



# Sarlink® TPV 4765B42

Teknor Apex Company - Thermoplastic Vulcanizate

## General Information

### Product Description

The Sarlink TPV 4700 Series are very high flow injection molding engineering grades with excellent UV resistance, elasticity, and surface aesthetics designed for demanding automotive applications including window encapsulation and exterior parts. Sarlink® TPV 4765B42 is a black, medium hardness, low density thermoplastic vulcanizate suited for injection molding applications that require superior flow properties.

### General

|                           |                                                                                                  |                                                                                   |                                                                   |
|---------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Material Status           | • Commercial: Active                                                                             |                                                                                   |                                                                   |
| Availability              | • Africa & Middle East<br>• Asia Pacific                                                         | • Europe<br>• Latin America                                                       | • North America                                                   |
| Features                  | • Chemical Resistant<br>• Good Flexibility<br>• Good Processability<br>• Good Weather Resistance | • High Flow<br>• High Melt Stability<br>• Low Density<br>• Low Specific Gravity   | • Medium Hardness<br>• Resilient<br>• UV Resistant                |
| Uses                      | • Automotive Applications<br>• Automotive Exterior Parts                                         | • Automotive Window Encapsulation<br>• Rubber Replacement                         |                                                                   |
| RoHS Compliance           | • RoHS Compliant                                                                                 |                                                                                   |                                                                   |
| Automotive Specifications | • BMW Unspecified Color: Black<br>• JAGUAR STJLR-51.5301                                         | • MERCEDES BENZ DBL 5422 Color: Black<br>• MERCEDES BENZ DBL 5562.30 Color: Black | • VAG VW501 23 Color: Black<br>• VOLKSWAGEN VW 50180 Color: Black |
| Appearance                | • Black                                                                                          |                                                                                   |                                                                   |
| Forms                     | • Pellets                                                                                        |                                                                                   |                                                                   |
| Processing Method         | • Injection Molding                                                                              |                                                                                   |                                                                   |

## ASTM & ISO Properties <sup>1</sup>

| Physical                    | Nominal Value | Unit              | Test Method |
|-----------------------------|---------------|-------------------|-------------|
| Density / Specific Gravity  | 0.910         |                   | ASTM D792   |
| Density                     | 0.910         | g/cm <sup>3</sup> | ISO 1183    |
| Elastomers                  | Nominal Value | Unit              | Test Method |
| Tensile Stress              |               |                   |             |
| Across Flow : 100% Strain   | 334           | psi               | ISO 37      |
| Across Flow : 100% Strain   | 334           | psi               | ASTM D412   |
| Flow : 100% Strain          | 421           | psi               | ISO 37      |
| Flow : 100% Strain          | 421           | psi               | ASTM D412   |
| Tensile Stress              |               |                   |             |
| Across Flow : Break         | 740           | psi               | ISO 37      |
| Across Flow : Break         | 740           | psi               | ASTM D412   |
| Flow : Break                | 711           | psi               | ISO 37      |
| Flow : Break                | 711           | psi               | ASTM D412   |
| Tensile Elongation          |               |                   |             |
| Across Flow : Break         | 400           | %                 | ISO 37      |
| Across Flow : Break         | 400           | %                 | ASTM D412   |
| Flow : Break                | 340           | %                 | ISO 37      |
| Flow : Break                | 340           | %                 | ASTM D412   |
| Tear Strength - Across Flow |               |                   |             |
| --                          | 140           | lbf/in            | ASTM D624   |
| -- 2                        | 143           | lbf/in            | ISO 34-1    |

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| Elastomers                                             | Nominal Value | Unit | Test Method |
|--------------------------------------------------------|---------------|------|-------------|
| Compression Set                                        |               |      |             |
| 73°F, 22 hr                                            | 23            | %    | ASTM D395   |
| 73°F, 22 hr                                            | 23            | %    | ISO 815     |
| 158°F, 22 hr                                           | 32            | %    | ISO 815     |
| 158°F, 22 hr                                           | 32            | %    | ASTM D395   |
| 257°F, 70 hr                                           | 48            | %    | ISO 815     |
| 257°F, 70 hr                                           | 48            | %    | ASTM D395   |
| Hardness                                               | Nominal Value | Unit | Test Method |
| Shore Hardness                                         |               |      |             |
| Shore A, 5 sec, Extruded                               | 62            |      | ISO 868     |
| Shore A, 5 sec, Extruded                               | 62            |      | ASTM D2240  |
| Shore A, 5 sec, Injection Molded                       | 65            |      | ISO 868     |
| Shore A, 5 sec, Injection Molded                       | 65            |      | ASTM D2240  |
| Aging                                                  | Nominal Value | Unit | Test Method |
| Change in Tensile Strength in Air - Across Flow        |               |      |             |
| 275°F, 1000 hr                                         | -18           | %    | ISO 188     |
| 275°F, 1000 hr                                         | -18           | %    | ASTM D573   |
| 100% Strain 275°F, 1000 hr                             | 1.0           | %    | ISO 188     |
| 100% Strain 275°F, 1000 hr                             | 1.0           | %    | ASTM D573   |
| 302°F, 168 hr                                          | -20           | %    | ISO 188     |
| 302°F, 168 hr                                          | -20           | %    | ASTM D573   |
| 100% Strain 302°F, 168 hr                              | 0.0           | %    | ISO 188     |
| 100% Strain 302°F, 168 hr                              | 0.0           | %    | ASTM D573   |
| Change in Tensile Strain at Break in Air - Across Flow |               |      |             |
| 275°F, 1000 hr                                         | -22           | %    | ISO 188     |
| 275°F, 1000 hr                                         | -22           | %    | ASTM D573   |
| 302°F, 168 hr                                          | -24           | %    | ISO 188     |
| 302°F, 168 hr                                          | -24           | %    | ASTM D573   |
| Change in Shore Hardness in Air                        |               |      |             |
| Shore A, 275°F, 1000 hr                                | 1.0           |      | ISO 188     |
| Shore A, 275°F, 1000 hr                                | 1.0           |      | ASTM D573   |
| Shore A, 302°F, 168 hr                                 | 1.0           |      | ISO 188     |
| Shore A, 302°F, 168 hr                                 | 1.0           |      | ASTM D573   |
| Change in Volume                                       |               |      |             |
| 275°F, 70 hr, in IRM 903 Oil                           | 84            | %    | ASTM D471   |
| 275°F, 70 hr, in IRM 903 Oil                           | 84            | %    | ISO 1817    |
| Additional Information                                 | Nominal Value | Unit | Test Method |
| Apparent Shear Viscosity - Capillary, @ 206/s          |               |      |             |
| 392°F                                                  | 210           | Pa·s | ISO 11443   |
| 392°F                                                  | 210           | Pa·s | ASTM D3835  |

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#### Processing Information

| Injection                            | Nominal Value | Unit |
|--------------------------------------|---------------|------|
| Drying Temperature - Desiccant Dryer | 180           | °F   |
| Drying Time - Desiccant Dryer        | 3.0 to 4.0    | hr   |
| Dew Point - Desiccant Dryer          | -40           | °F   |
| Suggested Shot Size                  | 25 to 50      | %    |
| Rear Temperature                     | 356 to 410    | °F   |
| Middle Temperature                   | 374 to 428    | °F   |
| Front Temperature                    | 392 to 464    | °F   |
| Nozzle Temperature                   | 410 to 464    | °F   |
| Processing (Melt) Temp               | 410 to 464    | °F   |
| Mold Temperature                     | 50 to 131     | °F   |
| Back Pressure                        | 14.5 to 145   | psi  |
| Screw Speed                          | 100 to 200    | rpm  |

#### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> Method Ba, Angle (Unnicked)