

# The Dalmarnock Fire Tests: The “Whys”

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# Key Issues

- o **Why did we have to do this?**
- o **What did we want to achieve?**
- o **The Story**
- o **The Thanks!**

# Why did we have to do this (I)

- o **Fire Safety Engineering: A vibrant Field**
  - o Sophisticated Tools
  - o Large scale tests
  - o Professional identity and confidence

# Why did we have to do this? (II)

- o **A drying pipeline**

  - ...we to promote the discipline to fill the pipe**

- o **A Real need for “Fire Safety Engineers”**

- o **A TV Show... April 24 2007: “Skyscraper Fire Fighters”**

# What did we want to achieve? (I)

- o Promoting the field
- o **Fill essential gaps in FSE:**
  - o Tests designed to validate CFD & FEM Tools
  - o Tests showing real interactions between structures and fire
  - o Tests to assess performance of modern materials
- o **Only the science could justify the effort!**

# What did we want to achieve? (II)

- o A training field for a new generation of FSE



# What did we want to achieve? (III)

## oFireGrid:

oHow can engineering support fire fighting?

# The Story

- o 3 Years to convince the BBC to agree to do this show
- o April 2006 – Green Light!
- o May 2006 – We have a building but we have no money for the tests
- o May 2006 – Strathclyde Fire Brigade says yes
- o May 2006 – begging works!
- o June 2006 – Lets go shopping!
- o June 2006 – A tenant does not want to move!
- o July 1<sup>st</sup> 2006 – We can go in
- o July 28<sup>th</sup> - we have to be out!
- o July 25<sup>th</sup> & 26<sup>th</sup> – Lets set the building on fire!



**We are in!**



# Work Starts!



# Preserving the Heritage!



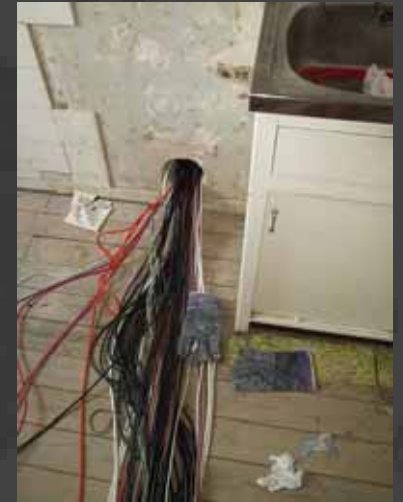
# Shopping and Assembling



# Preliminary testing



# This is more complicated than what we thought!



# Chaos?

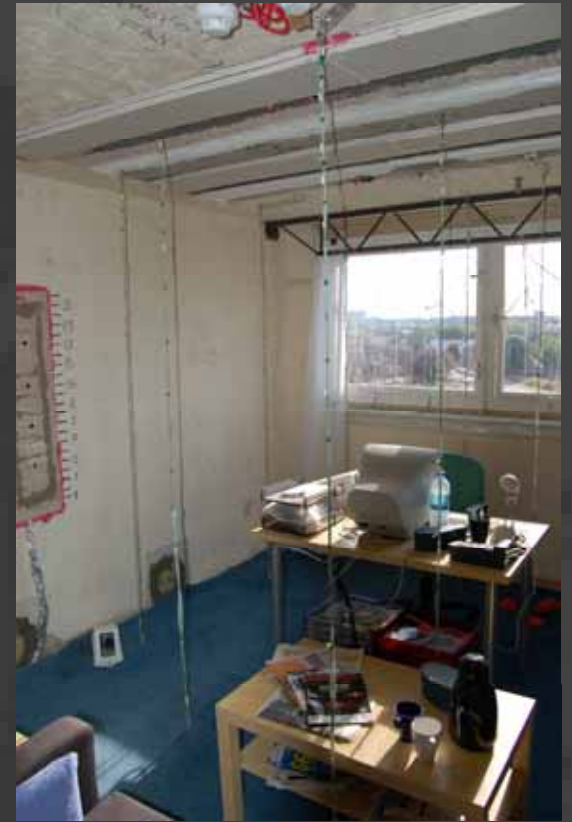


**Order!**





# Ready!



**Ready!**



**o Beyond original expectations!**



**o On Schedule!**



**o Under-Budget!**



**Fire!**



# The Tests

- o **Test 1: Uncontrolled fire**
- o **Test 2: Controlled fire**
- o **Test 3: Series of smoke movement tests in a stairwell**

# **The Thank you!**

- **Too many people for me to remember!**

# What you will see today

- o **The Context: FireGrid**
- o **The Test Description**
- o **The Test Data**
- o **The Test Analysis**
- o **Complementary testing**
- o **The Modelling**
- o **The Fire Brigades View**



**Thank you**