

SARLINK® 4000 series are engineered materials designed primarily for demanding automotive applications. SARLINK® 4180 is a higher hardness grade featuring excellent flex fatigue resistance, compression set, heat aging and resilience to be used in injection molded parts, extruded profiles, hose and tubing. It can be blow molded into boots, ducts and other articles.

Typical properties*	Test method	Typical value	Units S.I.
Density	ISO 1183	960	Kg/m ³
Hardness shore A (5 sec) Extruded sample Injection molded sample	ISO 868	78 85	
Stress/strain properties <u>Flow direction</u> Modulus 100% Tensile strength Elongation at break <u>Cross direction</u> Modulus 100% Tensile strength Elongation at break	ISO 37 (II)	5.6 6.9 413 4.2 10.0 620	MPa MPa % MPa MPa %
Tear strength (cross direction) Trouser Unnicked angle	ISO 34 A ISO 34 B (a)	20 48	kN/m kN/m
Compression set 72h/23°C 22h/70°C 22h/100°C	ISO 815	36 45 53	% % %
Hot air aging <u>1000h/135°C</u> Change in hardness Retention tensile strength Retention elongation at break <u>336h/150°C</u> Change in hardness Retention tensile strength Retention elongation at break	ISO 188	+3 101 87 +1 82 85	pts % % pts % %
Volume swell 72h/100°C water 168h/100°C ASTM oil 1 168h/23°C ref. fuel B	ISO 1817	+2 +26 +60	% % %

* Tests are conducted on injection-molded plaques unless indicated otherwise.

** With the exception of contact with foods of type V, low moisture fat and oils, as identified in table 1 of §176.170(c). This material does not comply with any European food contact regulations.

SARLINK® 4180 complies with FDA regulation 21 CFR 177.2600** and can therefore be used for repeated use food packaging and house ware applications such as seals, dispensing valves, gaskets and profiles.

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SARLINK® 4180 is a polypropylene based elastomer which can be processed on conventional thermoplastic equipment for injection molding, extrusion and blow molding. This product has a wide processing window in most applications. Melt temperatures from 185°C to 220°C can be used. Do not exceed 260°C. Drying is recommended for extrusion and blow molding (3 hours at 80°C). Drying is best accomplished in a desiccant dryer.

INJECTION MOULDING CONDITIONS			EXTRUSION CONDITIONS		
Melt temperature		185-220°C	Melt temperature		195-215°C
Barrel Temperatures	Rear Middle Front Nozzle	180-215°C 180-215°C 180-215°C 187-220°C	Barrel Temperatures	Rear Transition Metering Front Die	180-200°C 180-205°C 187-210°C 187-210°C 195-215°C
Mould temperature		10-55°C			
Screw Speed		100-200 RPM	Roll Temperature		20-50°C
Back Pressure		0.1-1 MPa	Screen Pack		20 to 60 mesh
Screw	General Purpose		Screw	General Purpose 3:1 compression ratio	

PURGING

SARLINK® 4180 has excellent melt stability. Empty the barrel for idle periods of 30 minutes or longer. Purge thoroughly before and after use of this product with polyethylene or polypropylene.

RECYCLING/REGRIND

This product can be reprocessed. Physical properties are generally not degraded. Dry regrind prior to reprocessing. Drying is best accomplished in a desiccant dryer.

COLOURING

The use of polyolefin based color concentrates is recommended. Apply backpressure in injection molding to disperse color.

BONDING/ASSEMBLY

Thermal bonding techniques can be used to form high strength bonds. Adhesive bonding can be achieved with specialized adhesives. Adhesive bond strength is limited due to the polypropylene base of this material.

STORAGE & HANDLING

SARLINK® 4180 is available in 20 kg polyethylene bags (1000 kg per pallet). It has a storage life at normal temperatures of several years. Please refer to the Material Safety Data Sheet for this grade prior to first time handling.