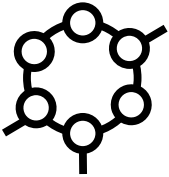




EDITION 4
VOLUME 1

20 TOP FEATURES OF EPR/EAM MV CABLES

Written by: Casey Spradlin, Chief Applications Engineer & Dr. Yuhsin Hawig, VP of Applications Engineering



BROAD EAM FAMILY

“EAM” is a broad category of Ethylene and Alkene based elastomer that covers many types of Ethylene Propylene Rubber (EPR) and Ethylene Propylene Diene Monomer (EPDM)

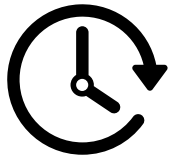
resins. Southwire’s EPR formulations are part of the large EAM family and meet all the requirements per ICEA S-94-649 revised in 2021.



CUSTOM FORMULATIONS

Commercially available EPR/EAM formulations are semi-crystalline-based insulations featuring electrical stability, physical ruggedness, and thermal-mechanical

resilience. Reduced dielectric losses and lower dissipation factors compared to amorphous-based material to achieve the most reinforced cable systems.



LONG MANUFACTURING HISTORY

Our “vendor of choice” and long-term partner has been supplying EPR/EAM based compounds since the 1980s. Southwire has

been producing EPR/EAM MV cables for over 2 decades. EPR/EAM MV cables have been used in utility, residential, commercial, and industrial applications.



MULTIPLE CERTIFICATIONS

Certified to multiple industry standards, including AEIC (AWTT), ICEA (Thermomechanical Qualification), UL-1072, CSA 68.50, CSA 68.10, and RUS.



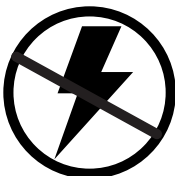
DIELECTRIC STRENGTH

High enough dielectric strength (kV/mm) to be used for power generation designs, heavy-duty industrial plants, and mega data center feeder systems.



PHYSICAL FLEXIBILITY

Excellent flexibility to allow for complex installations in tight spaces or for extended routes with multiple bends.



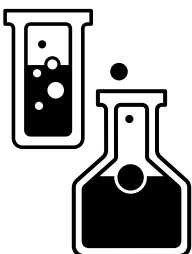
DISCHARGE-FREE DESIGN

Great resistance to corona and partial discharges that compromise the integrity of the dielectric material.



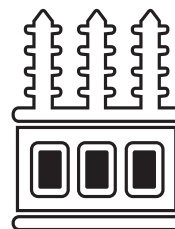
RETARD WATER TREE GROWTH

Rated for both wet and dry conditions and exceeded accelerated wet aging requirements. Reduced sensitivity to water treeing and minimize the risks of electrical trees.



CHEMICAL RESISTANCE

Good resistance to moisture and a wide range of chemicals, including grease, acid, or alkaline-based solvents.



SUB-TRANSMISSION VOLTAGES

Suitable for secondary networks and primary undergrounding from 600V to 35kV, as well as 46kV sub-transmission systems in the US, Canada, Central, and South America.



Southwire®



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THERMAL STABILITY

Due to its highly filled nature, the material exhibits a better thermal resistance and reduced thermal expansion compared to the unfilled insulation system. It can withstand up to 105°C and 140°C normal & emergency operating temperatures, respectively.



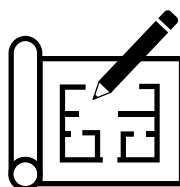
EASY STRIPPABILITY

A consistent low strip tension (<18 lbs) enables the shield to be removed easily and safely all year around without leaving semiconductive residues or requiring special stripping tools.



BALANCED PROPERTIES

Our EPR/EAM compounds contain premium fillers with a tailored percentage for each additive to achieve a synergistic and a well-balanced property-performance relationship.



VARIOUS DESIGN OPTIONS

Both leaded & non-leaded EPR/EAM insulation systems can be designed with either aluminum or copper conductors, 5 different shielding options, single or double water-swellaable tapes, and/or water-blocking powders, plus over 10 different jacketing materials to choose from.



SYSTEM COMPATIBILITY

EAM/EPR MV cables can be paired with all commercially available accessories and an identical cable prep procedure in the field can be applied to either leaded or lead-free EPR cables for termination and splices.



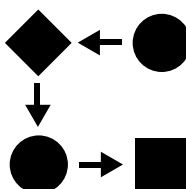
SUSTAINABILITY

Leaded EPR is non-toxic and non-hazardous with its lead content below EPA's limit. It is also RoHS & REACH compliant. Both leaded & non-leaded EPR can achieve the maximum life of 35-45 years.



CERTIFIED TESTING FACILITY

Qualifications were performed by Southwire's D. B. Cofer Technology Center. It is an ISO 17025 accredited facility and a UL & CSA certified laboratory, specializing in electrical, mechanical, thermal qualification, and accelerated aging tests.



OPERATIONAL EXCELLENCE

Centers of excellence to produce EPR/EAM MV cables from receiving raw materials, rod mill production to make bare conductors, continuous vulcanization (CV) lines via true-triple extrusion, neutraling, jacketing, high voltage testing, and QA testing to achieve operational excellence.



END USER APPROVALS

End users from all industries and many applications including utility, automotive, data centers, renewable projects, petrochemical plants, mass transit, and airports.



**REINFORCED
RESILIENT
RELIABLE**

UNPARALLELED SUPPORT

CableTechSupport™ services provides Re3™ engineering consultation services through the custom design of reinforced cables and through the support of critical infrastructure projects where resilience and reliability are non-negotiable.



Southwire®