

PolyOne[®]

OnFlex™-V

THERMOPLASTIC ELASTOMER COMPOUNDS

English





POLYONE'S CAPABILITIES

PolyOne is a leading global provider of specialized polymer materials, services and solutions. We are uniquely positioned as a single-source provider of customized solutions for polymer processors serving virtually any market. Our extensive experience and knowledge in thermoplastic compounding and developing customized products enable us to provide a wide variety of polymeric compounds that can meet the most demanding performance and process requirements.

PolyOne's unparalleled experience in developing and compounding polymer mixtures, blends, and alloys, including compounds based on PA, PBT, PP, PC and other resins, enables us to develop custom formulations that meet your unique requirements. In addition, PolyOne's capabilities with high-filler-content compounds, low smoke and fume zero halogen (LSFOH) flame retardant compounds, and color masterbatches enable us to optimize your product or process, regardless of the demands of your application.

POLYONE'S THERMOPLASTIC ELASTOMER (TPE) PRODUCT OFFERING

Thermoplastic elastomers are two-phase systems consisting of a soft (pliable) and hard (rigid) phase regardless if they are copolymers or compounds.

The elastomeric component provides rubber-like pliability, elasticity and flexibility at normal as well as lower operating temperatures. The thermoplastic component provides hardness, processability and strong performance at elevated temperatures. Additionally, TPEs can be recycled because of their thermoplastic nature. There are several different TPE groups, each offering unique properties: **OnFlex™-S** (TPE-S), **OnFlex™-O** (TPE-O), **OnFlex™-V**, (TPE-V) and **OnFlex™-U** (TPE-U) compounds.

OnFlex™-V

THERMOPLASTIC ELASTOMER COMPOUNDS

PolyOne's **OnFlex™-V** Thermoplastic Elastomer Compounds are based on a polyolefin phase with a cross-linked EPDM phase dispersed into it. This is achieved through a dynamic vulcanization process, which leads to vulcanized thermoplastic elastomer products (TPE-V) with very good mechanical properties. In addition to our standard **OnFlex™-V** products, we can custom formulate compounds to meet your specific requirements, offering you both product and design flexibility.

OnFlex™-V compounds are available pre-colored or can be colored during the manufacturing process with concentrates such as PolyOne's OnColor™ Color Concentrates. This new "next generation" vulcanized thermoplastic elastomers overcomes the previous colorability limitations of TPE-V based on conventional technology. **OnFlex™-V** has a consistent base color (low yellowness index) allowing bright colors.

PROCESSING

- ▶ Extrusion
- ▶ Co-extrusion
- ▶ Injection molding
- ▶ Blow molding
- ▶ Multi-component molding

FEATURES AND BENEFITS

- ▶ Excellent colorability
- ▶ Very good mechanical properties
- ▶ Excellent flexibility over a wide temperature range
- ▶ Wide hardness range
- ▶ Excellent hydrocarbon, heat, ageing and weather resistance

MARKETS AND APPLICATIONS

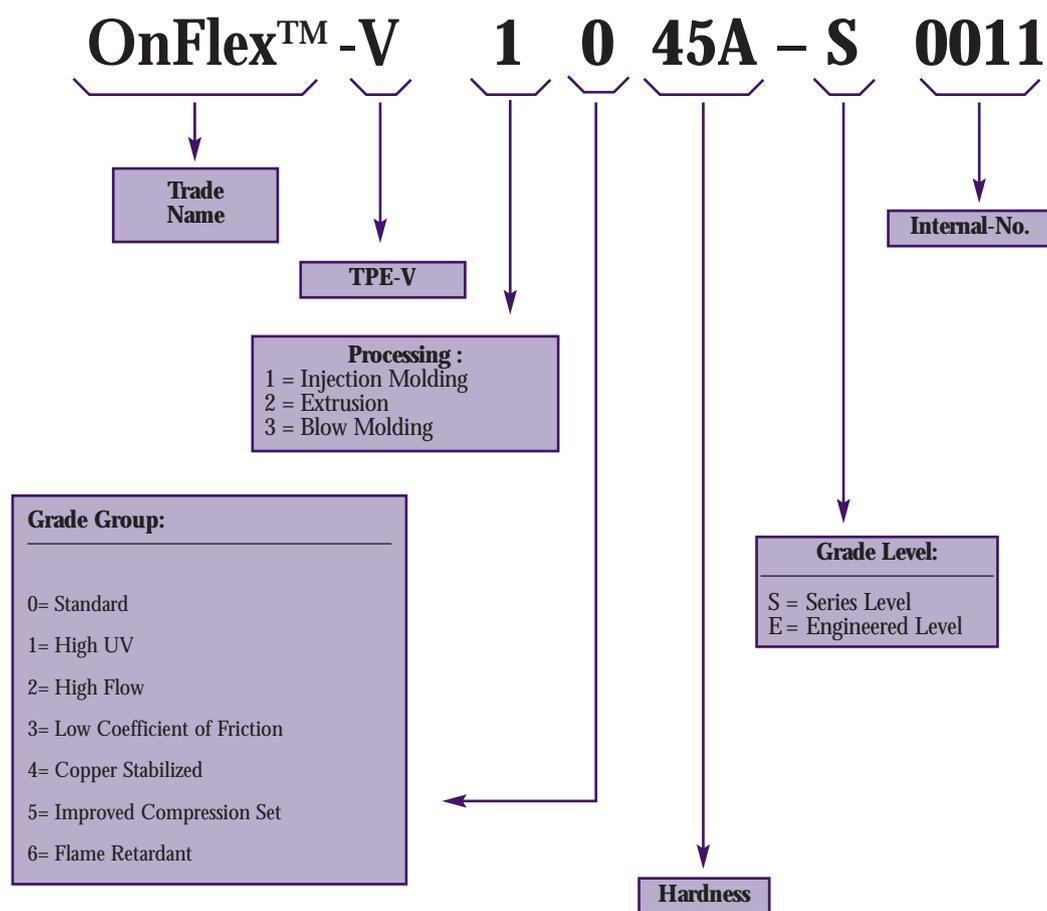
- ▶ Automotive – sealing (ventilation flaps, extruded seals, glass encapsulation), soft touch applications, interior trims
- ▶ Electrical – electrical junction boxes
- ▶ Cable & Accessories – jacketing, cable clamps, sealing rings, cable-inlets and strain reliefs
- ▶ Construction – window profile seals, drainage seals, flooring accessories
- ▶ Etc.

CUSTOMIZED GRADES COULD INCORPORATE

- ▶ Heat stabilization for improved heat stability and compression set
- ▶ UV stabilization for improved weathering performance
- ▶ Electrostatic dissipation or conduction
- ▶ Additives for low coefficient of friction
- ▶ Copper stabilization for direct copper contact



OnFlex™-S NOMENCLATURE



GLOBAL REACH - GLOBAL SOLUTIONS

PolyOne serves processors, compounders and OEMs around the world. We help our customers to be global by providing consistent products wherever our customers are located in Europe, Asia and the Americas.

PolyOne's wide TPE portfolio enables us to choose the most suitable TPE group with the appropriate grade for your particular application. In addition, PolyOne can also customize a compound to meet your specific demand and process requirements.



We determined this information about our product(s) using lab-scale equipment, estimation and information obtained from our customers. We provide this information to help you select products to evaluate. Do not rely on this information for design purposes; ask us for min-max data for the physical properties important to you. Your processes can significantly alter polymer physical properties. Test our 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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