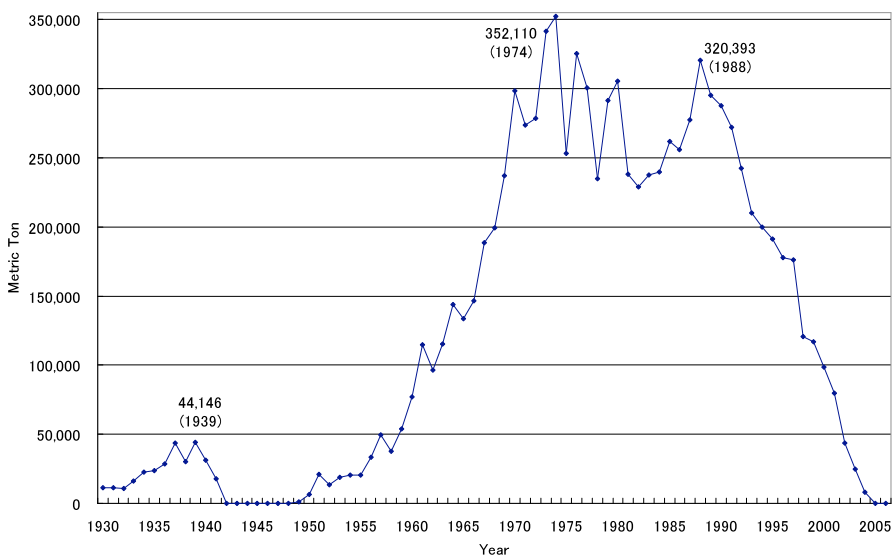


Status of Asbestos Use and Future Challenges in Japan

TOYAMA Naoki

Tokyo Occupational Safety and Health Center

Asbestos Import of Japan



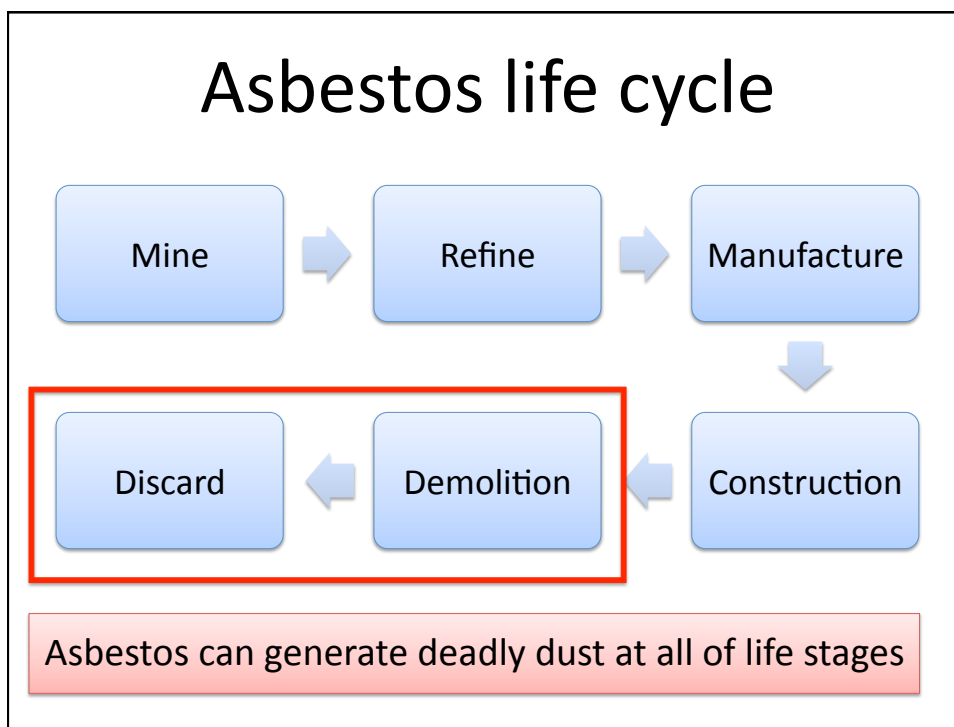
Status of asbestos use

1. Amount of imported asbestos was around 10,000,000t in the 20th century.
2. 80-90% of imported asbestos was used into construction materials.
3. 1995: ban on use of amphibole asbestos.
2004: ban on use of chrysotile into major materials.
2006: general ban asbestos.

Victims movement started in the beginning of the 21st century.



3. 1995: ban on use of amphibole asbestos.
2004: ban on use of chrysotile into major materials.
2006: general ban asbestos.



Asbestos Containing Materials

1. Spraying materials

Spraying asbestos (-1975)

Asbestos containing spraying rock wool

Spraying vermiculite...

2. Asbestos boards

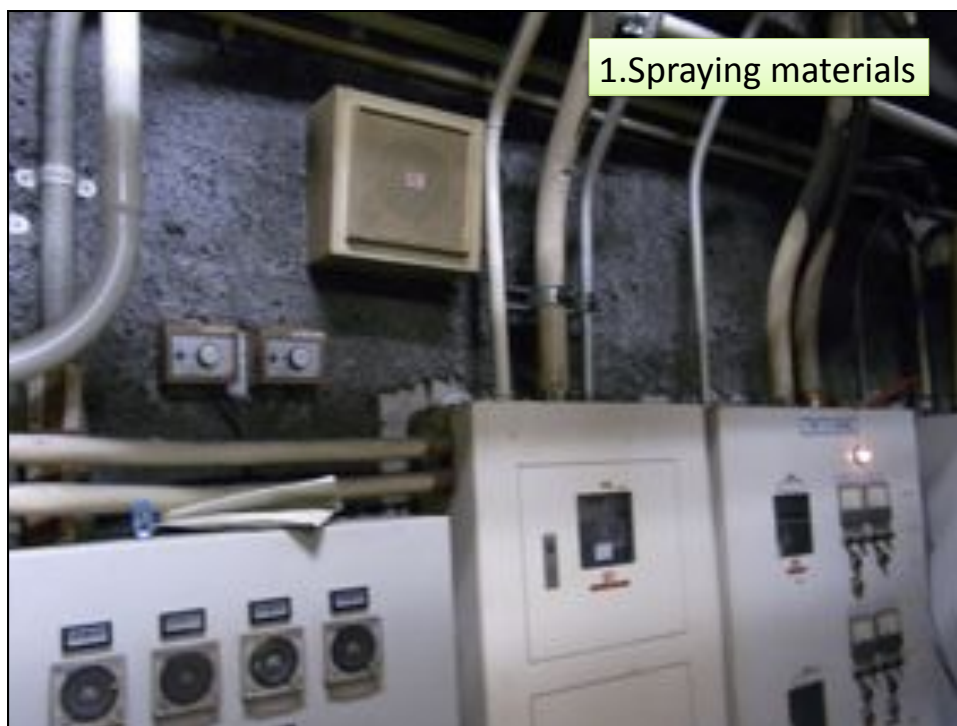
Asbestos slate boards...

3. Insulators

Lagging materials, Chimney insulators...



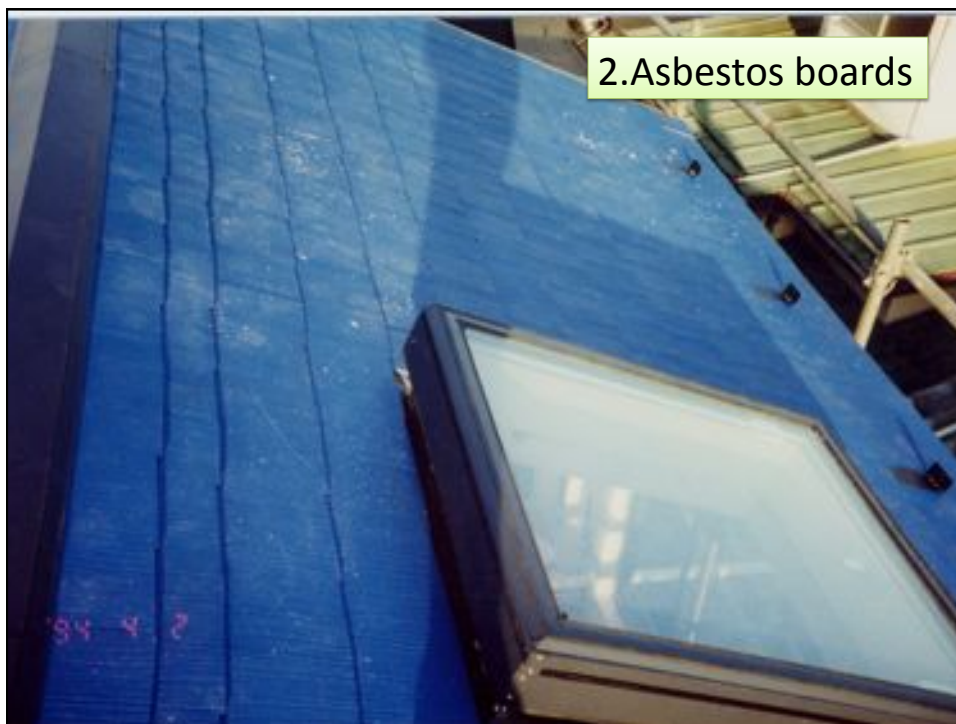
















3. Insulators



Chimney insulator

Lawbreaking demolition



Airborne asbestos concentration 80,000-120,000 f/L

Lawbreaking demolition



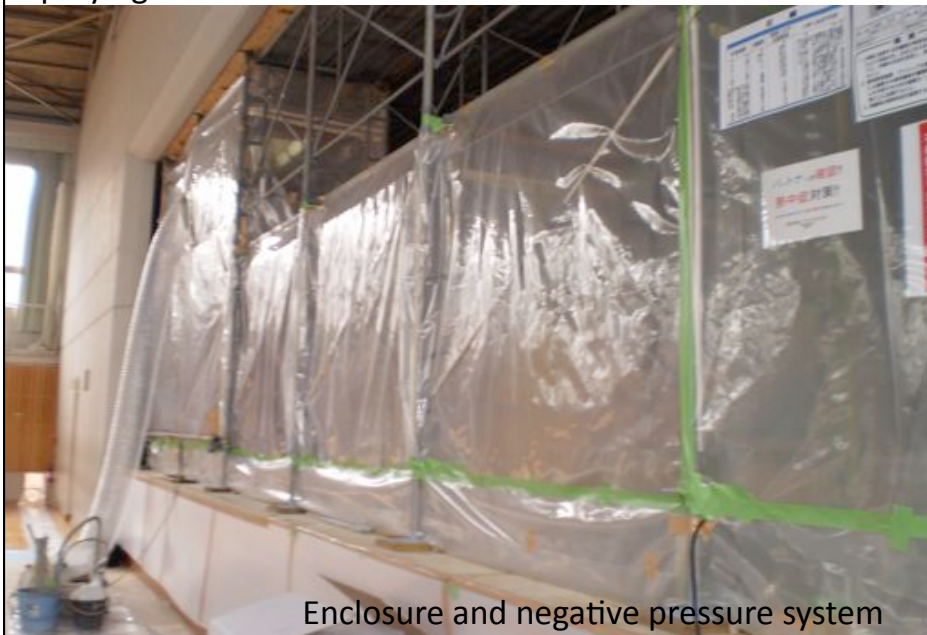
Airborne asbestos concentration 1,000-7,000 f/L

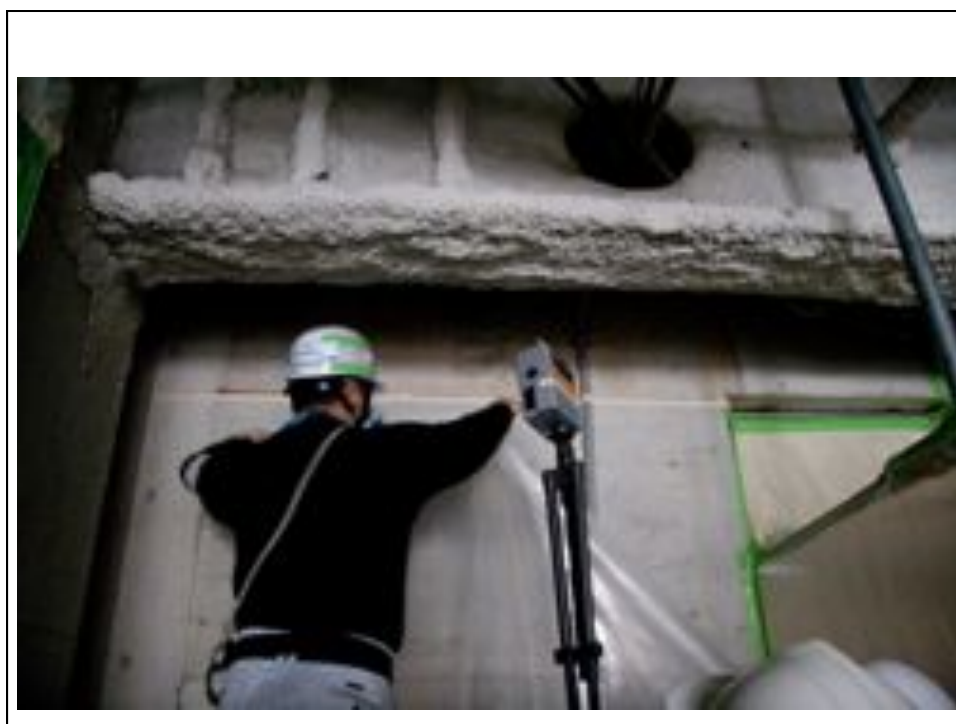
Counter measure for prevention of asbestos exposure 1

1. Spraying materials

- Enclosure and negative pressure system
- Moistening agent
- Exceeding High performance PPE's
- Special treatment methods for waste materials

Counter measures for prevention of exposure of asbestos -Spraying asbestos



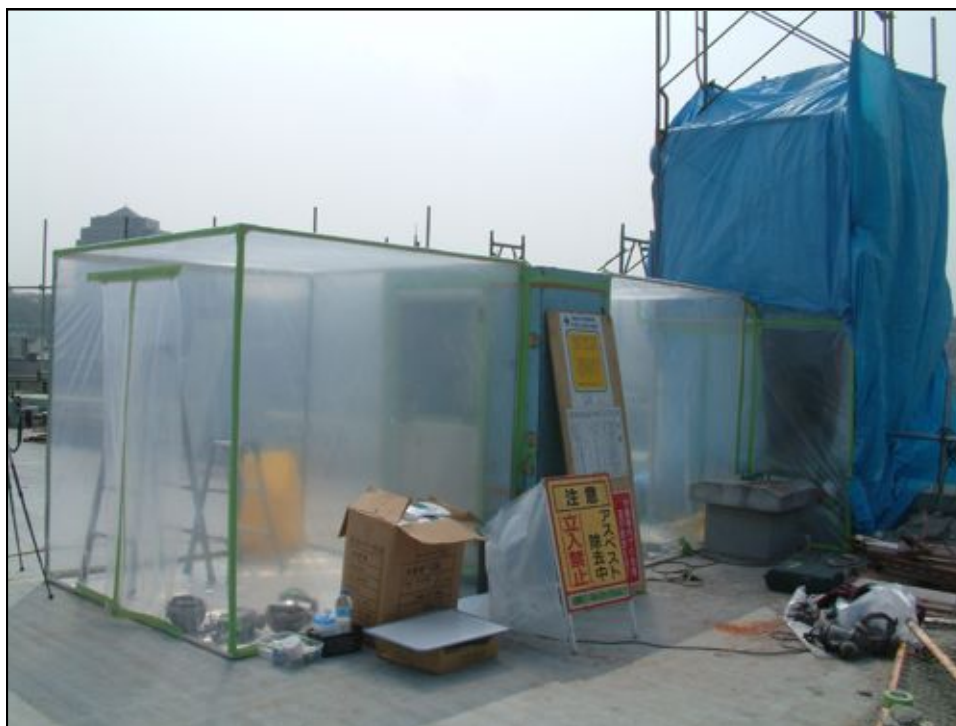


Enclose all of facilities and parts except asbestos



Enclosure and negative pressure system







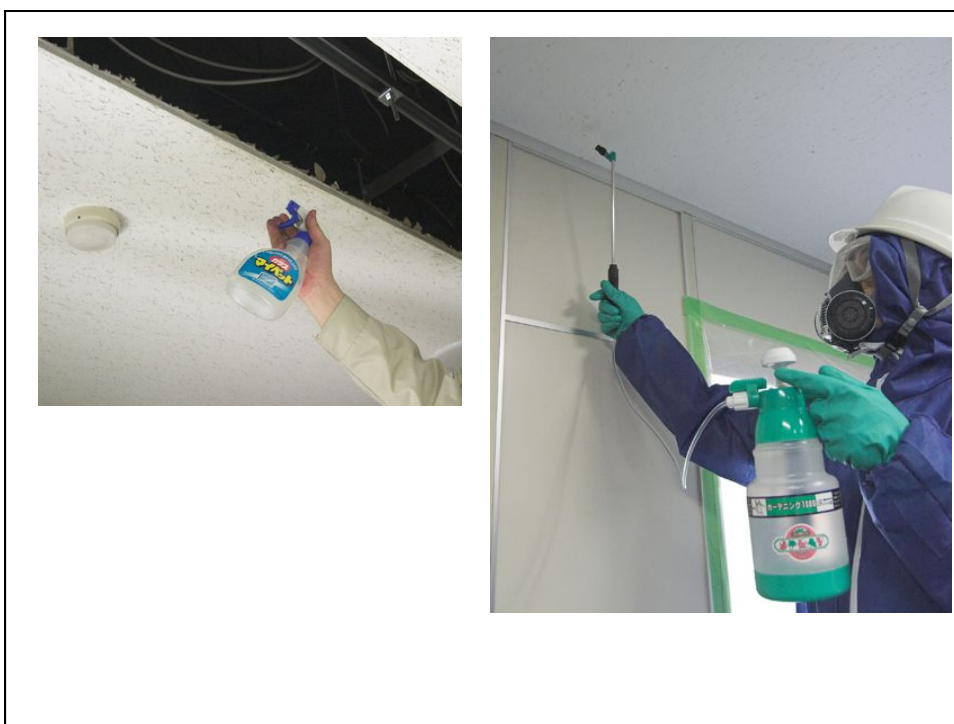


Counter measure for prevention of asbestos exposure 2

2. Asbestos boards

- Moistening by water
- Careful treatment to avoid breaking boards
- High performance PPE's
- Special treatment methods for waste materials







Measurement and analysis

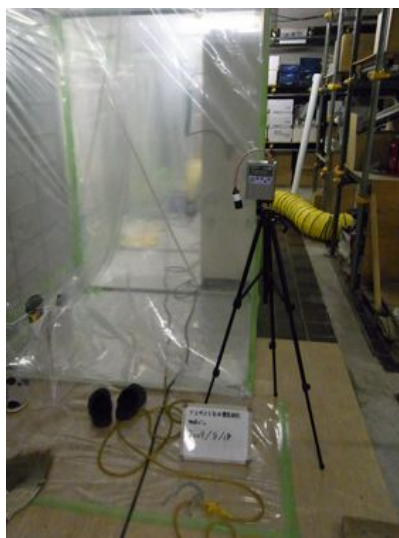
Some of construction materials should be analyzed (ACM or not) before removed.



Expense of analysis: 150-500 USD/sample

Measurement and analysis

Airborne asbestos concentration should be measured before, during and after removing spraying materials.



Expense of analysis:
500-1,000 USD/day

Expense of PPE's

RESPIRATOR 呼吸追従型ブロウーマスク			
品番	品名	標準価格	実売価格
1-2009-21	ホ-1100+替	¥54,800	14500
1-6833-02	高効率活性炭付交換用フィルター	¥1,600	1150円

Respirator: 500 USD
Filter: 15 USD



RESPIRATOR 防塵マスク			
品番	品名	標準価格	実売価格
1-4504	2180040	¥3,800	1400
1-45040	フィルター	¥1,800	1400

Respirator: 50 USD
Filters: 15 USD

Expense of PPE's

Disposable work clothes: 15 USD



Expense of PPE's

One worker needs...
4 Filters/day: 60USD
4 clothes/day: 60USD



Conclusion

ACM's can be removed by proper counter measures for prevention of exposure.

Proper counter measures require great care and great expense.

Western countries and Japan could not stop using asbestos until the prevalence of asbestos related diseases. Learn from this experience without the experience.