

## Revised: July 20, 2010

### Latest Revisions:

Chrysler

Added:

Type(s) to MS-AR-100 specifications

GM

Added:

GMW 15812P Type 10E – Sarlink 5750DB4

GMW 15812P Type 8M – Sarlink 4785B40

### Previous Revision 6//2010:

Ford

Deleted:

ESB-M4D495-A1 Replaced by WSD-M2D379-A1

ESB-M4D495-A2 Replaced by WSD-M2D380-A1

ESB-M4D495-A3 Replaced by WSD-M2D381-A1

ESB-M4D495-A4 Replaced by WSD-M2D382-A1

ESB-M2D495-A5 Replaced by WSD-M2D441-A

ESB-M2D495-A6 Replaced by WSK-M4D712-A1

Added:

Dynamic and Static Seal Performance Specification note

GM

Added:

GMW 15812P Type 5M – Sarlink 4765B40

GMW 15812P Type 6M – Sarlink 4775B40

GMW 15812P Type 4E – Sarlink 5755B4

## Chrysler Corporation Sarlink® Approvals

Specification Number	Title	Sarlink® Grade Approved
MS-AR-100 AGN (Supersedes MS-AR20A)	TPR – Fully Cured EPDM in a Polyolefin Base	4155N/B
MS-AR-100 BGN (Supersedes MS-AR20B)	TPR – Fully Cured EPDM in a Polyolefin Base	4165N/B
MS-AR-100 CGN (Supersedes MS-AR20C)	TPR – Fully Cured EPDM in a Polyolefin Base	4175N/B
MS-AR-100 DGN (Supersedes MS-AR20D)	TPR – Fully Cured EPDM in a Polyolefin Base	4180N/B
MS-AR-100 EGN (Supersedes MS-AR20E)	TPR – Fully Cured EPDM in a Polyolefin Base	4190N/B
MS-AR-100 AGV (Supersedes MS-AR23A)	TPR – Fully Cured EPDM in a Polyolefin Base - UV Stabilized	5755B4
MS-AR-100 BGV (Supersedes MS-AR23B)	TPR – Fully Cured EPDM in a Polyolefin Base - UV Stabilized	5765B4
MS-AR-100 CGV (Supersedes MS-AR23C)	TPR – Fully Cured EPDM in a Polyolefin Base - UV Stabilized	5775B4
MS-AR-100 EGV (Supersedes MS-AR23E)	TPR – Fully Cured EPDM in a Polyolefin Base - UV Stabilized	5790B4
MS-AR-100 AMV (Supersedes MS-AR24A)	TPR – Fully Cured EPDM in a Polyolefin Base - High Flow – UV Stabilized	4750 B42
MS-AR-100 BMV (Supersedes MS-AR24B)	TPR – Fully Cured EPDM in a Polyolefin Base - High Flow – UV Stabilized	4765 B40
MS-AR-100 CMV (Supersedes MS-AR24C)	TPR – Fully Cured EPDM in a Polyolefin Base - High Flow – UV Stabilized	4775 B40
MS-AR26F	TPR – Fully Cured EPDM in a Polyolefin Base – Colorable, UV Stabilized, Interior	3160N-43 3160B-43
MS-AR-100 FGN (Supersedes MS-AR30A)	TPR – Fully Cured EPDM in a Polyolefin Base	4139DN 4139DB
MS-AR-100 GGN (Supersedes MS-AR30B)	TPR – Fully Cured EPDM in a Polyolefin Base	4149DN 4149DB
MS-AR80A	TPE – Partially Cured EPDM in a Polyolefin Matrix	3150N / 3150B
MS-AR80B	TPE – Partially Cured EPDM in a Polyolefin Matrix	3160N / 3160B
MS-AR80C	TPE – Partially Cured EPDM in a Polyolefin Matrix	3170N / 3170B
MS-AR80D	TPE – Partially Cured EPDM in a Polyolefin Matrix	3180N / 3180B
MS-AR80E	TPE – Partially Cured EPDM in a Polyolefin Matrix	3190N / 3190B
MS-AR80Ev	TPE – Partially Cured EPDM in a Polyolefin Matrix	3190N / 3190B

Note: Chrysler is now relying heavily on ASTM line-call outs. There fore any needed material which does not fall under these approvals can be positioned by using a line-call out. Specific color approvals will still be needed for color critical applications.

## Ford Motor Company Sarlink® Approvals

Specification Number	Title	Sarlink® Grade Approved
WSD-M2D378-A1	TPE (TEO) Polyolefin, EPDM, EC, M. Heat Res. 60A	4155N/B
WSS-M2D378-B1	TPE (TEO) Polyolefin, EPDM, Exterior Weatherable, 60A	5755B4
WSD-M2D379-A1	TPE (TEO) Polyolefin, EPDM, EC, M. Heat Res. 68A	4165N/B
WSS-M2D379-B1	TPE (TEO) Polyolefin, EPDM, Exterior Weatherable, 68A	5765B4
WSD-M2D380-A1	TPE (TEO) Polyolefin, EPDM, EC, M. Heat Res. 76A	4175N/B
WSS-M2D380-B1	TPE (TEO) Polyolefin, EPDM, Exterior Weatherable, 73A	5775B4
WSD-M2D381-A1	TPE (TEO) Polyolefin, EPDM, EC, M. Heat Res. 82A	4180N/B
WSD-M2D382-A1	TPE (TEO) Polyolefin, EPDM, EC, M. Heat Res. 89A	4190N/B
WSD-M2D441-A	TPE (TEO) Polyolefin, EPD12M Rubber Modified	4139DN/B
WSK-M4D712-A1	TPE (TEO) Polyolefin, EPDM Rubber Mod. 50D	3145DN/B
Ford Endorsed – ASTM Callout		5790B4

- Ford using ASTM line call outs from this point forward except where it involves safety and colorable applications. In these cases material and color approvals are still needed.
- Ford is using performance specifications for Dynamic and Static sealing applications. Dynamic Specification – WSS-M9P9-A / Static Specification – WSS-M9P10-A

## General Motors Corporation Sarlink® Approvals

Specification Number	Title	Sarlink® Grade Approved
GMN.3901.E/P.092	TPE, Injection Grade, Shore A65, Interior/Exterior Color/Weatherable	4765B40
GMP.E/P.001	TPE, Polyolefinic Underhood & Int. Applications Shore A 55	4155N/B
GMP.E/P.002	Thermoplastic Polyolefin Elastomer - HS, Alloy, Shore A64	4165N/B
GMP.E/P.003	Thermoplastic Polyolefin Elastomer - HS, Alloy, Shore A73	4175N/B
GMP.E/P.004	Thermoplastic Polyolefin Elastomer - HS, Alloy, Shore A80	4180N/B
GMP.E/P.005	Thermoplastic Polyolefin Elastomer - HS, Alloy, Shore A87	4190N/B
GMP.E/P.006	Thermoplastic Polyolefin Elastomer - HS, Alloy, Shore D40	4139DN/B
GMP.E/P.007	Thermoplastic Polyolefin Elastomer - HS, Alloy, Shore D50	4149D
GMP.E/P.029	Thermoplastic Elastomers – Polyolefinic, Interior/Exterior, Shore A67	5765B4 Leominster / Genk Sites / Texas
GMP.E/P.037	Thermoplastic Elastomers Polyolefinic, Shore A87, Interior/Exterior	5790B4
GMP.E/P.057	Thermoplastic Elastomer – Polyolefinic, Interior/Exterior, Shore A73	5775B4
GMP.E/P.078	Thermoplastic Elastomer Polyolefinic, Shore A50, Interior/Exterior and Underhood Applications	4750B42
GMP.E/P.097 or GMN 3927	Thermoplastic Elastomer Polyolefinic, Shore A35, Interior/Exterior, Injection or Extrusion Grade	5735B4
GMP.E/P.109	Thermoplastic Elastomer, Shore A56 , Exterior, Extrusion Grade	5755B4
GMP.E/P.016	Thermoplastic Elastomer – Polyolefinic, Interior/Exterior, Shore D50	5750DB4
GMW 15812P Type 4E	Thermoplastic Elastomer, Shore 55A, UV, Extrusion Grade	5755B4
GMW 15812P Type 5M	Thermoplastic Elastomer, Shore 65A , UV, Molding Grade	4765B40
GMW 15812P Type 5E	Thermoplastic Elastomer, Shore 65A , UV, Extrusion Grade	5765B4 (Leominster, MA and Genk, Belgium)
GMW 15812P Type 6M	Thermoplastic Elastomer , Shore 75A, UV, Molding Grade	4775B40
GMW 15812P Type 6E	Thermoplastic Elastomer, Shore 75A , UV, Extrusion Grade	5775B4
GMW 15812P Type 8M	Thermoplastic Elastomer, Shore 85A, UV, Molding Grade	4785B40
GMW 15812 Type 10E	Thermoplastic Elastomer, Shore 50D UV, Extrusion Grade	5750DB4
GM Sarlink Color Approvals	848 Black, Gloss GLG	4765B40, 4750B42, 5755B4, 5765B4, and 5775B4

## GM-Opel QK003500 Listed Sarlink® Grades

Specification Number	Certification Statement Available	Sarlink® Grade Approved
QK 3511	GMW 3013	3140
QK 3513		3150N/B
QK 3513		4155
QK 3513 L		4755B-42
QK 3521		3160N/B
QK 3521		4165
QK 3521		4165B-07
QK 3521 L		5765B-04
QK 3521		6165N-03
QK 3522 L		4775B-40
QK 3523	GMW 3013	3170B
QK 3523		4175
QK 3523 L		4775B-42
QK 3523 L		5775B-04
QK 3525		3180
QK 3525 L		3780B
QK 3525		4180
QK 3525		3190
QK3526		4190N/B
QK3531		4139DN/B
QK 3531	GMW 3013	3939D-01
QK 3531	GMW 3013	K 156B
QK 3532		3139D
QK3533		3145DN/B

## Delphi Corporation Sarlink® Approvals

Specification Number	Title	Sarlink® Grade Approved
DX300100 Delphi Interior Systems	Thermoplastic Polyolefin Elastomer – Heat Stabilized, Alloy, Shore A73	4175
7845728 Delphi Saginaw Steering Systems	Spec, Material 40D Olefinic Thermoplastic Elastomer	4139DB
MX300100	Thermoplastic Polyolefin Elastomer – UV Stabilized, Shore A75	5775B4

### Sarlink Approvals at Japanese Automotive OEM's

The Japan OEM's (Toyota, Honda, and Nissan) do not have material specifications similar to the Big 3 in Detroit. The Japan OEM's will specify a part performance specification that will typically include a table showing properties of a TPO or TPV. Some material specifications do exist, and list general properties. In all cases, the Tier 1 supplier

has the option to test materials to the Part Performance and Material specifications.

For example, Toyota Engineering Standard TSM1707G covers the materials and product performances for Door Glass Weatherstrip. Table 2 of this specification summarizes the material performance. Sarlink is considered a Class 7 material (material code TSM1707G-7), and identified as PP + EPDM.

Nissan Engineering Standard M7082 "Rubber Materials for Automotive Weatherstrip" is used to specify rubber materials and TPV is specified with the general designation of WG (PP/EPDM).

Below is a list of Sarlink grades that are currently commercial at the Japanese Automotive OEM's.

OEM	Application	Sarlink Grade
Toyota	Air Duct	4175B-05
	Boots	4165B
Honda	Cowl Top, Hood Hinge	4775B40, 4765B40
	Mats, Bin Liners, knobs	3160B
		3150B
		4775B40
		Various custom colors via Trexlink™
	Air Duct/Hose	4155B
	Strake (stone guard)	5790B4
	Fuel Cell Gasket	3150B
Steering Boot	4190B	
Nissan	Inner Belt Seal	5755B4, TM80
	Inner Belt Seal	5765B4



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#### About Sarlink

Sarlink is a global brand of premium quality pelletized thermoplastic vulcanizates (TPVs). A specialist in developing and manufacturing high quality TPVs to offer customers the material properties they need, such as flexibility, durability and low compression set. The products are produced under the highest production standards. Sold and distributed by a dedicated and service-driven sales force. And supported by an expert application development. Sarlink adds value by being a specialist in high quality TPV solutions and offering a support structure based on close partnership. Sarlink is a truly global company with production operations and laboratories in Leominster MA (USA) and Genk (Belgium), and sales/marketing and technical support

offices in Rochester Hills MI (USA), Leominster MA (USA), Sittard-Geleen (The Netherlands), Shanghai (China) and Singapore.

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