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Engineering and Research Staff

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cc: H. F. Cromwell

PLAINTIFF'S EXHIBIT FD-480

Subject: Use of Asbestos-Filled Molding Compounds

TEXT

A manufacturer of asbestos-filled phenolics, Resinoid Engineering Corporation, met with us to discuss an apparent reluctance on the part of at least one PEO to continue developmental work on components made experimentally of asbestos-filled phenolic. The reluctance to work with the material stems from the ever-increasing stringency of requirements OSHA imposes upon the handling of such materials, since asbestos has been designated to be a carcinogen. The question being asked is: What is the Ford position on the continued usage -- or even expanded usage -- of asbestos-filled molding compounds for Ford products?

A limited survey of PEO materials engineers (Engine, Chassis, Electronics and Electrical) indicates no reluctance to its usage for current parts, or for future designs if the requirements suggest the use of asbestos-containing compounds, except perhaps, where machining operations are required. Transmission and Axle Engineering reports no basic objection to its use, but is evaluating other materials, chiefly as a precaution against further discontinuation of production by other Suppliers.

The Industrial Hygiene Section foresees no toxicological problems in handling such molded parts at Ford. However, use in materials such as plastic solders that require subsequent grinding or sanding, or in parts that require subsequent machining operations, might bear some investigation.

The problem if there is one, appears to be associated with the availability of the material from compound producers, or possibly with the ability of molders to meet OSHA restrictions.

Regarding availability of the material, Resinoid claims to have far more production capacity that is required for the transmission resistor under development by Transmission and Axle Engineering.

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Added to this capacity are those of other producers, such as Rogers Corp., Plastics Engineering, and Reichold Chemicals. Therefore, even though such producers as Union Carbide, General Electric and Durez have decided to withdraw from the business, Resinoid foresees no shortage of asbestos-filled phenolics for automotive usage.

Resinoid also states that their recently built plant complies with the current 2 fibers/cc maximum air-borne concentration in the workplace. They also anticipate no great difficulty in meeting a possible future reduced limit of 0.5 fiber/cc, although such a restriction may severely tax the sensitivity of measuring apparatus. Unfortunately, however, no one knows what the ultimate limits imposed by OSHA may be.

From an engineering standpoint, asbestos-filled phenolics are reported to have properties superior in some important aspects to similar glass-filled phenolics, polyesters, etc. for certain critical applications. It appears important, therefore, that the use of asbestos-filled phenolics not be abandoned unnecessarily.

CONCLUSION

In view of all considerations known to us at this time, it is the joint opinion of the E&R Staff Materials Engineering Department and the Industrial Hygiene Section that, from the standpoint of toxicological problems within the Company, engineers may feel free to specify asbestos-filled molding compounds for molded Ford parts. In the case of suspect applications (e.g., those requiring operations which may tear the fibers loose and cause them to become air-borne), Industrial Hygiene (P. E. Toth) should be consulted. The important consideration in the specification of such materials is the current and future availability of the asbestos-filled compounds from the material producers, and the molded parts from the part fabricators.

G. T. Bush

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