

SANTOPRENE® 8181-55B1MED

A soft, black, specialty, non-hygroscopic thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. It is especially formulated to bond to ABS, PS, PC, COPE, ASA, PET, PPO/PS and metal for blends applications where hard/soft combinations are required. This grade of Santoprene™ TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding or extrusion. It is polyolefin based and recyclable within the manufacturing stream.

Key Features

- Biocompatibility in tests corresponding to USP Class VI/ISO 10993
- A representative grade undergoes annual testing for cytotoxicity and heavy metals
- Drug master file maintained with the FDA.
- Designed for excellent adhesion onto ABS, PS, PC, PMMA, ASA, and COPE (cold insert or 2K [two-shot] molding)
- Recommended for applications requiring excellent flex fatigue resistance
- Designed for soft touch applications
- Adhesion values can vary according to type of ABS, PS, PC, PMMA, ASA, COPE, metal, or blends thereof, tool design and processing conditions

Typical mechanical properties

Elongation at break	600 %	ISO 527-1/-2 or ISO 37
Shore A hardness, 15s	57	ISO 48-4 / ISO 868
Compression Set, 125°C, 70h	55 %	ISO 815

Other properties

Density	9 lb/gal	ISO 1183
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Injection

Drying Temperature	158 °F
Drying Time, Dehumidified Dryer	3 h
Processing Moisture Content	0.08 %
Max. regrind level	20 %
Max. mould temperature	75.2 - 126 °F
Vent depth	1 mil
Back pressure	50 - 99.9 psi
Injection speed	fast

Processing Texts

Processing Notes

Desiccant drying for 3 hours at 70°C (160°F) can be performed if desired. For two-shot injection molding, recommended melt temperature is 210 to 230°C (410 to 445°F) with mold temperatures of 30 to 50°C (90 to 125°F). For insert injection molding, recommended melt temperature is 230 to 250°C (445 to 485°F) with mold temperatures of 25 to 50°C (75 to 125°F). Because of its inherent nature to bond, this material may, on occasion, agglomerate from shipping and storage. Santoprene™ TPV is incompatible with acetal and PVC.



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24 hours are required before measuring bonding levels. Design Note: Degree of bonding can vary depending on gate size and thickness of grade layer. The recommended gate size is 75-85% of material wall thickness. To achieve optimal bonding to ABS substrates, Santoprene™ TPV and substrate thickness need to be at least 2mm (0.080"). For other substances (PC, PS, etc), Santoprene™ TPV and substrate thickness must be at least 1.5mm (0.060").

