

New Smithers market report on thermoplastic elastomers

Post-Covid TPE consumption to rise at 9.5 % year-on-year after 31 % drop in 2020

In 2021 the thermoplastic elastomer market is estimated to be 3.84 million t and is expected to grow to 5.55 million t by 2026. In 2021 the largest end use market is automotive which is estimated to be 1.69 million t. In 2026 the largest end use market will still be automotive which is estimated to be 2.46 million t. In 2021 Asia-Pacific had the largest share of the market at 49.63 % and this is expected to increase to 50.12 % of the market share by 2026.

Smithers' latest expert study **The Future of Thermoplastic Elastomers To 2026** shows global demand will not return to pre-pandemic levels before 2024. It forecasts a compound annual growth rate (CAGR) of 9.5 % for 2020-2026. This is representative both of recovery in core end-use industries – such as automotive manufacturing – after a year of unprecedented disruption; and the emergence of new market opportunities as stimulus spending recasts demand for TPEs. The worldwide demand for thermoplastic elastomers was affected severely by the Covid-19 pandemic. New data from Smithers shows consumption fell to a projected 3.23 million t in 2020; down from 4.71 million t in 2019. As the market enters 2021 it is poised to rebound to 3.84 million t for the year.

The report tracks how this will transform the post-Covid market across the leading seven TPE grades, and highlights the market and emergent technologies that will enable suppliers and compounders to exploit new markets.

Lockdown (shelter-in-place) regulations and the resultant loss of orders has disproportionately affected smaller compounders; with only those supply directly into medical applications – masks, syringes, and vials – seeing increased sales in 2020. Larger TPE producers have rationalised operations in the short-term, but may find new opportunities in specialised applications as they emerge from this.

The automotive industry has been badly hit by the Covid-19, but remains the dominant applications, consuming 43.9 % of all TPEs in 2020. One area that has been less

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depressed, especially as China has emerged from pandemic disruption in H2 2020 – is electric vehicles (EVs). This gives TPE suppliers with new challenges and opportunities.

Without an internal combustion engine, there is less demand for under the bonnet (hood) components, but vehicle makers do require new materials for on-board battery systems. To gain a competitive advantage there is an onus to lower the prices of TPE engineered for use in EVs, which are currently higher than those for conventional vehicles. Even as oil prices and miles travelled have fallen to record lows, legislators have not retreated from tighter regulations on petrol-powered vehicles. This still favour TPEs as lighter weight, high-performance alternatives to conventional engine and chassis components.

The plastics industry's technical answer to making the transition to a circular economy is chemical recycling of end-of-life polymers. Once this is implemented at scale it will help stabilise TPE raw material prices. Across the 2020s fully recyclability and production using no harmful substances, will become standard requirements for many TPE grades.

Pre-pandemic TPS had begun to lose market share to the EPDM-based TPEs, thermoplastic polyolefin elastomers (TPO) and thermoplastic vulcanisates (TPV). The advent of Covid-19 has changed this. It is beginning to regain its market share, with TPS again favoured as a replacement for plasticised-PVC in the increasingly important medical device and EV sectors. In the immediate term there is a need for additional styrene-butadiene-styrene (SBS) hydrogenation capacity, and developments to improve solvent adhesion.

R & D budgets have been subject to pressure in 2020, but these will return and in the medium term suppliers will need to find market applications for bio-based TPE grades, dielectric elastomers, and TPE foams.

The impact of these changes on all leading TPE grades (TPA, TPC, TPO, TPS, TPU, TPV, Other) is analysed critically in the Smithers report. The pre and post-Covid market for 2016-2026 is quantified in depth in a comprehensive dataset, also segmented by end-use application, geographic region, and major national economies.

The author of the new report is once again **Patrick Ellis**. The established and well-known expert has spent over 50 years working in the European plastics industry, in a variety of technical, marketing and management roles. He has worked for a number of multi-national organisations, including Shell, Borg-Warner, Monsanto, Hercules, Himont, Neste and the RTP Company. He has also written a number of articles on a wide range of subjects, including PP metallocene catalysts and technologies and alternative sources of lower-alpha olefins.

The Future of Thermoplastic Elastomers to 2026

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