Rubber Recycling

Aim

To develop recycling technology for rubber waste generated from both manufacturing products and post-consumer products to protect the global environment and also save resources.

Principle

- Crosslinked rubber has a three dimensional network structure. (Fig. 1)
- By applying shear force at the appropriate temperature and pressure, the crosslinking points can be selectively broken. (Fig. 2)

Fig. 1 Recycle mechanism

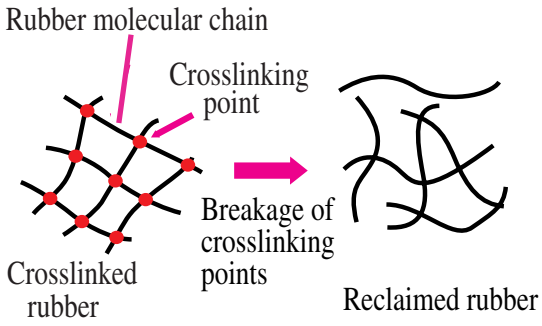
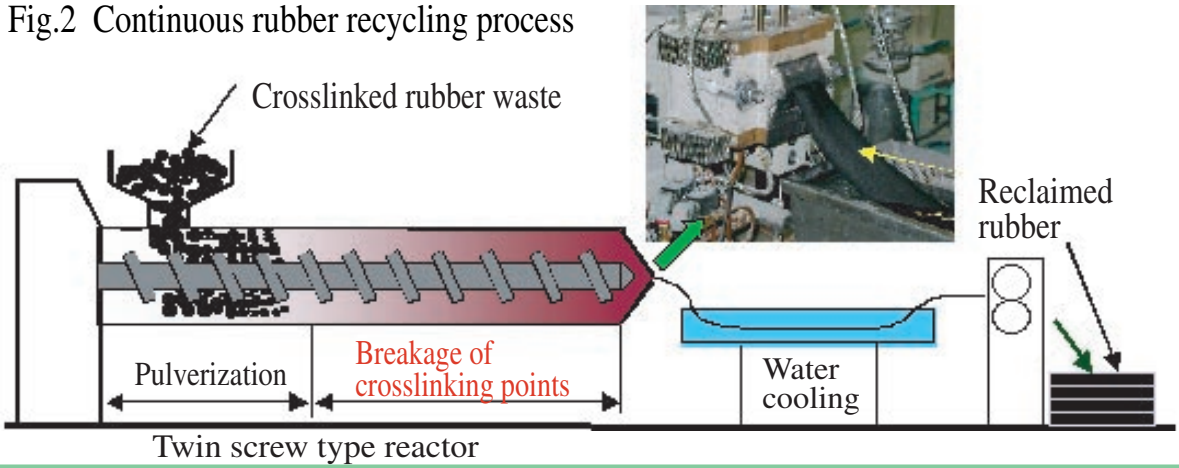


Fig.2 Continuous rubber recycling process



Performance

The processability and mechanical properties of reclaimed rubber are almost equal to those of original rubber.

Application

Rubber waste generated from automotive rubber parts such as tire, weather strip and so on.

● Joint research with Toyota Motor Corp. and Toyoda Gosei Co., LTD.

TOYOTA CENTRAL R&D LABS., INC.