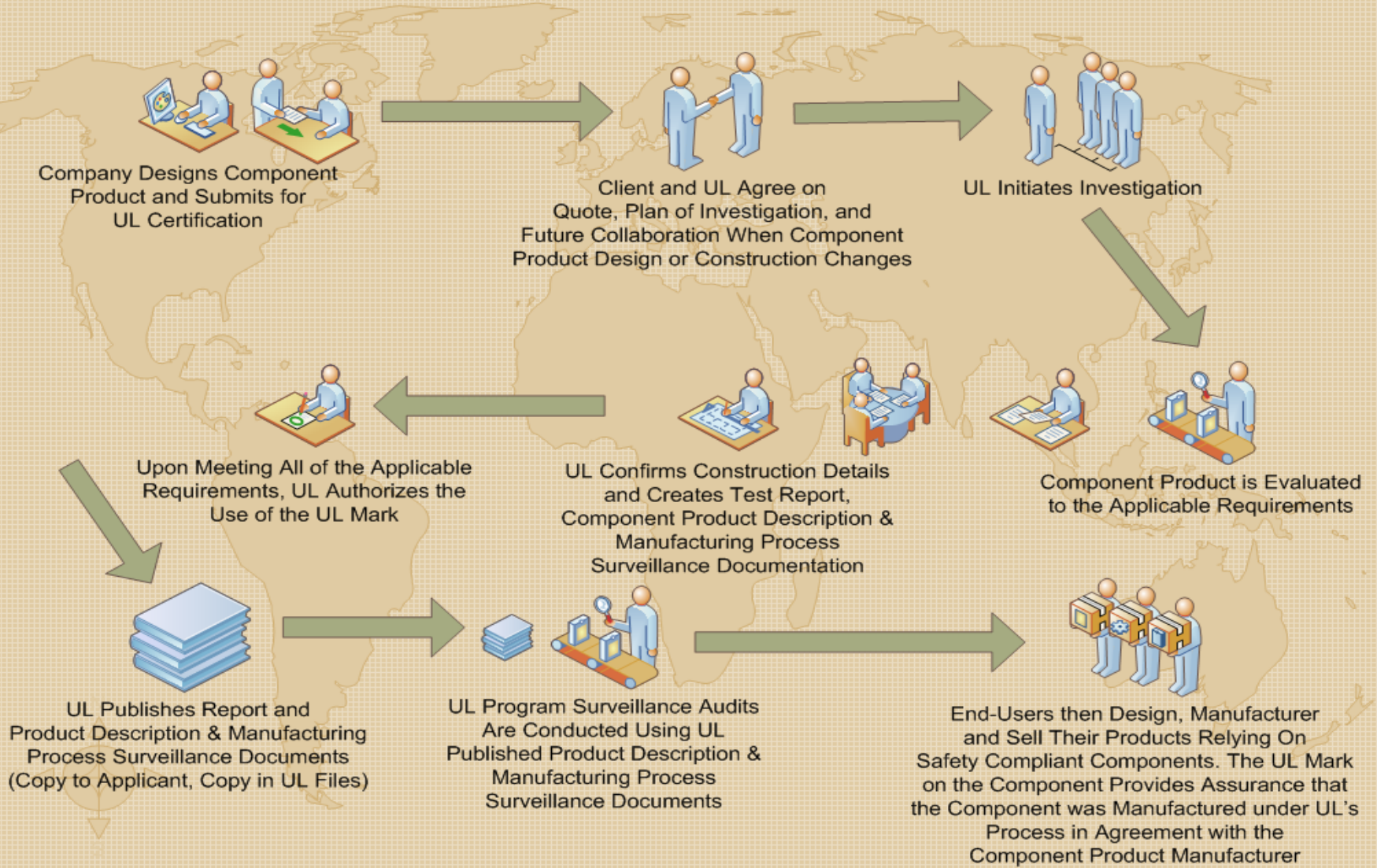


LISTED

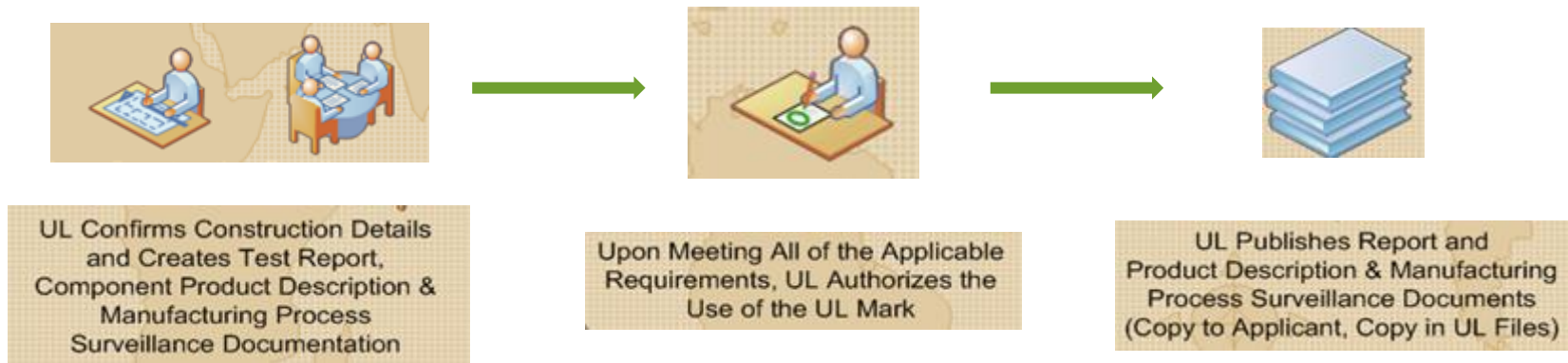


Certification– in Built Environment

SIMPLIFIED UL INVESTIGATION AND SURVEILLANCE PROCESS

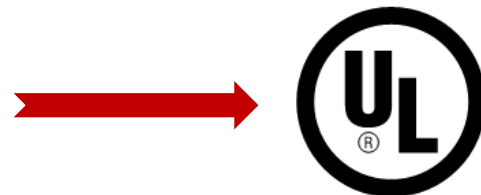


Test Reports - Development



A UL Engineer develops the report which includes all tests and compliance evaluation documentation with appropriate technical requirements from applicable product Standard.

This report is reviewed by an experienced and qualified technical reviewer. If all requirements are met, they make the certification decision which results in the product being eligible to bear the Mark.

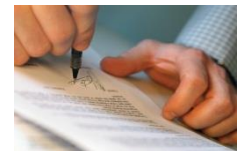


Test Reports & Inspection Document



Two documents result from the conclusion of a product investigation

- 1. Report- a report of the investigation of the product. It contains a Cover Page, Description, Test Record and Conclusion**
- 2. Inspection Document – When a product is judged to be acceptable to bear the Mark, the required FUS Procedure shall be prepared for the following purposes -**
 - A. Provide descriptive material and/or test specifications necessary to supervise the product to the degree contemplated by UL's requirements.**
 - B. Serve as a specification that can be used by the manufacturer for checking the product and by the Field Representative in counterchecking the manufacturer's control**



Surveillance: Follow-Up Services

Throughout the lifetime of the certification, products undergo regular inspections at the manufacturing facility based on specifications detailed in the Inspection Document to verify continued compliance with requirements



Follow-Up Services program is fundamental to the integrity of UL's certification Marks.





LEARNING LESSONS

Protecting the built environment

- Focus on the structural integrity and safety of built structures with architects, specifiers, contractors, authorities and fire service

Services:

Safety Research
Fire Service Training
Qualified Contractor Programs
Multi-Attribute Sustainable Product Certification
Safety Certification
Fire Behavior Consulting
Flammability Testing



MODERN HOMES REACH FLASHOVER

8X

FASTER THAN HOMES BUILT
50 YEARS AGO DUE IN PART TO NEW
MATERIALS IN BUILDING PRODUCTS AND
FURNISHINGS.



Anti-Counterfeiting Operations



“ To protect the safety of consumers around the world from the potential hazards associated with goods bearing counterfeit UL Marks ”



Label Counterfeiting

Certification Mark

Holographic Label



Label Number

Serial Number



Preventing Counterfeiting



- Identify key marking identifiers (serial number, file number, company name)
- Manufacturer to provide test report
- Manufacturer to provide Certification Certificates
- Research product online
- Report counterfeiting to 3rd Party Certification Organizations



Market Surveillance

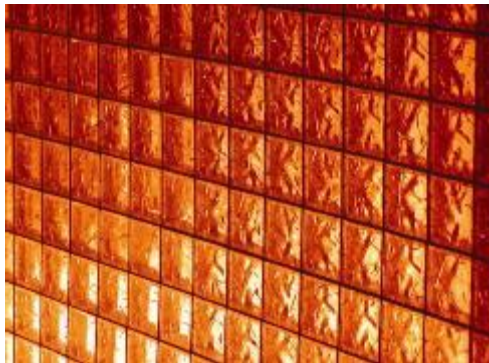


The Market Surveillance Mission Statement:

To investigate product incident reports and perform market sampling of products to protect the integrity of UL's Certification Marks.



Fire Safety



Product Segments	
Fire Resistance & Containment	Fire Suppression
Joint Systems	Extinguishing System Units <ul style="list-style-type: none">• Clean Agent• Carbon Dioxide• Dry Chemical• Low Expansion Foam and Equipment• High Expansion Foam and Equipment• Wet Chemical Solution
Fire Resistance Assemblies	Fire Extinguishers
Fire Doors	Fire Main Equipment
Fire Windows	Fire Pumps & Engines



Fire Safety

Product Segments

Building Products

Roofing Materials

- Fire Resistance Characteristics
- Wind Resistance
- Wind uplift
- Material / Product Physical Performance Properties

Marine Products

Air Ducts, Air Connector & Closure Systems

Building Materials

- Surface Burning Characteristics
- Room/Building Corner Tests
- Intermediate-Scale Multistory Test

Reaction to Fire

Wire and Cable

- Limited Combustible Rated Cables
- Plenum Rated Cables
- Riser Rated Cables
- Vertical Rated Cables

Telecommunications equipment

Switchgear

Mattresses and Futons

Upholstered furniture

Fabrics

Semi-conductor clean room materials



Fire Resistive Assemblies

(Horizontal Assembly Before Test)



Fire Resistive Assemblies

(Horizontal Assembly Failure)



Fire Resistive Assemblies

(Vertical Assembly Failure)



Fire Resistive Assemblies

(Typical Test Plan)

UL Fire Door & Frame

- UL Fire Test as per UL 10 B and/or UL 10C
- UL Hose Stream Test





Romnish Kapoor | Sales Manager | UL
T: +971 52 9101155 | romnish.kapoor@ul.com

gar.y.knef@ul.com

Or visit www.ul.com



THANK YOU!