

AEM (Acrylic Ethylene Copolymer) material offers excellent resistance to petroleum fuels, oils, heat, ozone, and weathering, with good low-temperature properties and dynamic characteristics.

Its main drawbacks are moderate water and humidity resistance, inferiority to mineral oils in resistance compared to some ACM (polyacrylate rubber) grades, and a higher cost than NBR, CR, and EPDM.

AEM is commonly used in automotive applications like hoses, seals, and turbocharger components.

Available hardness range (Shore A)	45 - 90
Upper continuous service temp.	175°C
Min. temp. for sealing applications	-40°C
Minimum non-brittle temp.	-60°C
Tensile strength (up to)	20 MPa
Elongation at break (up to)	350%

Advantages

- **Excellent Heat and Ozone Resistance:**AEM exhibits strong resistance to heat, ozone, and weathering, outperforming nitrile rubber (NBR) in this regard.
- **Good Oil and Fluid Resistance:**It provides excellent resistance to petroleum-based fuels and oils, as well as greases and power steering/transmission fluids, even those with aggressive additives.
- **Good Low-Temperature Properties:**The presence of ethylene in the polymer structure contributes to good low-temperature performance.
- **Good Dynamic Properties:**AEM offers good dynamic properties, vibration damping, and abrasion resistance across a wide temperature range.
- **Strong Mechanical Properties:**AEM generally has greater strength and tear strength than ACM.

Disadvantages

- **Moderate Water Resistance:**AEM has moderate resistance to water and humidity, making it less suitable for applications involving prolonged exposure to these conditions.
- **Inferior Mineral Oil Resistance (vs. ACM):** While good with petroleum, its resistance to mineral oils is generally worse than some grades of ACM rubber.
- **Higher Cost:**AEM is less cost-effective than more common elastomers like nitrile rubber (NBR), chloroprene (CR), and EPDM.
- **Degrades Faster than Some Alternatives:**It degrades more quickly than some other specialty elastomers, such as fluorocarbons (Viton®/FKM), in hostile engine environments.

Common Applications

- Automotive hoses and seals
- Engine and transmission seals
- Turbocharger components
- Cylinder head cover gasket

For assistance in identifying the appropriate polymer or material, or to develop and formulate a polyacrylate / 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 0456336521 / 0456336514.

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