

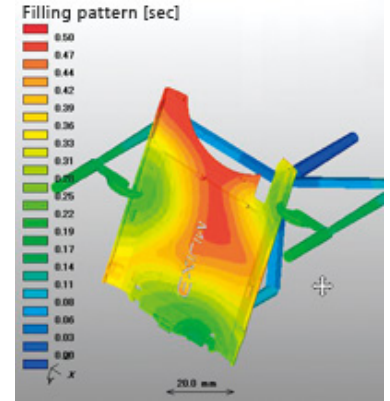
# Production

This section describes Casio's environmental protection initiatives in the area of general production.

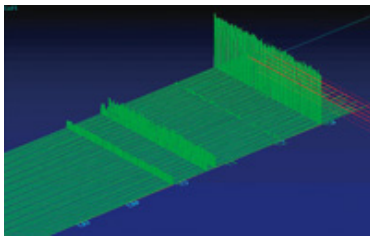
## Saving resources by eliminating defects

At Yamagata Casio, which boasts the most advanced manufacturing technologies of any Casio facility, a computer-simulated system is adopted for the design process in an effort to eliminate the creation of defective products even before the trial production stage.

They calculate the flow of resin inside a mold, and try to predict and resolve any problems that might occur in the manufacturing process. This enables production to begin without a test production phase, thereby minimizing the waste of resources.



Simulation display



Mold diagnostic system using AE

In the mass production stage, the condition of the molds used to form components is analyzed digitally using acoustic emission (AE) technologies that Yamagata Casio developed itself. This technology detects even slight deformations or cracks that appear in the mold over the course of manufacturing many tens of thousands of parts, sounding an alarm before such problems can have an impact on product quality. This prevents the generation of defective products

As an indication of the success of these initiatives, the factory is now using parts per million (PPM) rather than a percentage (%) as the index to manage its defective product production rate.

[Environmental performance data at production sites \(Environmental Data\)](#)