THE NEW ASBESTOS REGULATIONS

WHY DO WE NEED NEW REGULATIONS,
HOW DO WE COPE?

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IOSH, Glasgow, November, 2004

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ASBESTOS?

• What is it?
• Why was it used? Where was it used?
• What are the REAL (Compared with PERCEIVED) risks?
• What (legally) has just happened, and why?
• What do I do?
• HELP !!!!!!!

WHAT IS ASBESTOS?

A FAMILY NAME GIVEN TO THE FIBROUS FORMS OF A GROUP OF NATURALLY OCCURING MINERAL SILICATE FIBRES.

WHY WAS IT USED?

GOOD INSULATOR AGAINST:
• HEAT
• ELECTRICITY
• NOISE
• VIBRATION

• RELATIVELY IMPERVIOUS TO:
• ACID
• WEATHER
• VERMIN

• ORIGINALLY CHEAP TO PRODUCE AND IMPORT

TYPICALLY WHERE WAS IT USED?

INTERNALLY
• PIPE/BOILER INSULATION
• FIRE PROTECTION BOARDS
• CEILING TILES
• WALL CLADDING
• FIRE DOORS (EXTERNAL PANEL OR SANDWICH)
• HOT AIR CENTRAL HEATING SYSTEMS
• NIGHT STORAGE HEATERS
• BEHIND RADIATORS
• GASKETS
• FLOOR TILES
• FRICTION MATERIALS
• ARTEX

Pipe Insulation
Ceiling tiles

Internal Partitions

Decorative coating (Artex)

Floor (vinyl) tiles

Ceiling Tiles - perforated

TYPICALLY WHERE WAS IT USED?

EXTERNALLY

WATER AND SEWAGE PIPES

DRAIN PIPES

SOFFITS EXTERNAL WALL CLADDING

(CORREGATED) ROOFS OF OUT BUILDINGS
**Asbestos Cement Roof**

**Asbestos cement – gutter, pipe, cladding**

**Soffits**

**COMMON LOCATIONS IN PUBLIC SECTOR HOUSING**

**Why would it affect this group?**

- Not often a problem in privately built houses
- A significant problem in publicly funded housing stock/buildings.
- Therefore, a significant problem for L.A. and Housing Associations/Cooperatives — particularly when built in 1960’s, 70’s and early 80’s.
The Result

- We are surrounded by asbestos products.
- Post mortem studies show that more than 60% of people in the UK have asbestos fibres in their lungs at point of death (over 36 000 000 people).
- It was nothing to do with cause of death.

WHAT ARE THE RISKS?

INHALATION OF ASBESTOS FIBRES CAN LEAD TO:

- ASBESTOSIS MASSIVE OVER EXPOSURE
- LUNG CANCER
- MESOTHELIOMA “LOW LEVEL”

LATENT PERIOD BETWEEN 10 - 40 YRS: typically 25/35

WHAT IS THE REAL RISK?

HSE PROJECTIONS FOR ENGLAND & WALES

Types of Death Numbers

<table>
<thead>
<tr>
<th></th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Disease</td>
<td>165 000</td>
</tr>
<tr>
<td>Cancer</td>
<td>140 000</td>
</tr>
<tr>
<td>Respiratory Disease</td>
<td>56 000</td>
</tr>
<tr>
<td>Home Accidents</td>
<td>4 500</td>
</tr>
<tr>
<td>Suicides</td>
<td>4 000</td>
</tr>
<tr>
<td>Road Accidents</td>
<td>3 000</td>
</tr>
<tr>
<td>Homicides</td>
<td>630</td>
</tr>
<tr>
<td>Work Accidents</td>
<td>235</td>
</tr>
<tr>
<td>Asbestos Deaths</td>
<td>2 000</td>
</tr>
</tbody>
</table>

LUNG CANCER

Asbestos & Lung Cancer Death Rates per 100 000 Man Years

<table>
<thead>
<tr>
<th></th>
<th>Smoker</th>
<th>Death Rate</th>
<th>Mortality Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>11.3</td>
<td>1</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>58.4</td>
<td>X 5</td>
</tr>
<tr>
<td>No</td>
<td>Yes</td>
<td>122.8</td>
<td>X 11</td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>601.6</td>
<td>X 53</td>
</tr>
</tbody>
</table>

AIRBORNE MEASUREMENT

Sample fixed known volume (ml) Count number of respirable fibres (f) Result expressed in f/ml

AIRBORNE LIMITS

- Occupational Exposure 0.2 f/ml
- "Environmental" Exposure 0.01 f/ml

Typical Airborne concentrations f/ml

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Stripping</td>
<td>up to 100</td>
</tr>
<tr>
<td>Removal of Limpet</td>
<td>up to 1000</td>
</tr>
<tr>
<td>Working with Tiles</td>
<td></td>
</tr>
<tr>
<td>Breaking and Removal</td>
<td>5 - 20</td>
</tr>
<tr>
<td>Drilling Overhead</td>
<td>4 - 10</td>
</tr>
<tr>
<td>Hand Sawing</td>
<td>5 - 12</td>
</tr>
</tbody>
</table>
OCCASIONAL OCCUPATIONAL EXPOSURE

ACTION LEVELS
MEASURES EXPOSURE IN THE LONGER TERM
CUMULATIVE EXPOSURE IN ANY CONTINUOUS 12 WEEK PERIOD
AIRBORNE CONCENTRATION IN………………f/ml
EXPOSURE TIME IN…………………………hours
EXPRESSED IN ……………………………..fibre hrs/ml
• FOR CROCIDOLITE/AMosite 48 f.hrs/ml
• FOR ALL OTHER TYPES 72 f.hrs/ml
IF A.L. IS EXCEEDED THEN REGULATIONS ON NOTIFICATION, DESIGNATED AREAS & MEDICAL SURVEILLANCE APPLY IN FULL i.e. an asbestos worker.

OCCASIONAL EXPOSURE OF ELECTRICIAN

TYPE OF ASBESTOS IN SUSPENDED CEILING IS: AMosite
ACTION LEVEL IS: 48 f.hrs/ml
HIS WORKING SCHEDULE IS:
6 WEEKS
5 DAYS PER WEEK
8 HOURS PER DAY POSSIBLY 2 HOURS ON ASBESTOS WORK
POSSIBLE EXPOSURE LEVEL………..2 f/ml
CUMULATIVE EXPOSURE =
2 f/ml x 2 hrs/day x 5 days/week x 6 weeks = 120 f.hrs/ml
SECOND 6 WEEK PERIOD IS ZERO
TOTAL EXPOSURE IN 12 WEEKS IS 120 f.hrs/ml

THE JOB

CONSIDER AN ELECTRICIAN WORKING FOR THE SIX WEEK SUMMER HOLIDAY IN A SCHOOL.
HE TAKES DOWN OLD LIGHTS & DRILLS HOLES IN AN ASPBESTOS SUSPENDED CEILING IN ORDER TO ATTACH NEW FLUORESCENT LIGHTS

THE QUESTION

IS HE AN ELECTRICIAN WHO IS OCCASIONALLY EXPOSED TO ASPBESTOS?
OR
IS HE AN ASPBESTOS WORKER WHO OCCASIONALLY FIXES THE LIGHTS?

Roger’s MESOTHELIOMA CYCLE

Who are these people?

- The additional deaths occur NOT in the conventional group e.g. heavy industry.
- Deaths occur primarily in tradesman e.g. electricians, plumbers, carpenters.
- Largest single group is “tradesmen working for L.A.’s”
- We need new asbestos regulations to protect these people.
**Roger's MESOTHELIOMA CYCLE**

**The Asbestos Regulations Oct.2002**
- Duty holder: (crudely) the person/body who commissions work on fabric of the building.
- Duty is for non-domestic premises ONLY, except for common areas.
- HSE estimate 1.5 million premises, 4 million duty holders.

**What do I do?**
- management plan to give the information to tradesmen before they start work.
- management plan to prevent work without the info.
- asbestos survey of premises (common areas)?

**LEGAL DEFINITIONS**

**Asbestos**
- crocidolite, amosite, chrysotile, fibrous forms of actinolite, anthophyllite, tremolite.

**Asbestos cement**
- asbestos, cement, density > 1000 kg/cu.m.

**Asbestos insulating board**
- sheet, tile, board with asbestos & anything else (not cement or bitumen)

**Asbestos insulation**
- low density material.

**SMART?**

**WORKING PROCEDURES: WHAT THE LAW SAYS**

**PROCEDURE DEPENDS ON LEGAL CATEGORY**

<table>
<thead>
<tr>
<th>WAD</th>
<th>DO WHAT YOU LIKE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAD</td>
<td>INSULATION</td>
</tr>
<tr>
<td></td>
<td>LICENSED CONTRACTOR</td>
</tr>
<tr>
<td></td>
<td>14 DAYS NOTIFICATION</td>
</tr>
<tr>
<td></td>
<td>SPECIAL WORK PROCEDURES</td>
</tr>
<tr>
<td></td>
<td>SPECIAL WASTE</td>
</tr>
<tr>
<td></td>
<td>INSULATING BOARD</td>
</tr>
<tr>
<td></td>
<td>AS INSULATION</td>
</tr>
<tr>
<td></td>
<td>(MAJOR WORKS)</td>
</tr>
<tr>
<td>MINOR WORKS</td>
<td>USE IN HOUSE STAFF</td>
</tr>
<tr>
<td>OWN STAFF, OWN PREMISES, 1 HR RULE</td>
<td>TRAINED</td>
</tr>
<tr>
<td>CEMENT</td>
<td>NO TIME LIMIT, NO LICENSE</td>
</tr>
</tbody>
</table>
ASBESTOS SURVEYS

THREE TYPES ARE DEFINED:

TYPE 1
LOCATION AND ASSESSMENT SURVEY (PRE-SUMPTIVE)

TYPE 2
STANDARD SAMPLING, IDENTIFICATION AND ASSESSMENT SURVEY

TYPE 3
FULL ACCESS SAMPLING AND IDENTIFICATION SURVEY (PRE-DEMOLITION / MAJOR REFURBISHMENT).

AN EXAMPLE OF AN ASBESTOS SURVEY

SITE: BLOGGS HIGH SCHOOL
CLIENT: XYZ LOCAL AUTHORITY

<table>
<thead>
<tr>
<th>Loc. No.</th>
<th>Sample No.</th>
<th>Location</th>
<th>Area Surveys</th>
<th>Position</th>
<th>Asbestos Type</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>G Floor</td>
<td>Gym</td>
<td>Ceiling</td>
<td>Asbestos</td>
<td>50 SQ M</td>
</tr>
<tr>
<td>2</td>
<td>As 1</td>
<td>G Floor</td>
<td>Hall</td>
<td>Ceiling</td>
<td>Asbestos</td>
<td>100 SQ M</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>G Floor</td>
<td>Kitchen</td>
<td>Red Floor</td>
<td>Asbestos</td>
<td>100 SQ M</td>
</tr>
</tbody>
</table>

Who does the survey?

- Organisations should be able to comply with the standard ISO 17020 (accredited by UKAS).
- Individual surveyors should possess BIOH proficiency module P.402 and have completed at least 6 supervised surveys.
- At least one (senior) surveyor in organisation to possess BIOH module S.301
- Sampling and analysis carried out to ISO 17025 (accredited by UKAS).

UKAS accreditation

UKAS ACCREDITATION

- ASBESTOS SURVEYING
- SAMPLING (AIR and BULK samples)
- FIBRE IDENTIFICATION (BULKS)
- FIBRE COUNTING (AIRS)
- FIVE different accreditations

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www.ukas.com

Good Information

HSE ASBESTOS CAMPAIGN

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