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Polymer Extrusion Technology in Japan

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Extrusion has been playing very important roles in polymer processing as one of basic technologies for polymer production and related products. In extrusion a screw type extruder is usually an essential component, as represented by single and twin screw. Screw technology was first applied to rubber, and then has been extended to plastic processing in Japan since 1950s. Recent progress in extrusion technology allows the control of the precise structure of polymer morphologies such as polymeric blends and polymer nano-composites, as well as drastic throughput improvement and energy-consumption saving. Reactive extrusion is one of the key means for this purpose. In this speech, the history in Japan and recent progresses in extrusion processes and equipment will be discussed, in particular on twin screw technology.