

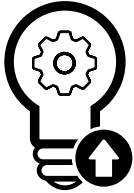


EDITION 7  
VOLUME 1

# 12 ENGINEERING BENEFITS

OF SOUTHWIRE® MACHINE FLEX® CABLES WITH TPE JACKET COMPARED TO SDN CABLES

Written by Dr. Yuhsin Hawig, VP of Applications Engineering and Erika Akins, Chief Applications Engineer



## HISTORICAL IMPROVEMENTS

Neoprene used in Type SDN cable is an older general-purpose rubber developed in the 1930s. TPE with an advanced formulation was launched 40 years after Neoprene.



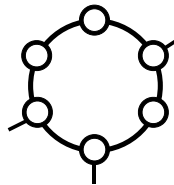
## THERMAL RESISTANCE

TPE features an enhanced temperature stability upon repeated thermal cycling resistance compared to Neoprene.



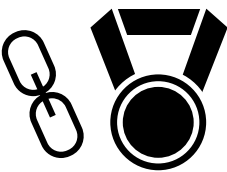
## PHYSICAL BENEFITS

A lower specific gravity for TPE compared to Neoprene contributes to lighter weight and easier processing.



## CHEMICAL STABILITY

TPE delivers better long-term performances without the need for crosslinking to achieve Neoprene properties.



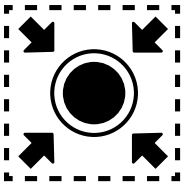
## SYNERGETIC PROPERTIES

TPE combines a thermoplastic-based polymer and a thermosetting rubber in one single formulation and creates synergetic properties mimicking vulcanized rubbers.



## ELECTRICAL ADVANTAGE

Southwire® Machine FLEX® Type TC-ER cable is rated up to 1kV (when used as WTTC or AWM) compared to SDN which is limited to 600V (Type TC). A higher voltage rating extends the life without early replacement due to system upgrades.



## DIMENSIONAL COMPACTNESS

Reduction of the overall size enables the cables to be installed in the most confined or congested space.



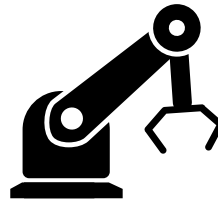
## OPERATIONAL EFFICIENCY

Reduction in the total weight of the cable allows for longer pulls or multiple pulls of larger cables with the lowest weight per length.



## QUALIFIED PERFORMANCE

Many industrial projects specify Southwire® Machine FLEX® Type TC-ER cable as an alternative to SDN. Southwire® Machine FLEX® cable has been qualified for more markings including Sun Res, Oil Res I&II, Dir Bur, FT-4, and CE.



## INDUSTRIAL APPLICATIONS

Southwire® Machine FLEX® cable has gained popularity in applications including heavy duty machineries such as lifts, cranes, pulleys, and hoists.



## SUPPLY CONTINUITY

Sustainable and quality supply from various TPE vendors minimizes supply chain interruptions and prevents potential quality issues.



## ENVIROMENTAL MERITS

Southwire® Machine FLEX® cable made with a thermoplastic TPE yields a reduced carbon footprint and can be recycled.

