

PolyOne custom formulates high-performance polymer compounds derived from a variety of rigid and flexible thermoplastic resins and thermoplastic elastomers. PolyOne also offers one of the widest ranges of polymer-specific colorant and additive systems for the global plastics industry.

PolyOne's range of OnFlex™ thermoplastic elastomer (TPE) compounds includes TPE-S, TPE-V, TPE-O and TPE-U. This range, combined with excellent experience in TPE application design and processing, positions PolyOne very well to address the overall thermoplastic product needs of various industries.

DESCRIPTION

OnFlex™-V provides the performance of traditional vulcanised rubber, but with the processability of a thermoplastic. OnFlex™-V 3000 thermoplastic elastomer compounds are based on a polyolefin phase with a cross-linked EPDM phase dispersed into it. This new “next generation” vulcanized thermoplastic elastomers (TPE-V) overcome the previous colorability limitations of TPE-V based on conventional technology. OnFlex™-V has a consistent base color with a low yellowness index allowing bright colors.

Blow Moulding - Standard								
Grade	Hardness (Shore)	Density (g/cm ³)	Tensile Strength (Mpa)	Elongation at Break (%)	Tear Resistance (N/mm)	Compression Set		
	DIN 53 505	DIN EN ISO 1183	DIN 53 504	DIN 53 504	DIN ISO 34-1	72h@ 23°C (%)	22h@70°C (%)	22h@100°C (%)
	85A	0,93	14,0	500		38	57	60
Onflex™-V 3085A-S0098	85A	0,93	14,0	500		38	57	60
Onflex™-V 3040D-S0093	40D	0,92	15,7	570		38	60	61
Onflex™-V 3050D-S0097	50D	0,92	16,2	600		45	70	75

ADVANTAGES

OnFlex™-V 3000 compounds are formulated to deliver unique properties, including:

- Excellent colorability
- Very good mechanical properties
- Good processability
- Excellent flexibility over a wide temperature range
- Operating temperatures from -40° C to +135° C
- Wide hardness range
- Excellent hydrocarbon, heat ageing and weather resistance

APPLICATIONS

- **Automotive** – soft touch applications, interior trim
- **Consumer** – bottles for personal care products
- **Cable and accessories** – grommets, sealing rings
- **Construction** – drainage seals, flooring accessories
- **Tools** – soft touch applications
- **Etc.**

PROCESSING

OnFlex™-V 3000 compounds are suitable only for blow moulding. A standard screw ram injection moulding machine with a general-purpose screw is generally suitable for processing OnFlex™-V 3000 compounds. An L:D ratio above 20:1 is typically much preferred. A compression ratio from 2.5:1 to 3.5:1 is generally recommended. OnFlex™-V compounds are slightly hygroscopic and can absorb some moisture. Under certain storage conditions, some surface moisture can be present, and may cause problems in processing. In this case, drying is necessary; typically three hours at 80°C should be suitable. OnFlex™-V compounds are not as dependent upon temperature as they are on shear. An increase in injection speed or pressure will decrease viscosity more effectively than an increase in temperature. For further information, please read our OnFlex™-V processing guides or contact us directly.

COLORS

OnFlex™-V compounds can be supplied either pre-colored to the customer's specification or natural. The natural grades can be colored "in process" with color concentrates; for example, using PolyOne's OnColor™ range of color concentrates.

CUSTOM COMPOUNDS

In addition to the standard range, our products can be custom formulated to meet specific requirements, offering both product and design flexibility.

We determined this information about this product(s) using lab-scale equipment and/or estimation. We provide "typical" data to help you select products to evaluate. "Typical" data do not reflect normal variations in our product as made. Do not rely on "typical" data for design purposes; ask us for min-max data. We do not guarantee "typical" properties. Your processes can significantly alter polymer physical properties. Test the product thoroughly for suitability in your specific application after processing on your production equipment. You assume all responsibility for product selection and suitability for your intended use. **We make no other warranties, express or implied, including any implied warranties of merchantability or fitness for purpose**, respecting this information or this product. Nothing herein constitutes permission, recommendation or inducement to practice any patented invention without permission from its owner.

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