



R&D Vision

Turning our ideas into the de facto standard.
Sumida creates and develops new technology craving for “changes”.
We will continue to challenge even if the possibility of changing is only 1%.

R&D Vision

The R&D and technology group always anticipates the market and customer needs swiftly with insight. Acting as a “Solution Provider”, our engineers work closely with our customers on R&D activities and provide suggestions in a timely manner. At the same time, the daily activity is tackled aiming at the professional technology group linking directly to the business.

R&D Organization

As the first mover for transferring production and division overseas among coil part makers, Sumida has also constructed and promoted the global development and technology organization promptly. With the key words of “Speed”, “Market-in” & “Efficiency” as our fundament, our mission is to develop and offer new products promptly to the market and customers in the most suitable development site. Our R&D organization can cater to the market needs on new product and technology development globally.

- The concept of our global development and technology organization is based on complex technology, which we call it Technology Convergence. Database is built for the technical knowledge, know-how, reliability data that have so far been accumulated. It is shared globally and is utilized for speeding up the R&D operations.
- Moreover, SUMIDA has developed its original management system for speedy R&D activity, technical development and new product development. We call it Development Flag System (D.F.) . This system allows any development theme being carried out from the planning stage to the completion, without any structural or boundary constraint. The administration and control on the development operations can be expanded globally under the system.
- The Sumida proactive development and technical activities are mainly carried out in the 2 core development sites in Japan, Tokyo (Tokyo Laboratory) and Sendai (Mechatronics & Material Laboratory), which target for developing product platform that is microminiaturized, thinner, power-saving and high efficient. While our centers in China (Taiping, Panyu, Nanning), Thailand, North America, Germany & Austria are continuously providing technical support and product variation expansion to our customers according to the market needs.

Technology Convergence



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Winding Technology

Performance and quality of a coil are greatly influenced by the winding technology. As a professional coil maker, Sumida always craves for the development of new winding method and the improvement in accuracy. The winding technology contributes a lot in the application deployment to our new product development.

Moreover, equipment development of the winding machine, with our original NC (Numeric Control) control of the base machine, contributes greatly in the improvement of productivity and quality during mass production.



NC Winding Machine – Flyer Type



NC Winding Machine – Spindle Type

Application Technology

We have divided our products by their function into Power Solution, Power Inductor, Inverter, Signal and Automotive group. In pursuit of expertise within each group, new product design and development is being carried out and implemented. Target of development with value added is set by utilizing simulation during development and the use of highly efficient measuring instrument.

As well as the technology on the company originally developed transformer and coil, Sumida is providing technology on covering the unit/ module products by proposing circuit design with the use of our transformer and coil.



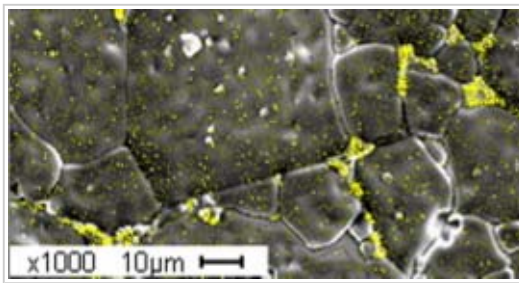
Raw Material/Material Technology

As the top-ranked coil maker, Sumida is performing scientific verification on magnetic material, such as ferrite. Research on raw materials is being carried out for the purpose of utilizing to our original product characteristic and performance.

Development of composite material, which is required for smaller, thinner-film and extremely-fine, will be our development challenge. Our R&D activities will be advanced together with different verifications on raw materials composition/ structure and the manufacturing process.



BH Tracer



The structure and Cu-concentration of Ferrite Core (by SEM/EDX)

Molding Technology

Since the component accuracy and structure complexity is ever-increasing, the component processing technologies, such as plastic molding technology, metal press technology and die-casting technology, are demanded with higher and higher levels. With the Sumida originally developed technology on insert/ outsert molding, over-molding technology etc., new product development time is shortening, quality for mass production is improving and the cost is reducing. With continuing effort on complex technology on molding & pressing and the construction method, Sumida will propose new products, which are applicable to modules.



Insert Molding



3D CAD/CAM System

High-precision Processing Technology

Improvement in the design processing technology of molds, press molds and tooling, etc., is being carried out. Starting from the new product design stage, 3D CAD, mold flow simulation is being utilized for molding die design and making. Moreover, the CAD/CAM data is shared among related parties and DNC system is used in order to shorten the design and making time of the mass production dye for small lot size or short delivery time orders.



Die Processing



Press Technology

Production Technology

While the speeding up of the new product development process is increasingly demanded, it is indispensable for high completeness of the process design, equipment development and tooling design when transferring the new product into mass production. As the nerve center of the mass production technical development of Sumida, development of general-purposed technology and manpower-saving technology is being carried out.



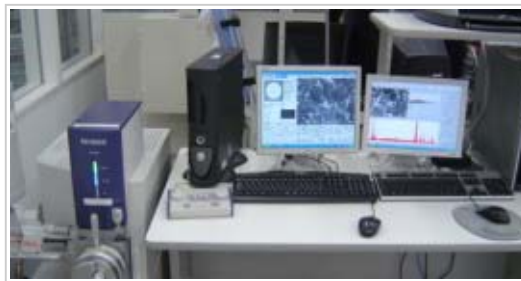
Development of Production Equipment

Evaluation Technology

As well as meeting the requirement of high efficiency, high quality and various standards of products, various environmental examination equipment and analysis apparatus are equipped for verification of the development and design of products with consideration of the environment. These are utilized in improving the evaluation technology, such as composition analysis of components, weather ability and mechanism-proof of a product, etc.



X-ray Transmission Analysis Equipment



Scanning Electronic Microscope

Surface Treatment Technology

We also put effort on development of mass production technical on surface treatment, such as plating and rust prevention on metal components or plastics. Moreover, PVD technology on electrode formation and surface treatment technical development with consideration of the environment is also tackled. These are contributing to production lead-time shortening and quality improvement.



Electroplating - Reed to Reed

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