

## Revised: September 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

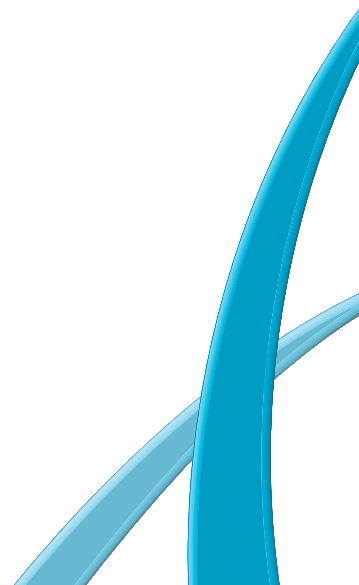
GM

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<br>(Supersedes MS-AR20A) | TPR – Fully Cured EPDM in a Polyolefin Base                                      | 4155N/B                 |
| MS-AR-100 BGN<br>(Supersedes MS-AR20B) | TPR – Fully Cured EPDM in a Polyolefin Base                                      | 4165N/B                 |
| MS-AR-100 CGN<br>(Supersedes MS-AR20C) | TPR – Fully Cured EPDM in a Polyolefin Base                                      | 4175N/B                 |
| MS-AR-100 DGN<br>(Supersedes MS-AR20D) | TPR – Fully Cured EPDM in a Polyolefin Base                                      | 4180N/B                 |
| MS-AR-100 EGN<br>(Supersedes MS-AR20E) | TPR – Fully Cured EPDM in a Polyolefin Base                                      | 4190N/B                 |
| MS-AR-100 AGV<br>(Supersedes MS-AR23A) | TPR – Fully Cured EPDM in a Polyolefin Base - UV Stabilized                      | 5755B4                  |
| MS-AR-100 BGV<br>(Supersedes MS-AR23B) | TPR – Fully Cured EPDM in a Polyolefin Base - UV Stabilized                      | 5765B4                  |
| MS-AR-100 CGV<br>(Supersedes MS-AR23C) | TPR – Fully Cured EPDM in a Polyolefin Base - UV Stabilized                      | 5775B4                  |
| MS-AR-100 EGV<br>(Supersedes MS-AR23E) | TPR – Fully Cured EPDM in a Polyolefin Base - UV Stabilized                      | 5790B4                  |
| MS-AR-100 AMV<br>(Supersedes MS-AR24A) | TPR – Fully Cured EPDM in a Polyolefin Base - High Flow – UV Stabilized          | 4750 B42                |
| MS-AR-100 BMV<br>(Supersedes MS-AR24B) | TPR – Fully Cured EPDM in a Polyolefin Base - High Flow – UV Stabilized          | 4765 B40                |
| MS-AR-100 CMV<br>(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<br>3160B-43    |
| MS-AR-100 FGN<br>(Supersedes MS-AR30A) | TPR – Fully Cured EPDM in a Polyolefin Base                                      | 4139DN<br>4139DB        |
| MS-AR-100 GGN<br>(Supersedes MS-AR30B) | TPR – Fully Cured EPDM in a Polyolefin Base                                      | 4149DN<br>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<br>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<br>Delphi Interior Systems        | Thermoplastic Polyolefin Elastomer – Heat Stabilized, Alloy, Shore A73 | 4175                    |
| 7845728<br>Delphi Saginaw Steering Systems | Spec, Material 40D Olefinic Thermoplastic Elastomer                    | 4139DB                  |
| MX300100                                   | Thermoplastic Polyolefin Elastomer – UV Stabilized, Shore A75          | 5775B4                  |

## VW-Audi-Seat-Skoda (VAG) Sarlink® Approvals

| VAG (VW-Audi-Seat-Skoda) | Specification     |
|--------------------------|-------------------|
| Sarlink 3140B            | VW 501 23         |
| Sarlink 3140N            | VW 501 23         |
| Sarlink 3140             | VW 501 79         |
| Sarlink 3140             | VW 501 80         |
| Sarlink 3150B            | VW 501 23         |
| Sarlink 3150             | VW 501 79         |
| Sarlink 3150             | VW 501 80         |
| Sarlink 3160B            | VW 501 23         |
| Sarlink 3150N            | VW 501 23         |
| Sarlink 3170B            | VW 501 23         |
| Sarlink 3170             | VW 501 80         |
| Sarlink 3180B            | VW 501 23         |
| Sarlink 3180             | VW 501 79 (Audi)  |
| Sarlink 3180             | VW 501 80         |
| Sarlink 3180B            | TL 526 22         |
| Sarlink 3190B            | VW 501 23         |
| Sarlink 3139DB           | VW 501 23         |
| Sarlink 3139DB           | VW 501 80         |
| Sarlink 3139D-01         | VW 501 23         |
| Sarlink 3939DB-01        | VW TL1010         |
| Sarlink 3145DB           | VW 501 23         |
| Sarlink 4155B            | VW 501 23         |
| Sarlink 4165B            | VW 501 23         |
| Sarlink 4175B            | VW 501 23         |
| Sarlink 4180B            | VW 501 23         |
| Sarlink 4190B            | VW 501 23         |
| Sarlink 4755B-42         | VW 501 23         |
| Sarlink 4765B-40         | VW 501 23         |
| Sarlink 4765B-42         | VW 501 23         |
| Sarlink 4775B-40         | VW 501 23         |
| Sarlink 4775B-42         | VW 501 23         |
| Sarlink 5755B4           | VW 501 23         |
| Sarlink 5765B4           | VW 501 23         |
| Sarlink 5765B4           | TL526 41-C        |
| Sarlink 5775B4           | VW 501 23         |
| Sarlink 6145N            | VW 501 23         |
| Sarlink 6165-03N         | VW 501 23         |
| Sarlink X6165N-03        | VW 501 80         |
| Sarlink K156B            | VW TL 526 22-MD01 |
| Sarlink TPE65            | VW 501 23         |

## Peugeot-Citroën PSA Sarlink® Approvals

| RMA, SPA or FTM number | Grade-color Reference   | Validations B620300 Norm   |
|------------------------|---|--|
| X62 3450               | Sarlink 3140B<br>Sarlink 3150B<br>Sarlink 3160B-FXT<br>Sarlink 3170B-FXT  | 16 211M 35 411 40 53 A1 Bo C1 D1 F10-F2 J4-J5 K3-K4? L207E P207E M1 O1 N1 Q3 Ro To8 Z2<br>16 211M 35 411 40 53 A1 Bo C1 D1 F10-F2 J5-J6 K3-K4? L207E P207E M1 O1 N1 Q3 R1 To81 Z2  |
| X62 3458               | Sarlink 3139DB-FXT<br>Sarlink 3939DB-FXT<br>Sarlink 3145DB-FXT  | B620300 - 16 211M 35 411 40 53 A1 Bo C1 D1 F10-F2 J4-J5 K3-K4? L207E P207E M1 O1 N1 Q3 Ro To8 Z2<br>16 211M >35 411 43 53 A1 Bo C1 D1 E3 F10-F2 J7-J8 K4 M2 O1 N1 Q3 R2 To81 Z9<br>16 211M 35 411 40 53 A1 Bo C1 D1 F10-F2 J4-J5 K3-K4? L207E P207E M1 O1 N1 Q3 Ro To8 Z2  |
| PP—0012                | Sarlink 5765B4-FXT  | 19? 211M 35 411 40 53 A1 Bo C1 D1 E1 F10-F2 G1 I1 J3-J4 K3-K4? L207E P207E Mo O1? N1 Q2 Ro Z1  |
| PP—0013                | Sarlink 5765B4-FXT<br>Sarlink 5775B4-FXT  | 19 211M 35 411 43 53 A1 Bo C1 D1 F10-F2 G1 I1 J4-J5 K3-K4? L207E P207E M1 O1 N1 Q3 R1 To81 Z2<br>19 211M 35 411 43 53 A1 Bo C1 D1 F10-F2 G1 I1 J5-J6 K3-K4? L207E P207E M1 O1 N1 Q3 R1 To8 Z2  |
| X62 3458, PP—07        | Sarlink 3139DB-FXT<br>Sarlink K165B-FXT   | 16 211M 35 411 40 53 A1 Bo C1 D1 F10-F2 J8 K3-K4? M2 O1 N1 Q3 R3 To81 Z10<br>19 211M 35 411 40 53 A1 Bo C1 D1 F10-F2 G1 I1 J8 K3-K4? M2 O1 N1 R1 Z9  |
| X623492, PP—08         | Sarlink 3190B-FXT<br>Sarlink 4139DB-FXT<br>Sarlink 3780B-FXT<br>Sarlink 3790B40-FX<br>Sarlink 3380B-FXT<br>Sarlink 3380B-FXT<br>Sarlink 4755B42-FXT<br>Sarlink 4755B42-FXT<br>Sarlink 4775B42-FXT<br>Sarlink 4775B42-FX | 16 211M 35 411 40 53 A1 Bo C1 D1 F10-F2 J8 K3-K4? M2 O1 N1 Q3 R3 To81 Z10<br>19 211M 35 411 40 53 A1 Bo C1 D1 F10-F2 G1 I1 J5-J6 K3-K4? L207E P207E M1 O1 N1 Q3 Ro Z2<br>16 211M 35 411 40 53 A1 Bo C1 D1 F10-F2 J8 K3-K4? M2 O1 N1 Q3 R3 To81 Z10<br>17 211M 35 411 40 53 A1 Bo C1 D1 F10-F2 G1 I1 J7-J8 K3-K4? M1 O1 N1 Q3 R2 To7 Z9<br>16 211M 35 411 40 53 A1 Bo C1 D1 F10-F2 J8 K3-K4? M2 O1 N1 Q3 R3 To81 Z10<br>16 211M 35 411 40 53 A1 Bo C1 D1 F10-F2 J4-J5 K3-K4? L207E P207E M1 O1 N1 Q3 Ro To8 Z2<br>19 211M 35 411 43 53 A1 Bo C1 D1 F10-F2 G1 I1 J4-J5 K3-K4? L207E P207E M1 O1 N1 Q3 R1 To81 Z2<br>19? 211M 35 411 40 53 A1 Bo C1 D1 E1 F10-F2 G1 I1 J3-J4 K3-K4? L207E P207E Mo O1? N1 Q2 Ro Z1<br>16 211M 35 411 40 53 A1 Bo C1 D1 F10-F2 J8 K3-K4? M2 O1 N1 Q3 R3 To81 Z10<br>19 211M 35 411 40 53 A1 Bo C1 D1 F10-F2 G1 I1 J8 K3-K4? M2 O1 N1 R1 Z9 |

## Daimler Sarlink® Approvals

| Daimler (Mercedes) | Specification            |
|--------------------|--------------------------|
| Sarlink 3150B      | DBL 5562.30              |
| Sarlink 3160B      | DBL 5562.30              |
| Sarlink 3170B      | DBL 5562.30              |
| Sarlink 3180B      | DBL 5562.30              |
| Sarlink 4150B-42   | MS-AR24                  |
| Sarlink 4155B      | DBL 5562.30              |
| Sarlink 4755B-42   | DBL 5562.30              |
| Sarlink 4765B-42   | DBL 5562.30              |
| Sarlink 4775B-40   | DBL 5562.30              |
| Sarlink 4775B-42   | DBL 5562.30              |
| Sarlink 5725B4     | DBL 5562.?? (25 Shore A) |
| Sarlink 5745B4     | DBL 5562.30              |
| Sarlink 5755B4     | DBL 5562.30              |
| Sarlink 5765B4     | DBL 5562.30              |
| Sarlink 5775B4     | DBL 5562.30              |
| Sarlink 7765B4     | DBL 5562.30              |
| Sarlink K X935DB   | DBL 5562.20              |

### 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                              |



*Stretching innovations*

#### Americas (all enquiries)

Telephone: +1.978.534.1010  
Toll Free (USA only): 800.524.0120  
Fax: +1.978.534.1005

#### Europe (all enquiries)

Telephone: +31.46.477.3362  
Fax: +31.46.476.1050

#### Singapore

Commercial Enquiry : + 65-63936120  
Fax: + 65-62995848

#### China

Commercial Enquiry: + 86-13601793834  
Technical Enquiry: + 86-15921993719

#### Japan

Commercial Enquiry: +81-352095151

#### 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.

All information supplied by or on behalf of DSM in relation to its products whether in the nature of data, recommendations or otherwise, is supported by research and believed reliable, but DSM assumes no liability whatsoever in respect of application, processing or use made of the aforementioned information of products, or any consequence thereof. The buyer undertakes aforementioned information or product, whose quality and other properties he shall verify, or any consequences thereof. No liability whatsoever shall attach to DSM for any infringement of the rights owned or controlled by a third party in intellectual, industrial or other property by reason of the application, processing or use of the aforementioned information or products by the buyer.

® Sarlink is a registered trademark of DSM. Names and trademarks used in recipes or information refer to the owner of the respective trademarks and/or names of their products. DSM disclaims any rights regarding these trademarks and/or names.

**info@sarlink.com**  
**www.sarlink.com**