



Establishing a Recycling-based Society

In order to achieve a recycling-based society, it is necessary to use limited resources in efficient and sustainable ways. Because a variety of resources, including metals, resins, and solvents, are used in the automotive parts that the Tokai Rika Group produces, we are promoting the effective use of resources in all processes.

Promoting product designs and technological developments to make recycling easy

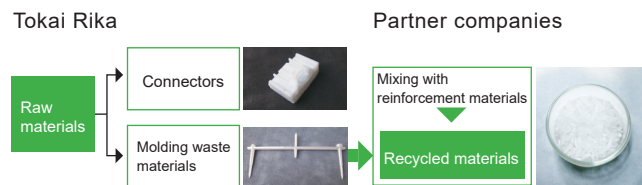
We are working to develop technologies that make use of recycled materials and to improve our products' ease of disassembly, and are promoting product manufacturing that will contribute to the formation of a recycling-based society.

Recycling of waste materials from resin molding

We take the waste materials from resin molding which are generated when connectors are produced by injection molding, and reuse them as recycled materials by regrinding them and mixing them with reinforcement materials. In FY 2017, we used about 36 tons of recycled materials.

Use of recycled materials
Approx. **36** t/year

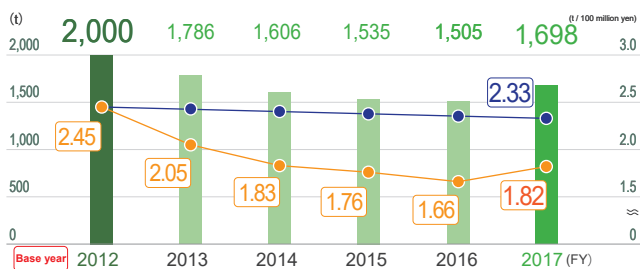
Flow of recycling



Reduction of waste in production activities and efficient use of natural resources

We have continuously worked on reduction of waste emissions by means of thorough implementation of 3R, including improvement of production yield. As a result, we successfully achieved the basic-unit target for waste emissions in FY 2017.

Trends in discharge of waste materials per processing expenses



Emissions (t) Emissions per processing expenses (t / 100 million yen) Basic-unit target (t / 100 million yen)

Target value for FY 2017: **2.33** t / 100 million yen
Actual result for FY 2017: **1.82** t / 100 million yen

Improvement of yield for the plate lock material

We used to process the raw material in the form of a single large plate through each process, by means of progressive die stamping. Progressive die stamping requires an excess part in the material to connect each product, and this results in a poor yield. Therefore, we changed the shape of the raw material to a rod and adopted transfer die stamping, in which a mechanical system directly holds the rod-shaped raw material and transfers it through each process. As a result, we have eliminated the excess that connects each piece for transferring, and successfully increased the yield from 20% to 50%.

Reduced scrap as a result of changing the shape of the raw material

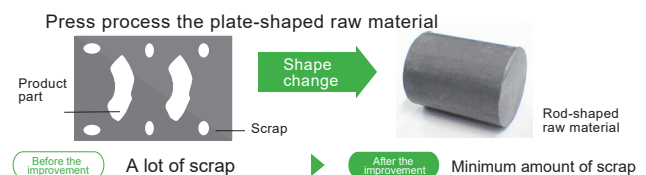


Plate lock finished product

Material yield
Approx. **30%** improvement

Reduction of the use of water in production activities

Owing to an increase in water demand, the problem of water shortages is getting worse all around the world. In Tokai Rika, we understand that water is a precious resource, and are working on reduction of the use of water by increasing the efficiency of use and adopting reuse.

Reuse of waste water in the plating process

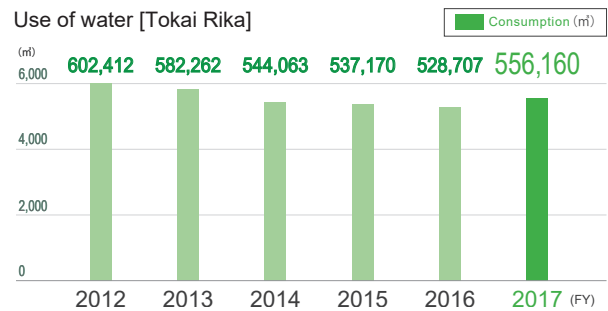
The plating treatment process produces waste water containing harmful substances. Therefore, we remove the harmful substances by treating the water with ion exchange towers and reuse the treated water in the process.

Recycling rate
40%



Ion exchange towers

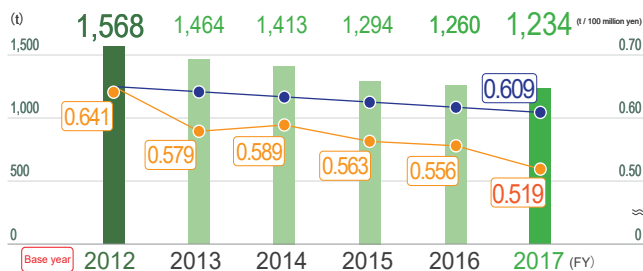
Use of water [Tokai Rika]



Effective use of resources and reduction of packaging and wrapping materials in logistics activities

We have worked on reducing the amount of resources we use, for example by simplifying packaging and making packaging and wrapping materials returnable. As a result, we successfully achieved the basic-unit target for the consumption of packing and wrapping materials in FY 2017.

Trends in amounts of packaging and wrapping materials per sales



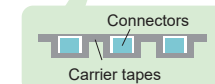
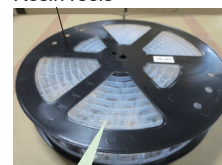
Target value for FY 2017: 0.609 t / 100 million yen
Actual result for FY 2017: 0.519 t / 100 million yen

Making wrapping materials for shipping connectors reusable

We used to dispose of resin reels for carrier tapes for shipping connectors once they had been used, so we worked on making them reusable. Because the process to wind the carrier tapes was performed at distant plants, the transportation costs for returning them became an issue, and we abandoned the project. However, we have overcome the issue by moving the process to neighboring plants, and have successfully achieved reuse of the resin reels.

Making resin reels reusable

Resin reels



Moving the process to neighboring plants in order to reduce the costs of returning

Before the improvement: 428 km

After the improvement: 30 km

Reduction in amount of materials

16.4 t / year