EA - Ethylene Acrylic Rubber, Vamac®

Rubber Hardness Range 35 to 95 Durometer Shore A
Temperature Range - 48º C to + 176º C

Advantages in performance…

- for abrasion resistance and tear resistance.
- in organic acids, alcohol's, alkalis, and silicone oil.
- for low gas permeability, ozone resistance, oxidation resistance, sunlight resistance, weather resistance, and water resistance.

Limitations in performance…

- for resilience & rebound.
- in selected acids, concentrated alkalis, brake fluids, diester oils, esters & ethers, aromatic hydrocarbon fuel, halogenated solvents, ketones, lacquer solvents, LP gases & fuel oils, mineral oils, refrigerant ammonia, and refrigerant halofluorocarbons with & without oils.

Rubber Material Selection Guide EA or Vamac® Ethylene Acrylic Rubber

- Abbreviation EA
- ASTM D-2000 Classification EA
- Chemical Definition Acrylic
- RRP Compound Number Category 18-0000 Series

♦ Physical & Mechanical Properties

Durometer or Hardness Range	35 – 95 Shore A
Tensile Strength Range	500 – 3,000 PSI
Elongation (Range %)	200 % – 850 %
Abrasion Resistance	Good to Excellent
Adhesion to Metal	Good
Adhesion to Rigid Materials	Good
Compression Set	Poor to Good
Flex Cracking Resistance	Good
Impact Resistance	Good to Very Good
Resilience / Rebound	Poor to Fair
Tear Resistance	Good to Excellent
Vibration Dampening	Good

♦ Chemical Resistance

• Acids, Dilute	Good
• Acids, Concentrated	Poor to Fair
• Acids, Organic (Dilute)	Good to Excellent
• Acids, Organic (Concentrated)	Poor to Excellent
• Acids, Inorganic	Fair to Good
• Alcohol's	Good to Excellent

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♦ Chemical Resistance

• Aldehydes	Fair to Good
• Alkalies, Dilute	Good to Excellent
• Alkalies, Concentrated	Poor
• Amines	Good
• Animal & Vegetable Oils	Good
• Brake Fluids, Non-Petroleum Based	Poor
• Diester Oils	Poor
• Esters, Alkyl Phosphate	Poor
• Esters, Aryl Phosphate	Poor
• Ethers	Poor
• Fuel, Aliphatic Hydrocarbon	Good
• Fuel, Aromatic Hydrocarbon	Poor to Fair
• Fuel, Extended (Oxygenated)	Fair
• Halogenated Solvents	Poor to Good
• Hydrocarbon, Halogenated	Poor
• Ketones	Poor
• Lacquer Solvents	Poor
• LP Gases & Fuel Oils	Poor
• Mineral Oils	Poor
• Oil Resistance	Poor
• Petroleum Aromatic	Poor
• Petroleum Non-Aromatic	Poor
• Refrigerant Ammonia	Poor to Good
• Refrigerant Halofluorocarbons	Poor to Good
• Refrigerant Halofluorocarbons w/ Oil	Poor
• Silicone Oil	Good to Excellent
• Solvent Resistance	Poor

Rubber Material Selection Guide EA or Vamac® Ethylene Acrylic Rubber

♦ Thermal Properties

• Low Temperature Range	- 48º C to - 34º C
• Minimum for Continuous Use (Static)	- 45º C
• Brittle Point	- 60º C
• High Temperature Range	+ 121º C to + 176º C
• Maximum for Continuous Use (Static)	+ 176º C

♦ Environmental Performance

• Colorability	Good
• Flame Resistance	Poor
• Gas Permeability	Excellent
• Odor	Good
• Ozone Resistance	Excellent
• Oxidation Resistance	Excellent
• Radiation Resistance	Good
• Steam Resistance	Poor to Fair
• Sunlight Resistance	Excellent
• Taste Retention	Fair to Good
• Weather Resistance	Excellent
• Water Resistance	Good to Excellent

For assistance in identifying the appropriate polymer or material, or to develop and formulate an EA / ethylene acrylic rubber compound to meet your specific application and performance requirements, please contact ILGA S.R.L at e-mail: ilga@ilgagomma.com or phone: +39 (045) 6336521 / 0456336514