

Development of modified polylactide (PLA)

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In recent years, polylactide (PLA) and other bio-based plastics have been attracting much attention for environment problems. PLA is hard and good transparent resin, but the application of PLA has been restricted because of its poor flexibility, fragile, unavailable in high temperature and low productivity. In this report, we have developed modified PLA resin for extrusion sheet and injection moldings based on "Technology of Nano-Modification for Polymer" such as control of softening, control of PLA crystallization in nano size, and modification with another component. Due to these original technologies, we have achieved that physical properties and moldability are almost equal to propylene (PP) and acrylonitrile-butadiene-styrene (ABS) resin. As a result, we developed two type of modified PLA. First is clear and soft PLA for extrusion molding, second is high moldability PLA for injection molding. Now, we have applied these modified PLA as alternative plastics of PP and ABS to stationery, packaging, convenience goods, electrical appliance and so on. The performance and the technology will be presented.