

INSTITUT DE L'AMIANTE/DIVISION DE LA RECHERCHE

OCCUPATIONAL ASBESTOS EXPOSURE DATA WHEN
PULLING OUT ASBESTOS ROOFING FELT

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SHERBROOKE, JANUARY 22, 1985

OCCUPATIONAL ASBESTOS EXPOSURE DATA WHEN PULLING OUT ASBESTOS
ROOFING FELT

I- ABSTRACT

Airborne asbestos fibers concentrations were measured when pulling out the asbestos roofing felt on January 16, 1985 from the gymnasium of the Carver George Washington Senior High School New Orleans, Louisiana, United States. Six personal breathing zone samples and one area sample were collected and counted for asbestos fibers by means of optical phase contrast microscopy (OPCM) according to NIOSH method 7400 (1). Our results indicate that concentrations of asbestos fiber longer than five micrometers (μm) are below the analytical limits of detection of the phase contrast microscopy method.

II- SAMPLING AND ANALYSIS

II-1 Two series of three personal breathing zone samples were collected to check the personal exposure of workers when pulling out the asbestos roofing felt.

The ambient air concentration of asbestos fibers was measured downwind of the construction site with one area sample to follow the level of asbestos fibers which may result of this demolition.

II-2 Each sample was counted with optical phase contrast microscopy (OPCM) for fibers longer than 5 μm by the Asbestos Institute, Research Division.

REFERENCES

- (1) NIOSH Method 7400 (1984)
Find copy of the revised NIOSH fiber count method.
National Institute for Occupational Safety and Health,
issued on 02/15/84.

- (2) Siēmiatycki, J. (1982)
"Health Effects on the General Population (Mortality
in the General Population in Asbestos Mining Area)" in.
Proceedings of the World Symposium on Asbestos, Montréal
Québec: 25-27 May 1982, p. 337.

ANNEX-A

COUNTING SHEET

TO: Z. ELLIS ROOFING CO. INC. FROM: ASBESTOS INSTITUTE/RESEARCH DIVISION DATE: 01-22-85

S A M P L I N G			METHOD USED	C O U N T I N G			R E S U L T S		C O M M E N T S
SAMPLE NO. DATE	FLOWRATE (lpm)	DURATION (MIN.)		FIELD AREA mm ²	NUMBER OF FIELDS	NUMBER OF FIBERS	COUNT f > 5µ/ml		
1/4 16-01-85	3	75	NIOSH 7400	0.00785	100	17 1/2	0.029 (*)		BDL (1) OF 0.03 f/ml
2/4 16-01-85	3	75	NIOSH 7400	0.00785	100	15	0.020		BDL OF 0.03 f/ml
3/4 16-01-85	3	75	NIOSH 7400	0.00785	100	8 1/2	0.010		BDL OF 0.03 f/ml
4/4 16-01-85	3	210	NIOSH 7400	0.00785	100	19	0.012		—
1/3 16-01-85	3	135	NIOSH 7400	0.00785	100	9 1/2	0.007		BDL OF 0.02 f/ml
2/3 16-01-85	3	135	NIOSH 7400	0.00785	100	10	0.007		BDL OF 0.02 f/ml
3/3 16-01-85	3	135	NIOSH 7400	0.00785	100	8 1/2	0.005		BDL OF 0.02 f/ml
BLANK NO. 1	-	-	NIOSH 7400	0.00785	100	3	-		3 f/100 fields
BLANK NO. 2	-	-	NIOSH 7400	0.00785	100	5	-		5 f/100 fields

(*) The OSHA PEL for asbestos is 2.0 fibers > 5.0 micrometers per milliliter of air

TABLE-1

PORTION	OPERATION	SAMPLE TYPE	FILTER TYPE	FLOW RATE (lpm)	SAMPLING PERIOD	METEOROLOGICAL OBSERVATIONS	CONCENTRATION FIBERS > 5µm PER ml
SIUH/ -85/1/4	PULLING OUT ASBESTOS ROOFING FELT	PERSONAL	MILLIPORE® 25 mm (B) 0.8 µm PORE SIZE	3	10:43-11:58	CLOUDY, TEMP.: 13-17°C WIND: S.E.-8 km/hr	ND (1)
SIUH/ 85/2/4	PULLING OUT ASBESTOS ROOFING FELT	PERSONAL	MILLIPORE® 25 mm (B) 0.8 µm PORE SIZE	3	10:43-11:58	CLOUDY, TEMP.: 13-17°C WIND: S.E.-8 km/hr	ND
SIUH/ 85/3/4	PULLING OUT ASBESTOS ROOFING FELT	PERSONAL	MILLIPORE® 25 mm (B) 0.8 µm PORE SIZE	3	10:43-11:58	CLOUDY, TEMP.: 13-17°C WIND: S.E.-8 km/hr	ND
SIUH/ -85/4/4	PULLING OUT ASBESTOS ROOFING FELT	AREA	MILLIPORE® 25 mm (B) 0.8 µm PORE SIZE	3	10:45-14:50 (LESS 12:00-12:35 FOR LUNCH TIME)	CLOUDY, TEMP.: 13-17°C WIND: S.E.-8 km/hr	ND
SIUH/ -85/1/3	PULLING OUT ASBESTOS ROOFING FELT	PERSONAL	MILLIPORE® 25 mm (B) 0.8 µm PORE SIZE	3	12:30-14:45	CLOUDY, TEMP.: 13-17°C WIND: S.E.-8 km/hr	ND
SIUH/ -85/2/3	PULLING OUT ASBESTOS ROOFING FELT	PERSONAL	MILLIPORE® 25 mm (B) 0.8 µm PORE SIZE	3	12:30-14:45	CLOUDY, TEMP.: 13-17°C WIND: S.E.-8 km/hr	ND
SIUH/ -85/3/3	PULLING OUT ASBESTOS ROOFING FELT	PERSONAL	MILLIPORE® 25 mm (B) 0.8 µm PORE SIZE	3	12:30-14:45	CLOUDY, TEMP.: 13-17°C WIND: S.E.-8 km/hr	ND
ANAS	PULLING OUT ASBESTOS ROOFING FELT	—	MILLIPORE® 25 mm (B) 0.8 µm PORE SIZE	—	—	—	AVGE: 4 f/100 H.B. ⁽²⁾ (ANNEX-A)

ND: Non detectable - below the analytical limit of detection being of 0.02 f/ml with 400 liters samples.



THE ASBESTOS INSTITUTE

Sherbrooke, January 30, 1985

Mr. Zacharia Ellis
ELLIS Z. ROOFING CO INC
2201 Richland Avenue
Kenner NEW ORLEANS
LOUISIANA, U.S.A.

ZLE	✓	_____
JHT	_____	_____
GTH	_____	_____
GEE	_____	_____
STD	_____	_____
FAY	_____	_____
RDC	_____	_____
MLM	_____	_____
BC	_____	_____
EM	_____	_____
FILE	_____	_____

Dear Mr. Ellis:

You will find enclosed the results of our sampling to measure the asbestos emission during the rip-out of the asbestos roofing felt from the gymnasium of the Carver George Washington Senior High School New Orleans. It is of interest to recall that no occupational health hazards may be attributed to airborne asbestos fibers in the course of this roofing's demolition because the concentrations of asbestos fiber are below the limit of applicability of the NIOSH method 7400. The mean results (<0.02) are more than a hundred time lower than the OSHA PEL of 2.0 fibers longer than 5 micrometers per milliter of air.

Thank you once again for your hospitality and help you gave me when I visited you on 16 through 18th January 1985.

Best personal regards,

Jacques LeBel
Technical Director
Research Division
JL/lid
Enclosure

c.c. Jacques Dunnigan, PhD
Kenneth E. Nyquist
Robert C. McAdam

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