

## Combining the Advantages of Thermoplastic Processing and Elastomeric Performance

Sarlink® 3100 series grades exemplify our curiosity and discipline in research, and our care and dedication in production. Our engineers have succeeded in creating a product range that feels like rubber yet processes easily like plastic. Sarlink® 3100 is based on carefully selected raw materials in combination with a proprietary process technology, which combines superb elastic properties with the processing ease of thermoplastics.

### High Raw-Material Efficiency

Sarlink® is an environmentally friendly equivalent to general purpose thermoset rubber compounds, with high chemical resistance comparable to general purpose polychloroprene rubber. This unique combination enables a broad range of applications. Compared to thermoset rubber, using Sarlink® will reduce production costs due to its shorter cycle times, reduced energy needs, and a very high raw-material efficiency as a result of its recyclability.

### Main Characteristics

The Sarlink® 3100 series can be processed by standard thermoplastic processing techniques such as injection molding, extrusion and blow molding. The well balanced flow characteristics of this range help to create an

aesthetically superior surface appearance. The Sarlink® 3100 series contains a wide variety of grades with hardnesses from 35 Shore A up to 45 Shore D, in black and natural colors.

### Safety

Sarlink® TPVs do not present a toxic hazard through skin contact or inhalation when handled under normal conditions. Contact with molten polymers or inhalation of fumes should be avoided during processing. More and detailed information can be downloaded from [www.teknorapex.com/tpe](http://www.teknorapex.com/tpe).

### Other Teknor Apex TPE products

Sarlink® is one of six product families within the Teknor Apex TPE portfolio. The Sarlink® range itself contains multiple grade series, each with a specialty set of properties designed to fit a variety of application requirements. In addition to standard Sarlink® series, special Sarlink® grades exist or can be developed to meet unique customer requirements, such as specific OEM or regulatory approval requirements, UV resistance, or potable water contact. Information regarding these specialty grades and other Sarlink® series are available via your representative or at [www.teknorapex.com/sarlink](http://www.teknorapex.com/sarlink).

## Data Sarlink® 3100 general purpose grades (ISO standards - typical properties)

Typical properties	Test standard	Units S.I.	3135	3140	3150	3160	3170	3180	3190	3139D	3145D
<b>Density</b>	ISO 1183	kg/m <sup>3</sup>	930	930	950	950	950	950	940	940	940
<b>Hardness (5 sec delay)</b>	ISO 868	Shore A or D									
Extruded sample			38A	41A	54A	62A	71A	80A	89A	38D	47D
Injection molded sample			43A	46A	56A	65A	75A	84A	92A	41D	50D
<b>Tensile properties</b>	ISO 37										
<i>Flow direction</i>											
Tensile strength at break		MPa	2.2	2.5	4.1	5.4	6.7	8.5	12.1	17.4	19.4
Modulus at 100% elongation		MPa	2.1	2.5	3.0	3.8	5.1	6.7	10.0	13.3	15.5
Elongation at break		%	200	210	240	270	300	330	380	400	400
<i>Cross flow direction</i>											
Tensile strength at break		MPa	4.0	4.4	5.1	6.3	7.7	9.4	13.5	18.5	22.5
Modulus at 100% elongation		MPa	1.1	1.2	1.9	2.5	3.3	4.5	6.6	8.9	12.8
Elongation at break		%	600	600	600	640	670	690	700	700	700
<b>Tear strength (cross flow)</b>	ISO 34B										
Unnicked angle		kN/m	15	16	24	32	42	51	81	101	131
<b>Compression set</b>	ISO 815										
22 hrs@23°C		%	15	18	20	23	25	32	48	53	57
22 hrs@70°C		%	30	31	32	34	43	50	61	67	70
70 hrs@125°C		%	52	52	52	55	63	65	75	85	90
<b>Hot air aging (cross flow direction)</b>	ISO 188										
<i>168 hrs@150°C</i>											
Change in hardness		pts	1	1	2	3	3	2	2	1	2
Retention tensile strength at break		%	104	111	107	99	96	92	95	93	95
Retention modulus at 100% elongation		%	111	106	105	107	105	109	111	111	108
Retention elongation at break		%	101	107	108	89	86	84	88	89	89
<i>1000 hrs@135°C</i>											
Change in hardness		pts	-1	-1	1	2	-1	0	-1	0	1
Retention tensile strength at break		%	100	112	94	96	92	91	90	95	102
Retention modulus at 100% elongation		%	104	105	107	103	110	117	109	109	116
Retention elongation at break		%	98	112	93	95	87	85	85	90	89
<b>Volume swell</b>	ISO 1817										
70 hrs@125°C in IRM 903 oil		%	150	135	130	120	115	95	73	55	52
<b>Apparent shear viscosity</b>	ISO 11443										
@2061/s, 200°C	Capillary	Pa.s	270	270	270	310	290	290	310	310	310

Some grades may not be available locally

Revised: August 1, 2008

**sarlink®**

**TA TEKNOR APEX**

### Corporate Headquarters

Telephone +1.866.438.8737 (all TPE enquiries)  
Telephone +1.800.556.3864 or  
+1.401.725.8000 (Teknor Apex Company)

### Europe

Telephone: +31.46.70.20.950

### Singapore

Telephone: +65.6265.2544

### China

Telephone: +86.512.6287.1550

### Japan

Telephone: +81.352095151

### About Teknor Apex TPE

The Thermoplastic Elastomer Division of Teknor Apex Company (TA TPE) is the most diversified manufacturer of TPEs, offering seven broad product families based on generically distinct chemistries and operating plants in the US, Europe, and Asia. The processes used by TA TPE produce compounds that exhibit outstanding rubber-like properties with particular characteristics while being processable at high rates like any other thermoplastic, as well as being recyclable. Visit [www.teknorapex.com/tpe](http://www.teknorapex.com/tpe) to see the TPE product families.

Headquartered in Pawtucket, Rhode Island, US, the Division is an international supplier to the appliance, automotive, construction, medical-device, wire and cable, and other consumer and industrial product industries. Other plastics businesses of Teknor Apex include the Bioplastics, Nylon, Specialty Compounding, and Vinyl Divisions and Teknor Color Company. Visit [www.teknorapex.com](http://www.teknorapex.com).

The information and recommendations contained in this bulletin are, to the best of our knowledge, accurate and reliable but no guarantee of their accuracy is made. All products are sold upon condition that purchasers shall make their own tests to determine the suitability of such products for their particular purposes and uses and purchaser assumes all risks and liability for the results of use of the products, including use in accordance with seller's recommendations. Nothing in this bulletin constitutes permission or a recommendation to practice or use any invention covered by any patent owned by this company or by others. There is no warranty of merchantability and there are no other warranties for the products described. For detailed Product Stewardship information, please contact us. Any product of TA TPE, including product names, shall not be used or tested in any medical or food contact application without the prior written acknowledgement of TA TPE as to the intended use. Please note that some products may not be available in one or more countries.

[info@teknorapex.com](mailto:info@teknorapex.com)  
[www.teknorapex.com/sarlink](http://www.teknorapex.com/sarlink)