NexPrene 1035A

DESCRIPTION:

NexPrene® 1035A thermoplastic vulcanizate (TPV) is a fully crosslinked, EPDM/PP compound designed for applications requiring superior elastic properties, chemical resistance, and high temperature performance. This material provides the performance of vulcanized rubber with the advantages of low-cost thermoplastic processing, including injection molding, extrusion, and blow molding. It is fully recyclable.

APPLICATIONS:

NexPrene 1035A TPV can be used in a variety of automotive and industrial applications. Automotive uses include interior bin mats, co-extruded weatherseals, and underhood air induction components. Examples of industrial applications include window and door sealing, extruded hoses, and soft-touch items.

PROPERTY	TYPICAL VALUE		UNITS	TEST METHOD
PHYSICAL				
Hardness (*5 sec dwell*)	35		Shore A	ASTM D-2240
Specific Gravity	0.93			ASTM D-792
IRM 903 Oil, Vol. Swell (*70 hr @ 125 °C*)	75		%	ASTM D-471
Compression Set (*22 hr @ 70 °C*)	25		%	ISO 815
Compression Set (*70 hr @ 125 °C*)	48		%	ISO 815
Brittleness Point	– 60		°C	ASTM D-746
MECHANICAL				
Tensile Strength (*23 °C, 500 mm/min*)	4.2		MPa	ASTM D-412
Tensile Modulus @ 100% (*23 °C, 500 mm/min*)	0.8		MPa	ASTM D-412
Ultimate Elongation (*23 °C, 500 mm/min*)	630		%	ASTM D-412
Tear Strength (*23 °C, 500 mm/min*)	16		kN/m	ISO 34 (Die C)
HEAT AGING	**168 hr @ 150 °C**	**1008 hr @ 150 °C**		
Hardness Change	3	5	Shore A (*points*)	ASTM D-2240
Tensile Strength	0	26	% Change	ASTM D-412
Ultimate Elongation	12	15	% Change	ASTM D-412
Tensile Modulus @ 100%	–	–	% Change	ASTM D-412

Processing information

NexPrene® TPVs are shear-dependent. NexPrene materials can be processed on conventional thermoplastic equipment for extrusion, injection molding, and blow molding. For general purposes, a 3-to-1 compression-ratio screw is recommended. Touch-up drying in a dessicant dryer for three hours at 82 °C (180 °F) is also recommended.

Note: For HFM grades intended for high-flow molding, the injection pressure may have to be reduced in order to prevent flashing.

Extrusion Conditions	
Zone	**Barrel Temperature Range (°F)**
Feed zone	360 to 400
Transition	360 to 400
Metering	370 to 410
Front	370 to 410
Die	380 to 420
Melt	380 to 420
Roll temperature	120 °F (70 °C)
Screen pack	20 to 60 mesh
Injection Molding Conditions	
Zone	**Barrel Temperature Range (°F)**
Feed zone	360 to 420
Middle zone	360 to 420
Front	360 to 420
Nozzle	370 to 430
Melt	370 to 430
Mold	50 to 150
Screw speed	100 to 200 rpm
Back pressure	10 to 150 psi
Screw type	General

General Processing Information	
Coloring	Use PP- or PE-based color concentrates
Purging	Purge with either PP or PE
Regrind	NexPrene TPVs can be processed several times without significant loss of physical properties
Storage and Handling	NexPrene TPVs are available in 25 kg (55.1 lb) foil-lined bags (2,200 lb/pallet), or in 1,100-lb, PE-lined bulk bins