



Karl Schwartzwalder

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1907-1975

By Lawrence R. Hafstad

Karl Schwartzwalder, retired Director of Research and Development at the A. C. Sparkplug Division of General Motors, died on May 2, 1975, at his home in Holly, Michigan. He was a world renowned authority with many awards and citations for his contributions to research on dielectric characteristics of porcelain and to the development of ceramic engineering.

Mr. Schwartzwalder was born May 5, 1907, in Pomeroy, Ohio. This midwestern small-town environment was one wherein one expected the necessities and amenities of life to be earned by honest effort and where charity was voluntary. No doubt this had a real influence in making him the self-sufficient, straightforward, concerned person his associates came to recognize.

As a youth he early learned to work and play vigorously and with purpose. He delivered newspapers and worked at odd jobs to provide supplementary family income. He went on to college, receiving a Bachelor's degree from Ohio State in 1930, and a Master's degree in 1931 under the guidance of the late ceramic specialist, Arthur S. Watts. Following this, on the advice of Professor Watts, he promptly joined the A. C. Sparkplug Division of General Motors. Mr. Schwartzwalder's entire professional life was spent at the A. C. Division. He moved steadily up the ranks with increasing recognition in his field for his many publications and especially for his inventiveness resulting in some fifty-six patents.

In 1945 he became Chief Ceramic Engineer, in 1954 Director of Research, and in 1968 Director of Research and Development.

Because of his expertise in the ceramic field, Mr. Schwartzwaldler was frequently called upon by the National Academy of Engineering and by the National Research Council to serve on various technical panels and committees, including long service with the National Materials Advisory Board. He also served as a consultant to the National Bureau of Standards, the Manhattan Project, and the Atomic Energy Commission.

In parallel with his technical and scientific responsibilities, Mr. Schwartzwaldler was very active in professional society work, serving in many positions both local and national with the SAE (Society of Automotive Engineers) and the ACS (American Ceramic Society). In the ACS he was a Fellow, an Honorary Member, and a Past President. In recognition of his many achievements, he has been given numerous awards and citations, among the major ones being the ACS Jeppson Award (1959), Ceramic Age Man of the Year Award (1960), Michigan Patent Law Association Outstanding Michigan Inventor Award (1963), and the ACS Bleininger Award (1976). His alma mater, Ohio State, honored him with a Doctor of Science degree in 1968. He was elected to the Academy of Engineering in 1970.

Much of the progress made in the last two decades in the ceramic field can be attributed to Mr. Schwartzwaldler's pioneering work, for his were the first means developed that permitted the manufacture of dense ceramic articles without benefit of clay or the use of uneconomical casting methods. This particularly applies to high-alumina ceramics, which is one of the most important branches producing products for technological uses. His ideas led the way in showing that silica was not necessarily to be completely shunned if high-strength alumina products were to be made, as was first indicated by German ceramists who produced "Sinterkorund." A survey of the field will show how important this has been, for not only are all spark plug insulators made today very closely related in composition, but even other high-alumina products do not deviate much from the compositions covered in Schwartzwaldler's early patents.

Mr. Schwartzwalders counsel on the new techniques were invaluable in solving the ceramic problems attendant on the development of the atomic bomb, where many oxides other than alumina were employed. He was one of the few who were permitted to travel from one site to another during the war, when the Manhattan Project was ultrasecret, assisting the various groups with their ceramic problems. He has acted as a consultant to many other people over the years on matters relating to these methods, including General Motors' foreign plants.

While Mr. Schwartzwalders technical contributions are well recognized, perhaps less known is his influence in advancing the careers of the many people who worked under him through the years. His guidance and selfless concern for them have resulted in an imposing alumni body, whose influence will remain far-reaching. He always enjoyed travel, visiting many foreign countries, inspecting countless research and manufacturing operations, and becoming acquainted with scientific and technical personnel worldwide. He had a peculiar ability to combine business and pleasure in the best sense. His insatiable curiosity pervaded everything he was exposed to in these extensive travels, benefiting both his company and those he contacted along the way. He somehow also found time to be active in civic affairs in such organizations as the local Chamber of Commerce, the Industrial Executives Club, the Science Fair, and a program that he founded and sponsored for talented high school students.

Perhaps among the least-known facets of Karl Schwartzwalders life and also that of his late wife were their abiding faith in young people and their concerned interest in nature and wildlife. One must have been exposed to their country home, their animals, and the constant influx of young friends to realize the basic goodness of this couple. They represent the best of human instincts.