

Re.: The permeability of ceramic materials concerning for instance mercury vapour

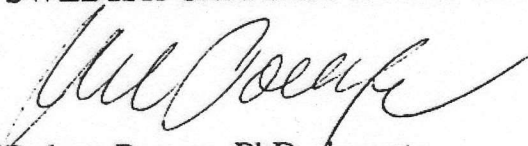
Hereby I only want to confirm what we discussed over the telephone last week: that ceramic refractory lining generally possesses a high level of open porosity.

Ceramic materials which have a porosity higher than 10 % generally have virtually all of the total porosity as open porosity. The refractory lining which is used in ovens, normally has a porosity of 12 - 20 % and even higher, which becomes open and may have a rather large mean pore channel diameter. Thus it is easy for gases and vapours to penetrate (and DIFFUSE through) such a material and eventually be condensed when the temperature is low enough for condensation.

I hope that this statement will answer your question:

"Can Hg-vapour diffuse through ceramic materials used in crematory ovens?"

Kind regards,
SWEDISH CERAMIC INSTITUTE



Robert Pompe, PhD, docent

P.S. For your information, the porosity in various ceramic materials used in applications such as crematory ovens:

Cast bottom plate	about 13-14 %
Fire brick	about 18 - 20 %
Insulating brick	about 40 - 50 %

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