

# Upgrade your appliances with improved performance at lower costs



For almost 40 years, Santoprene® thermoplastic vulcanizate (TPV) has been delivering proven performance for parts used in a range of white goods and smaller appliances. Whether it's for sealing or noise reduction, providing protection or the right touch and feel, Santoprene TPV offers a range of advantages that allows appliance manufacturers to improve performance, consolidate parts, differentiate products and reduce manufacturing costs.

## Key advantages

- Wide range of benefits for improved part performance
- Reduced part costs
  - Design freedom for consolidated parts
  - Ease of processing for fewer steps and shorter cycle times
  - In-process recycling of scrap for less waste
- Product portfolio to meet specific appliance needs

## A range of benefits ...

Combining the characteristics of vulcanized rubber with the processing ease of thermoplastics, Santoprene TPV offers a range of advantages including:

- Durable, long-term sealing performance
- Flexibility at high temperatures
- Tight tolerances
- Resistance to detergents and chemicals
- Abrasion resistance
- Vibration damping
- Low density for lightweight parts

## ... for a range of appliance parts

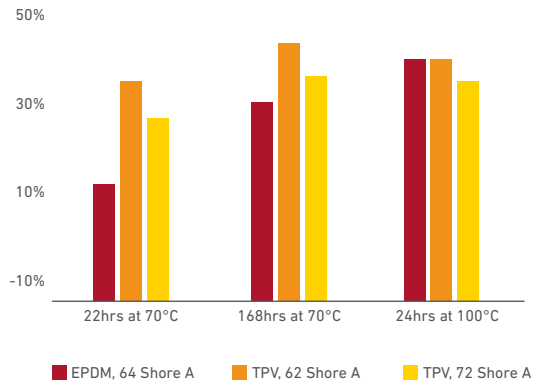
This wide range of benefits make Santoprene TPV well-suited for a variety of appliance parts:

- Sealing: hoses, connectors and seals
- Protection: wheels, bumpers, bellows and gaskets
- Noise reduction: vibration dampeners, shock absorbers and feet
- Touch and feel: grips, knobs and buttons

These parts are applicable for a range of white goods such as refrigerators, freezers, washing machines, dryers and dishwashers, and for small appliances including vacuum cleaners, coffee machines, steam irons and food processors.

## Santoprene® TPV remains elastic at high temperatures

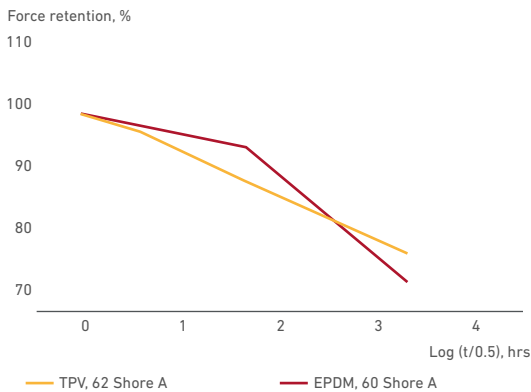
Compression set (25% deflection)



Based on test method ISO 815  
Source: Company data

## Santoprene TPV provides reliable long-term sealing performance

Stress-relaxation over time at 80°C



Based on test method ISO 3384A  
Source: Company data

## Reduced part costs

Offering design flexibility, ease of processing and recycling opportunities, Santoprene TPV can help to reduce part costs. Designers can specify low density Santoprene TPV rather than heavier elastomeric materials to reduce part weight, improve design options and increase manufacturing efficiency.

## Design freedom

Because Santoprene TPV thermally bonds with many hard and soft polymers it can easily be co-molded or coextruded, offering designers the opportunity to simplify multi-part systems through part consolidation. It enables the design of components with tight tolerances and can be easily colored.

## Ease of processing

Santoprene TPV can be easily processed on standard thermoplastic equipment. Compared to thermoset rubber materials, lower manufacturing costs can be achieved by shortening cycle times and reducing processing steps. Tool and machine use can be reduced for potential lower investment costs and energy use. Santoprene TPV also facilitates processing through multi-component injection molding, resulting in reduced trimming and rework.

## Recycling

Santoprene TPV can be recycled during the manufacturing phase which can result in less manufacturing waste, helping to reduce costs.

## A portfolio for specific needs

The Santoprene TPV portfolio includes general purpose grades that provide proven performance across the entire range of processing methods including injection molding, extrusion and blow molding. The portfolio also includes a range of specialty grades that have been designed to meet the specific needs of the appliance industry including:

- Bonding to engineering plastics including PC, ABS and PS
- Flame retardant (UL 94 V-2, V-0, 5VA rated)
- Food contact (FDA)
- Detergent resistant
- Water contact (NSF)

## Experience Santoprene TPV... more than a material

Customers can benefit from:

- Consistent quality products – batch to batch – globally available
- Supply security through integrated manufacturing
- Unequalled global technical support, industry know-how and application expertise
- Long-term commitment through a track record of ongoing investments

This publication was printed based on Celanese's present state of knowledge, and Celanese undertakes no obligation to update it. Because conditions of product use are outside Celanese's control, Celanese makes no warranties, express or implied, and assumes no liability in connection with any use of this information. Nothing herein is intended as a license to operate under or a recommendation to infringe any patents. Celanese®, registered C-ball design and all other trademarks identified herein with ®, TM, SM, unless otherwise noted, are trademarks of Celanese or its affiliates.

Copyright © 2022 Celanese or its affiliates. All rights reserved.

Contact us for more information:

[santoprene.com](https://www.santoprene.com)

[santoprene.answerperson@celanese.com](mailto:santoprene.answerperson@celanese.com)

SAN-Appliances-EN-SS-0222