

DR. R.C. PHOENIX
POSECO INC., U.S.A.
2nd July, 1971.
J.M. MACNAIR



DR. M.E. DARLINGTON
X MR. E.J. JACOX

SUBJECT : ASBESTOS

Dear Dick,

Thank you for your letter of June 24th which I have just studied on return from holiday. Your letter opens up a complex, and at the moment, rather ill-defined sphere of interest.

In spite of a massive amount of work and a lot of published papers, the whole field of the toxicity of asbestos in the "cold" condition is clouded with uncertainty, different bodies drawing different conclusions from the medical evidence. I think it is true to say that the U.K. has taken a considerable lead in the study in this field, which has had two main effects. Firstly, the Factory Regulations relating to the use of asbestos in industry are tighter here than anywhere else in the world. Secondly, the asbestos industry itself has set up various bodies to defend its own position and produce responsible counter-attacks to the scaremongers. The main suppliers of asbestos have formed the Asbestos Information Committee which is mainly a public relations function employing undoubtedly high-powered public relations consultants. This is a whitewashing job. They have also given large sums of money and grants to an independent body with no commercial axe to grind, called the Asbestosis Research Council, which is also sponsored to a certain extent by the Ministry of Health.

Following your letter, I re-contacted Dr. Holmes who is the Secretary of the Asbestosis Research Council, specifically on this question of the toxicity of asbestos after thermal degradation. To be honest, the information that he could give me was fairly thin but here is a summary of it for what it is worth :

At temperatures above 400°C all grades of asbestos undergo a progressive degree of thermal degradation such that by 700°C the asbestos fibres are converted into an amorphous mechanism-silicate, above 900°C further structural change occurs leading to the formation of Forsterite. Some work has been done at Cambridge University on injecting these minerals into animals and these experiments have not given rise to the harmful medical effects (apart from normal foreign body rejection mechanisms) that occur with the original cold asbestos. This work has been reported to the Asbestosis Research Council and any published references will be sent to us. There is continuing work along these lines, but again on animals only, which is due for reporting and publication within the next few months, again this will be supplied when available.

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I also got in touch with Dr. Alan Hodgson of Cape Asbestos Fibres who is certainly one of the world's technical experts of amosite asbestos. He could add little information to that already given by Dr. Holmes except to say that the transformation temperatures in amosite were slightly higher than those in crocidolite as referred to by Dr. Holmes.

Following the lead of the U.K. Asbestos industry, I did gather from Dr. Holmes that the American counterparts have also recently set up a United States Asbestos Information Committee. This is based on the offices of Johns Mannville in New York and they employ the P.R. firm of Hill & Knowlton Inc. also of New York. Since this committee is vitally concerned with maintaining and increasing the sales of asbestos to industry, they could be a useful source of information in the U.S.A. Their counterparts in the U.K. do issue a number of helpful documents from time to time and some of their activities were referred to in my Heading Systems Bulletin - Special Issue No.1. (with RWR/EJJ).

You ask if there is any group in the U.K. that could perform the sort of research that would help us to defend our continuing use of asbestos in hot tops; and here I must certainly agree with you that there is no known material at the moment which gives the same cost/effectiveness in hot tops as asbestos. I think the most concise answer to this question is that work is being currently done by various workers in the U.K. under the aegis of the Asbestosis Research Council, but like all experiments involving gestation periods it takes a very long time to get any positive results. My own feeling is that to sponsor any additional research into this field is unlikely to be productive except on the purely public relations, whitewashing aspect that by spending all this amount of money we could prove to our customers that we are responsible suppliers.

When I get these actual medical reports, as promised by Dr. Holmes, I will send them on to you. I think that the evidence at the moment is that the degradation products certainly above 700°C are not harmful, though we must be prepared to face the argument that the temperature at the back of Profax tiles in many applications does not rise above 400°C and hence the breakdown products here will be borderline. The real problem is that since people don't know exactly what parameter of asbestos causes the hazards in the first place, it is impossible to check whether these are reduced or removed at higher temperatures except by these long drawn out and inconclusive tests on animals.

Finally, I think that our best defence should be based on the following: even in the U.K. where the Factory Acts with regard to the handling of asbestos are tighter in their legal enforceability than anywhere else in the world, the regulations that impose the need for special dust extraction equipment are based on both the concentration of asbestos fibres in the atmosphere and the length of time that workers are exposed to this on a continuous basis. I believe that it is most unlikely that these concentration time limits are ever met in a steel-works stripping area, though because of the exclusion of asbestos in all hot tops supplied in the U.K. it would now be impossible to verify this fact here in England. I think it is also important to bear in

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that if F.S. Limited had not taken this aggressive lead, asbestos-containing hot tops might still be acceptable within the U.K. steel industry.

I trust that these remarks are helpful and look forward to your comments. I will naturally be happy to discuss it in more detail when we next meet.

Kind regards.

Yours sincerely,



J.M. MACNAIR

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