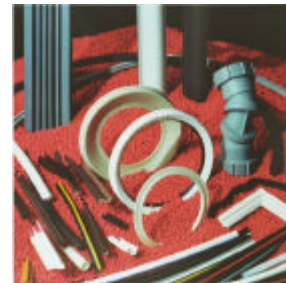


EVOPRENE™ G Thermoplastic Elastomer (TPE) Compounds

A very wide range of Evoprene™ G compounds is available for applications in all sectors of industry. The range is based on the widely specified SEBS (styrene – ethylene butylene – styrene) and related hydrogenated block copolymers. These polymers are fully saturated, i.e. there are no double bonds present so the resistance to oxidation, ozone and general outdoor weathering is excellent. For extended outdoor use, however, it is important to ensure additional UV stabilization is specified, especially in light colours. Evoprene™ G grades are used in service over a wide temperature range (see notes below) but each component should be fully assessed for temperature resistance before being put into service.



Recovery properties for the Evoprene™ G range, as measured by compression set, are also very good across the temperature range.

The Evoprene™ G range is produced as filled, semi-filled and unfilled compounds. The range of filled grades is very wide, covering the hardness range from <10 ShA to over 50 ShD. The filler level is varied from grade to grade to provide the opportunity to optimise the cost / performance balance.

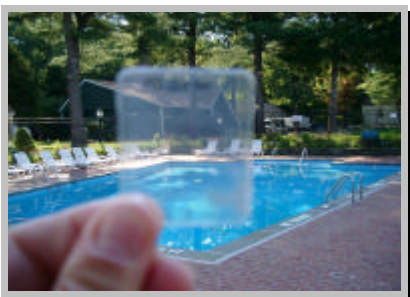
All Evoprene™ G grades share the good range of properties associated with this class of hydrogenated styrene block copolymer TPE compounds:

- A broad service temperature range from -40 to -60°C (-40 to -75°F) to +110-120°C (230-250°F)
- Excellent weatherability especially when fully stabilised
- Good recovery properties over a broad temperature range
- Easy processing
- Fully recyclable at all stages
- Compatible with PP for co-moulding or co-extrusion
- Readily coloured with PE masterbatch

FOOD CONTACT APPLICATIONS

With the appropriate stabiliser package, Evoprene™ G compounds can be used in food contact applications requiring approved ingredients according to EU or FDA regulations. It is the responsibility of the end-user to ensure appropriate tests such as global migration are carried out to ensure suitability.

TRANSLUCENT & TRANSPARENT GRADES



Transparent grades with a high degree of optical clarity and translucent versions with a more milky appearance are available. They all have densities in the 0.90 region providing excellent resilience and making them cost effective against other thermoplastic elastomer types.

The transparent compounds represent an important development in SEBS compounding. They allow designers to use this range of TPEs for applications such as baby feeders, swim goggles, switch covers, watch straps, etc. The translucent compounds and some of the transparent grades can be sterilized by gamma, ethylene oxide and steam with minimal effect on physical properties. This makes them ideally suited for applications in the baby product market.

Need more information? Visit www.alphagary.com or send us an email at enquiries@alphagary.com or call:

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AlphaGary Corporation, 9635 Industrial Drive, Pineville, NC 28134 (USA)

Additional Information about:

- Material Selection
- Processing
- Mould Shrinkage
- Chemical Resistance
- Packaging & Labeling

AlphaGary
Evoprene™
25 Years of
Know-How!

can be obtained by visiting www.alphagary.com, emailing us at enquiries@alphagary.com, or contacting one of our offices

EVOPRENE™ G SERIES

Over the years, we have created hundreds of formulations – here are some of our most popular materials. Please feel free to contact us for assistance in product selection. We enjoy being involved!

| Units Test Method | Hardness Shore A Degrees ISO 868 | Specific Gravity g/cm ³ ISO 2782 | M-S Kg/cm ² AG | Tensile Strength MPa ISO 37 | Elongation @ Break % ISO 37 | Modulus 100% MPa ISO 37 | Tear Strength KN/m ISO 34-B | Compression Set | | | |
|----------------------|---|--|---------------------------------|--------------------------------------|--------------------------------------|----------------------------------|--------------------------------------|-----------------|--------------|--------------|----|
| | | | | | | | | 72h 22C | 22h 70C | 22h 100C | |
| | | | | | | | | % ISO 815 | % ISO 815 | % ISO 815 | |
| Translucent | Evoprene G 936 | 12 | 0.91 | 13 | 1.8 | 550 | 0.3 | 9 | 13 | 33 | 75 |
| Translucent | Evoprene G 966 | 27 | 0.94 | 16 | 3.9 | 545 | 0.8 | 14 | 15 | 35 | 59 |
| Translucent | Evoprene G 925 | 30 | 0.89 | 26 | 5.5 | 600 | 0.9 | 15 | 14 | 89 | 97 |
| Translucent | Evoprene G 967 | 39 | 0.90 | 15 | 4.2 | 440 | 1.5 | 21 | 21 | 34 | 51 |
| Translucent | Evoprene G 942 | 42 | 0.89 | 16 | 6.1 | 540 | 1.3 | 27 | 20 | 63 | 73 |
| Translucent | Evoprene G 968 | 47 | 0.89 | 13 | 6.2 | 550 | 2.8 | 31 | 20 | 33 | 52 |
| Translucent | Evoprene G 958 | 56 | 0.90 | 11 | 6.4 | 470 | 2.1 | 29 | 14 | 38 | 57 |
| Translucent | Evoprene G 969 | 65 | 0.90 | 11 | 8.2 | 500 | 3.0 | 37 | 18 | 36 | 52 |
| Translucent | Evoprene G 970 | 70 | 0.91 | 12 | 10.1 | 500 | 3.4 | 40 | 29 | 30 | 48 |
| Translucent | Evoprene G 6087 | 86 | 0.89 | 11 | 12.3 | 725 | 5.0 | 55 | 36 | 50 | 68 |
| Translucent | Evoprene G 940 | 87 / 30D | 0.95 | 12 | 14.5 | 640 | 7.8 | 65 | 21 | 81 | 79 |
| Translucent | Evoprene G 614 | 88 / 31D | 0.89 | 19 | 9.3 | 550 | 5.8 | 60 | 56 | 78 | 88 |
| Transparent | Evoprene G 3290 | 24 | 0.88 | 6 | 4.5 | 660 | 0.5 | 12 | 43 | x | x |
| Transparent | Evoprene G 3291 | 31 | 0.88 | 18 | 6.4 | 590 | 0.7 | 16 | 46 | x | x |
| Transparent | Evoprene G 3292 | 37 | 0.88 | 16 | 6.1 | 620 | 0.8 | 18 | 39 | x | x |
| Transparent | Evoprene G 3293 | 43 | 0.88 | 17 | 5.8 | 600 | 1.2 | 21 | 46 | x | x |
| Transparent | Evoprene G 3315 | 43 | 0.89 | 10 | 6.6 | 800 | 1.1 | 24 | 10 | 31 | 60 |
| Transparent | Evoprene G 952 | 49 | 0.90 | 5 | 6.8 | 555 | 1.8 | 28 | 38 | x | x |
| Transparent | Evoprene G 3294 | 48 | 0.88 | 15 | 7.1 | 590 | 1.4 | 28 | 45 | x | x |
| Transparent | Evoprene G 3295 | 57 | 0.89 | 15 | 8.1 | 570 | 2.5 | 35 | 42 | x | x |
| Opaque | Evoprene G 961 | 33 | 1.19 | 7 | 5.3 | 815 | 1.1 | 17 | 16 | 31 | 72 |
| Opaque | Evoprene G 960 | 42 | 1.20 | 8 | 6.6 | 765 | 1.1 | 21 | 18 | 32 | 71 |
| Opaque | Evoprene G 962 | 50 | 1.19 | 7 | 6.0 | 635 | 2.4 | 22 | 20 | 36 | 71 |
| Opaque | Evoprene G 963 | 60 | 1.19 | 8 | 8.4 | 680 | 2.2 | 27 | 18 | 38 | 70 |
| Opaque | Evoprene G 974 | 71 | 1.20 | 9 | 9.1 | 600 | 2.8 | 33 | 29 | 47 | 69 |
| Opaque | Evoprene G 971 | 83 | 1.17 | 11 | 10.5 | 485 | 3.5 | 38 | 36 | 53 | 72 |
| Opaque | Evoprene G 964 | 88 | 1.13 | 10 | 15.1 | 600 | 5.6 | 62 | 46 | 58 | 78 |
| Opaque | Evoprene G 992 | 43 | 1.20 | 16 | 5.0 | 605 | 1.0 | 20 | 27 | 36 | 61 |
| Opaque | Evoprene G 3462 | 48 | 1.04 | 9 | 5.0 | 615 | 1.3 | | 15 | 39 | |
| Opaque | Evoprene G 991 | 60 | 1.00 | 15 | 10.0 | 750 | 1.8 | 30 | 23 | 36 | 52 |
| Opaque | Evoprene G 927 | 82 | 0.99 | 10 | 8.6 | 525 | 5.2 | 44 | 36 | 78 | 94 |
| Opaque | Evoprene G 975 | 84 | 1.08 | 9 | 13.4 | 560 | 3.0 | 45 | 41 | 49 | 70 |
| Opaque | Evoprene G 978 | 91 / 52D | 1.04 | 11 | 20.7 | 530 | 13.9 | 113 | 71 | 73 | 82 |
| Opaque | Evoprene G 996 | 74 | 2.28 | 12 | 2.9 | 200 | 1.6 | 17 | 27 | 81 | 91 |

ELECTRICAL RESISTANCE

Evoprene™ G grades all have quite high electrical resistance and can be used in applications with little or no risk of electrical discharge. Typical volume resistivities are in the order 10¹⁵Ocm with dielectric strength around 24-28 KV/mm (0.6-0.95 KV/mil). The downside of the high resistivity is that it is difficult to produce a conductive (10-10³Ocm) compound. If compounds are modified for semi conductive use (10⁶-10⁷ Ocm) the properties are often extensively modified

PAINTING, PRINTING, BONDING ETC.

Although this class of TPE is known as styrenic, the polystyrene domains are locked inside the structure and are not available at the surface. The surface is polyolefin-rich which is why Evoprene™ G grades bond so well to PP. Care is needed therefore when selecting methods for bonding, printing, painting, etc.

- Welding** Hot plate works well as does YAG laser (thin sections). Avoid RF or HF
- Bonding** Special TPE 2 coat systems or cyanoacrylates give good results
- Painting** Requires a primer plus a special paint
- Printing** Pretreat with flame or corona then pad or laser print
- Co-Mid.** Best with 2 barrel machines but insert moulding also works onto PP
- Co-extr.** Very good adhesion to PP, good adhesion to PE

This information is intended for general guidance only and may contain information which could be inappropriate under particular conditions of application or use. Each customer or user must conduct its own studies to check for suitability for the intended end use.