FILE NAME: Flooring (FLR)

DATE: 2001 Oct

DOC#: FLR015

DOCUMENT DESCRIPTION: Email from Jonathan Klane RE Floor Tile Analyses - PLM vs. TEM

Subject: Re: [OEM] floor tile analyses - PLM vs. TEM
Date: Thu, 25 Oct 2001 14:26:05 -0400
From: "Jonathan Klane" <keith0304@prexar.com>
To: <jacksonm@pnw.med.navy.mil>, <SPAJ235@lni.wa.gov>, <degilman2@yahoo.com>, <occ-env-med-l@mc.duke.edu>

Hi all!

While I don't wish to engage in a back and forth debate on whether 50+% asbestos is possible, I will add my $0.02 on possible differences - take it for what it's worth.

My guess regarding these widely disparate differences in percentages of asbestos content in floor tiles is due mostly to differences in analytical techniques. Polarized Light Microscopy (PLM - an optical form) while quite good for most applications often falls short in identifying and accurately approximating asbestos content in floor tile samples. It has been demonstrated (and required by NY State regulation) that Transmission Electron Microscopy (TEM) is more accurate for floor tile samples. There was a study written up in the "Applied Occupational & Environmental Hygiene" journal of the ACGIH titled "Quantification of Fiber Releases for Various Floor Tile Removal Methods" dated Sept. 1996. The study was performed by the Univ. of Texas. In the study, they reported duplicate analyses between the two methods as follows:
PLM 4-6% vs.TEM 16-23%
PLM 10-15% vs. TEM 24-29%
PLM 10-15% vs. TEM 24-36%
PLM 7-10% vs. TEM 23-34%

There has been much anecdotal evidence along these lines as well including non-detects by PLM vs. >1-20+% by TEM. I used to perform PLM analysis myself ages ago and always dreaded floor tile samples due to the inherent difficulties. Recently in my own home I sampled two types of floor tile. One was positive by PLM (~5%) and one was non-detected. I sent the ND out for TEM and it came back as 12% asbestos.

By the way, I too have seen the 1 gallon container of "non-asbestos" mastic (the term asbestos does not appear although no claim is made on it) that lists "chrysotile mineral fibers" on it. My client chose not to put this asbestos-containing patch on their otherwise non-asbestos roof. Frankly I find this apparent purposeful obfuscation disturbing to say the least.

Thanks for "listening",

Jonathan Klane, M.S.Ed., CIH, CHMM, CET
Klane's Education Information Training Hub (KEITH)
"Take a step in the right direction"
keith@wtvl.net

-----Original Message-----
From: jacksonm@pnw.med.navy.mil <jacksonm@pnw.med.navy.mil>
To: SPAJ235@lni.wa.gov <SPAJ235@lni.wa.gov>; degilman2@yahoo.com <degilman2@yahoo.com>; occ-env-med-l@mc.duke.edu <occ-env-med-l@mc.duke.edu>
Date: Thursday, October 25, 2001 1:40 PM
Subject: RE: [OEM] floor tile exposures

Jeff is right on in his observation.

I, too, have looked at hundreds floor tile samples. The asbestos containing tile usually run between 1% and 3%. Occasionally the resilient back on vinyl sheet is found to be higher. I cannot see the value tile containing 30-90% asbestos - too friable to be used for floor tile.

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Subject: [OEM] floor tile exposures
Date: Fri, 26 Oct 2001 06:04:26 -0400
From: "dse" <degilman2@yahoo.com>
To: "Occ-Env-Med-L" <occ-env-med-l@mc.duke.edu>

Here are some relevant exposure and epi data. I am aware of perhaps 5-10 other meso cases. The tiles are (that's right - are 50-90 percent asbestos). These can still be purchased at your local do it yourself places. They are banned in Europe.

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Am Rev Respir Dis 1971 Oct;104(4):576-80 Related Articles, Books, LinkOut

Floor tile installation as a source of asbestos exposure.

Murphy RL, Levine BW, al-Bazzaz FJ, Lynch JJ, Burgess WA.

: Lange JH, Thomulka KW. Related Articles

Air sampling during asbestos abatement of floor tile and mastic.
Bull Environ Contam Toxicol. 2000 Apr;64(4):497-501. No abstract available.
PMID: 10754045 [PubMed - indexed for MEDLINE]

2: Lange JH, Lange PR, Reinhard TK, Thomulka KW. Related Articles

A study of personal and area airborne asbestos concentrations during asbestos abatement: a statistical evaluation of fibre concentration data.
Ann Occup Hyg. 1996 Aug;40(4):449-66.
PMID: 8806215 [PubMed - indexed for MEDLINE]

3: Julius PJ. Related Articles

How to safely maintain asbestos-containing tile.
Health Facil Manage. 1990 Oct;3(10):58-60. No abstract available.
PMID: 10107149 [PubMed - indexed for MEDLINE]

4: Brummer B. Related Articles

Influence of possible disinfectant transfer on Staphylococcus aureus plate counts after agar contact sampling.
Appl Environ Microbiol. 1976 Jul;32(1):80-4.
PMID: 788638 [PubMed - indexed for MEDLINE]

5: Murphy RL, Levine BW, al-Bazzaz FJ, Lynch JJ, Burgess WA. Related Articles

Floor tile installation as a source of asbestos exposure.
Am Rev Respir Dis. 1971 Oct;104(4):576-80. No abstract available.
PMID: 5094056 [PubMed - indexed for MEDLINE]

Subject: Re: [OEM] floor tile exposures]
Date: Sun, 4 Nov 2001 19:55:16 +1100
From: "Claudz" <jleigh@bigpond.com>
To: "Barry Castleman, ScD" <bcastle@bcpl.net>

yes see meso register report 2001 www.nohsc.gov.au
11 cases in 15 years where this was only exposure , plus one where this exposure plus another exposure.
ive also been in one civil case of this type. settled.
----- Original Message -----
From: "Barry Castleman, ScD" <bcastle@bcpl.net>
To: "Leigh, James" <jleigh@bigpond.com>
Sent: Friday, November 02, 2001 5:08 PM
Subject: [Fwd: [OEM] floor tile exposures]

> Hey Jim,
>
> Your mesothelioma register showing people who worked with vinyl asbestos
> flooring?
>
> Barry