

# Santoprene™ TPV Automotive Material Approvals

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## Introduction

North American automotive manufacturers (OEMs) have developed material specifications for thermoplastic vulcanizate (TPV) materials. Successful completion of testing with results the OEMs deem consistent with the specification leads to obtaining a presence on the various OEM Approved Source Lists.

ExxonMobil Chemical's continued presence on the OEM Approved Source Lists is managed directly with the OEMs.

This document provides a summary of the Santoprene TPV and Geolast™ TPV grades that are approved to the OEM specifications.

This list is reviewed on a regular basis, however, the documents used to generate this summary (OEM Approved Source Lists) override any listings here.

Approved Source List sources viewed January 2016:

- Chrysler: within the specification
- Ford: Ford Approved Source Lists available through IHS or the Materials and Toxicology System (MATS)
- GM: GM MATSPC

**Table I - Chrysler Group LLC**

MS.50015 is the harmonized standard that contains the Chrysler (MS-AR-100) and Fiat (55248/02) documents.

Material Standard Document Number	Santoprene™ TPV grade	Reference: superseded material standard	OEM Material Description
MS-A0116	121-65B200		EPDM Bondable TPV-EPDM/PP
MS-AR-100 AFN	251-80W232	MS-AR-40A	Flame Retardant, non UV Resistant
MS-AR-100 AGN	101-55	MS-AR-20A	General Purpose, non UV Resistant
MS-AR-100 AGN	201-55	MS-AR-20A	General Purpose, non UV Resistant
MS-AR-100 BGN	101-64	MS-AR-20B	General Purpose, non UV Resistant
MS-AR-100 BGN	201-64	MS-AR-20B	General Purpose, non UV Resistant
MS-AR-100 CGN	101-73	MS-AR-20C	General Purpose, non UV Resistant
MS-AR-100 CGN	201-73	MS-AR-20C	General Purpose, non UV Resistant
MS-AR-100 DGN	101-80	MS-AR-20D	General Purpose, non UV Resistant
MS-AR-100 DGN	201-80	MS-AR-20D	General Purpose, non UV Resistant
MS-AR-100 EGN	101-87	MS-AR-20E	General Purpose, non UV Resistant
MS-AR-100 EGN	201-87	MS-AR-20E	General Purpose, non UV Resistant
MS-AR-100 FGN	103-40	MS-AR-30A	General Purpose, non UV Resistant
MS-AR-100 FGN	203-40	MS-AR-30A	General Purpose, non UV Resistant
MS-AR-100 GGN	103-50	MS-AR-30B	General Purpose, non UV Resistant
MS-AR-100 GGN	203-50	MS-AR-30B	General Purpose, non UV Resistant
MS-AR-100 AGV	121-58W175	MS-AR-23A	General Purpose, UV Resistant
MS-AR-100 BGV	121-67W175	MS-AR-23B	General Purpose, UV Resistant
MS-AR-100 CGV	121-73W175	MS-AR-23C	General Purpose, UV Resistant
MS-AR-100 DGV	121-80	MS-AR-23D	General Purpose, UV Resistant
MS-AR-100 EGV	121-87	MS-AR-23E	General Purpose, UV Resistant
MS-AR-100 GGV	123-40	MS-AR-30A	General Purpose, UV Resistant
MS-AR-100 HGV	123-50W175	MS-AR-30B	General Purpose, UV Resistant
MS-AR-100 AMN	111-35	MS-AR-21A	Molding, non UV Resistant
MS-AR-100 AMN	8211-35	MS-AR-21A	Molding, non UV Resistant
MS-AR-100 BMN	111-45	MS-AR-21B	Molding, non UV Resistant
MS-AR-100 BMN	211-45	MS-AR-21B	Molding, non UV Resistant
MS-AR-100 AMV	121-50M100	MS-AR-24A	Molding, UV Resistant
MS-AR-100 AMV2-HF	8221-55M300		Molding, High Flow, UV Resistant, Interior
MS-AR-100 BMV	121-62M100	MS-AR-24B	Molding, UV Resistant
MS-AR-100 BMV2-HF	8221-65M300	MS-AR-27A	Molding, High Flow, UV Resistant, Interior
MS-AR-100 CMV	121-75M100	MS-AR-24C	Molding, UV Resistant
MS-AR-100 CMV2-HF	8221-75M300	MS-DB-226	Molding, High Flow, UV Resistant, Interior
MS-AR-100 DMV	121-85M100	MS-AR-24D	Molding, UV Resistant
MS-AR-100 DMV2-HF	8221-85M300	MS-AR-27C	Molding, High Flow, UV Resistant, Interior
MS-AR-27A	121-65M300	Working to move to MS-AR-100	Molding, UV Resistant, Interior
MS-AR-27B	121-80M300	Working to move to MS-AR-100	Molding, UV Resistant, Interior

**Table II - Ford Motor Company: Worldwide Specifications**

Engineering Material Specification	Santoprene™ TPV Grade	OEM Material Application
WSD-M2D378-A1	101-55	General Purpose, Under Hood
WSD-M2D378-A1	201-55	General Purpose, Under Hood
WSD-M2D379-A1	101-64	General Purpose, Under Hood
WSD-M2D379-A1	201-64	General Purpose, Under Hood
WSD-M2D380-A1	101-73	General Purpose, Under Hood
WSD-M2D380-A1	201-73	General Purpose, Under Hood
WSD-M2D381-A1	101-80	General Purpose, Under Hood
WSD-M2D381-A1	201-80	General Purpose, Under Hood
WSD-M2D382-A1	101-87	General Purpose, Under Hood
WSD-M2D382-A1	201-87	General Purpose, Under Hood
WSD-M2D378-A4*	111-35	Moderate Heat Resistant
WSD-M2D378-A4	111-45	Moderate Heat Resistant
WSD-M2D378-A4	211-45	Moderate Heat Resistant
WSS-M2D378-B1	121-58W175	Exterior, Weatherable
WSS-M2D379-B1	121-67W175	Exterior, Weatherable
WSS-M2D380-B1	121-73W175	Exterior, Weatherable
WSS-M2D381-B1	121-80	Exterior, Weatherable
WSS-M2D382-B1	121-87	Exterior, Weatherable
WSD-M2D441-A	103-40	General Purpose
WSS-M2D510-A5	8221-55M300	Interior, Colorable
WSS-M2D510-A6	8221-65M300	Interior, Colorable
WSS-M2D510-A7	8221-75M300	Interior, Colorable
WSS-M2D510-A8	8221-85M300	Interior, Colorable

\* exception for hardness

**Table III - General Motors: Worldwide Engineering Standards**

GMW specifications are manufacturing plant specific.

Material Specification*	Santoprene™ TPV Grade	Manufacturing Plant	OEM Material Application
GMW15702-023551	121-65B200	Newport, Wales UK	GMW15702-02
GMW15702-250006	8211-55B100	External Toll, TX USA	GMW15702-25 + GMNA Restricted Use
GMW15702-250012	291-60B150	Newport, Wales UK	GMW15702-25 + GMNA Restricted Use
GMW15702-250024	8221-85M300	Newport, Wales UK	GMW15702-25 + GMNA Restricted Use
GMW15702-250028	251-70W232	Cantonment, FL USA	GMW15702-25 + GMNA Restricted Use
GMW15702-250034	8211-45	Cantonment, FL USA	GMW15702-25 + GMNA Restricted Use
GMW15812 Type 4E	121-58W175	Cantonment, FL USA	Exterior, Black, Weatherable
GMW15812 Type 5E	121-67W175	Cantonment, FL USA	Exterior, Black, Weatherable
GMW15812 Type 6E	121-73W175	Cantonment, FL USA	Exterior, Black, Weatherable
GMW15812 Type 10E	123-50W175	Newport, Wales UK	Exterior, Black, Weatherable
GMW15812 Type 4M	121-50M100	Cantonment, FL USA	Exterior, Black, Weatherable
GMW15812 Type 5M	121-60M200	Newport, Wales UK	Exterior, Black, Weatherable
GMW15812 Type 5M	121-62M100	Cantonment, FL USA	Exterior, Black, Weatherable
GMW15812 Type 7M	121-75M100	Cantonment, FL USA	Exterior, Black, Weatherable
GMW15812 Type 8M	121-85M100	Cantonment, FL USA	Exterior, Black, Weatherable
GMW15812 Type 7E	121-80	Cantonment, FL USA	Exterior, Black, Weatherable
GMW15812 Type 8E	121-87	Cantonment, FL USA	Exterior, Black, Weatherable
GMW15812 Type 9	123-40	Cantonment, FL USA	Exterior, Black, Weatherable
GMW15813 Type 2	111-35	Cantonment, FL USA	Underhood, General Purpose
GMW15813 Type 4	101-55	Cantonment, FL USA	Underhood, General Purpose
GMW15813 Type 4	201-55	Cantonment, FL USA	Underhood, General Purpose
GMW15813 Type 5	101-64	Cantonment, FL USA	Underhood, General Purpose
GMW15813 Type 6	101-73	Cantonment, FL USA	Underhood, General Purpose
GMW15813 Type 7	101-80	Cantonment, FL USA	Underhood, General Purpose
GMW15813 Type 8	101-87	Cantonment, FL USA	Underhood, General Purpose
GMW15813 Type 9	103-40	Cantonment, FL USA	Underhood, General Purpose
GMW15813 Type 10	103-50	Cantonment, FL USA	Underhood, General Purpose
GMW15813 Type 10	203-50	Cantonment, FL USA	Underhood, General Purpose
GMW15816 Type 4	8221-55M300	Newport, Wales UK	Interior, Natural, UV Stabilized
GMW15816 Type 5	8221-65M300	Newport, Wales UK	Interior, Natural, UV Stabilized
GMW15816 Type 6	8221-75M300	Newport, Wales UK	Interior, Natural, UV Stabilized
GMW15825 Type 5	121-70B230	External Toll, OH, USA	Exterior, EPDM Bondable

\*Example of full material ID: GMW15812P-TPV(EPDM+PP)-Type 9

**Table IV - General Motors: Engineering Standards**

Material Specification	Santoprene™ TPV Grade(s) (black / colorable)	New Superseding Standard
GMN3927	111-35	GMW15813 Type 2
GMN6706	121-75M100	GMW15812 Type 7M
GMN7692	121-50E500	
GMP.E/P.001	101-55	GMW15813 Type 4
GMP.E/P.001	121-58W175	GMW15812 Type 4E
GMP.E/P.001	201-55	
GMP.E/P.002	101-64	GMW15813 Type 5
GMP.E/P.002	201-64	
GMP.E/P.003	101-73	GMW15813 Type 6
GMP.E/P.003	201-73	
GMP.E/P.004	101-80	GMW15813 Type 7
GMP.E/P.004	201-80	
GMP.E/P.005	101-87	GMW15813 Type 8
GMP.E/P.005	201-87	
GMP.E/P.006	103-40	GMW15813 Type 9
GMP.E/P.006	203-40	
GMP.E/P.007	103-50	GMW15813 Type 10
GMP.E/P.007	203-50	GMW15813 Type 10
GMP.E/P.016	123-50W175	GMW15812 Type 10E
GMP.E/P.029	121-67W175	GMW15812 Type 5E
GMP.E/P.037	121-87	GMW15812 Type 8E
GMP.E/P.057	121-73W175	GMW15812 Type 6E
GMP.E/P.078	121-50M100	GMW15812 Type 4M
GMP.E/P.082	121-62M100	GMW15812 Type 5M
GMP.E/P.082	121-65M300	
GMP.E/P.120	121-80	GMW15812 Type 7E
GMP.E/P.120	121-80M300	
GMP.E/P.126	121-79W233	
GMP.E/P.137	111-45	
GMP.E/P.140	8221-55M300	GMW15816 Type 4
GMP.E/P.141	8221-75M300	GMW15816 Type 6
GMP.E/P.142	8221-85M300	GMW15702-250024
GMP.E/P.144	121-85M100	GMW15812 Type 8M
GMP.E/P.160	123-40	GMW15812 Type 9
GMP.E/P.161	121-70B230	GMW15825 Type 5

Material Specification	Geolast™ TPV Grade (black)	New Superseding Standard
GMP.E/P.081	701-70	



**Contact your ExxonMobil Chemical representative  
for more information.**

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