Emerging Challenges in Storage Protection

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IKEA Group Risk Management
Jan Lagerblad

Fire & Rescue Services:
- Fire Engineer

IKEA:
- Risk Manager (Sweden)
- Area Risk Manager (AP)
- Safety & Security specialist (Concept owner)
- Fire Safety Manager

Småland, Sweden
Agenda:

- IKEA Concept
- Facts & Figures
- IKEA - Fire Risk Handling
- Emerging Challenges
  - Fire load – goods configuration
  - Type of storage solutions
  - Storage height / Ceiling height
  - New businesses
  - New markets
SHARING A VISION
To create a better everyday life for the many people

BUSINESS IDEA
We shall offer a wide range of well-designed, functional home furnishing products at prices so low that as many people as possible will be able to afford them.
100 % IKEA ownership

IKEA Group

- INGKA Holding B.V.
  - IKEA Stichting
  - IKEA Services B.V.
  - IKEA Retailers
    - IKEA Retailer
      - NL (DELFT)

Inter IKEA Group

- Inter IKEA Holding S.A.
  - Inter IKEA Holding Services S.A.
  - IKEA Retailers
    - AU CN CY GR IS IL KW SA ES TW TR AE MY SG

Other Owners

- IKEA Concept Owner (Franchisor)

Tot: 326 Stores

287 Stores

38 stores

1 store
IKEA – Fire Risk Handling

Historical perspective:


IKEA – Fire Risk Handling

Historical perspective:

- Israel 2011
- NOT IKEA Group owned unit!
IKEA – Fire Risk Handling

Concept development:

Development IKEA concept:

- Concept layouts
- Sales solutions
- Logistic handling
- Store equipment
  - Restaurant
- Money handling
  - IKEA range
- Packaging concept
  - Etc.

Risks:

- Fire
- Accident
- Crime
- Natural hazards
- Etc.

IKEA Safety & Security “proven solutions”

More than 50 years of experience!
IKEA GROUP - 287 stores!
IKEA – Fire Risk Handling
IKEA Group Risk Manual:

1. Fire
2. Emergency Evacuation
3. Accident Prevention
4. Theft and Fraud
5. Corruption Prevention
6. Access Control
7. Robbery
8. Burglary
9. Threats
10. Emergency Response
11. Store Openings

IKEA Group Risk Management
International standards:
Storage protection:

- EN
- NFPA
- FM
Emerging Challenges - Storage Protection

IKEA Perspective:

- Fire load – goods configuration
- Type of storage solutions
- Storage height / Ceiling height
- New businesses
- New markets
Emerging Challenges - Storage protection
Fire load – Goods configuration

- 1958 – 1970
  - Most wooden products
  - More or less everything in cardboard boxes
Emerging Challenges - Storage protection
Fire load – Goods configuration

- 1980 – 2012
  - More and more plastic products in our range
  - New products / range
  - Not packaged in cardboard boxes
  - Shrink wrapping
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Fire load – Goods configuration

- Volume of plastic have increased
- IKEA testing since 1980-
  - SP
  - FM
  - Vds
  - Viking
  - CCI
  - UL
  - Etc.

Result study of one IKEA US store 2009 (NFPA)
Emerging Challenges - Storage protection
Fire load – Goods configuration

- Exposed Expanded Plastics
- Rolled mattresses

Challenge:
- Few international standards?
- In-rack solutions – flexibility?
- IKEA standards – Approval authorities
- Sensible solutions – Flue space
- Expensive installations

Test at FM1999-2000
Emerging Challenges - Storage protection
Type of storage solution

- VASS – Vertical Automated Storage System
- High level picking
- Sales solutions
- Packaging concept
VASS - Vertical Automated Storage System
Emerging Challenges - Storage protection
Type of storage solution: VASS

- Gas vs. conventional sprinkler?

- Challenge:
  - Fire load – standard?
  - IKEA Test needed

  Conclusion:
  - maintain the structural integrity
  - contain the fire
  - low probability for fire spread
  - manual fire fighting
Emerging Challenges - Storage protection
Type of storage solution: High Level Picking

- New storage solution in existing stores - capacity problems

- Challenge:
  - Standards
  - Rebuilding
  - Smoke management
  - Life safety
Emerging Challenges - Storage protection
Type of storage solution: Sales solutions

- New racking
  - Gondola
  - Ceiling displays
  - Solid shelves

- Challenge:
  - New sales solutions
  - Fire load
  - Obstructions
Emerging Challenges - Storage protection

Type of storage solution: Packaging Concept

- Paper pallets
- Loading ledges

Challenge:
- Flue spaces
- Flexibility
Emerging Challenges - Storage protection
Type of storage solution: Packaging Concept

- Optimal Unit loads (new)
  - Improve fill rate - transport
  - Better handling
  - Less undamaged products

- Challenge:
  - Flue spaces
  - Flexibility
Emerging Challenges - Storage protection
Storage height / Ceiling height

- New store design
- Capacity problems
- Meeting the markets need:
  - Small
  - Medium
  - Large
  - Multi level
  - City centre location

- Challenge:
  - Storage height - Available sprinkler standards
  - Ceiling height
  - Indoor climate – ceiling fans
  - Full flexibility
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New businesses

- IKEA Shopping centers
- Challenge:
  - Different businesses
  - Fire loads
  - Sprinkler standards
  - Legal demands
  - Company policies
  - Contract tenants
Emerging Challenges - Storage protection
New markets

**Challenge:**

- **Different stakeholders - know-how:**
  - Local IKEA project team
  - Insurance
  - Authorities

- **Legal requirements**
  - Local sprinkler standards
  - Smoke management (Life Safety)

- **Communication - Culture**

- **Corruption!**
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Conclusion - Vision

- High level of fire safety
- Flexibility
- Simplicity
- Cost efficient solutions
- Know-how

Most things still remain to be done. A glorious future!