Establishment of Hot Stamping Lines for Lightweight and High-tensile Parts that are Both Safe and Environmentally-friendly

Reduction of sheet thickness and enhancement of strength of body frame parts are required to overcome conflicting issues, namely, the issue of enhancing automobile collision safety and the issue of improving fuel efficiency. To fulfill these requirements, we are working on manufacturing lightweight, strong automobile frame parts by building hot stamping lines.

As conventional hot stamping lines consist of a long heating furnace, which translates into long and heavy lines, we replaced the gas-fired heating furnace with a far-infrared type to improve heating efficiency and curb the generation of exhaust gas. We also created compact lines with a short furnace length by optimizing the heating conditions. We plan to put into place a framework for supplying lightweight, high-tensile parts by deploying mainly these lines in Japan, North America and China.

Products of Hot Stamping

At Futaba, because cold processing was the main method we used so far, we were confused with the temperature management specific to hot processing. Although many quality issues and transport problems had arisen at the time of launching the production line, these were overcome by the ingenious efforts made by development and machine tools departments and production plants, and so production is going smoothly now. We believe this is attributable to the benchmarking and persistent build-up of elemental technologies that have been carried out since the early stages of development. Now that global deployment will start, we would make it a success by making the most of our experience and expertise gained from this launch.