

# DuPont™ Kapton® FCR

## ADVANCED MAGNET WIRE INSULATION

### For Improved Motor and Generator Performance



Kapton® FCR is a state-of-the-art wire insulation that will withstand corona discharge while delivering improved long term performance, cost effectively.

Motors and generators insulated with Kapton® FCR can deliver improved service life and operational efficiency versus conventional insulation. Kapton® FCR can handle many of the factors that lead to early failure, such as thermal upsets and partial discharge.

As energy costs increase, improved motor insulation efficiency can provide a direct payoff to the motor or generator operator. The cost of an early failure can far outweigh the cost of using the best available wire insulation in manufacturing or rewinding the motor.

DuPont™ Kapton® FCR will conform tightly to shaped conductors, providing an even distribution of insulation, even on the edges. This eliminates the thinning of the insulation on the edges as is commonly found on enameled wire.

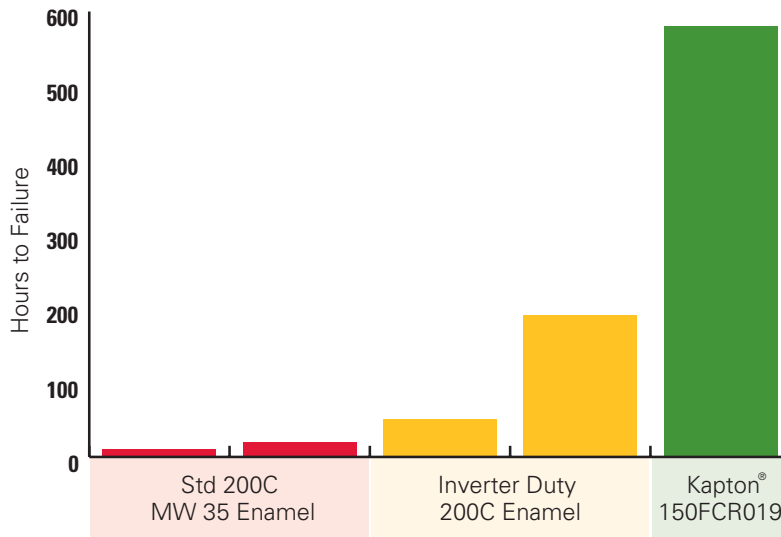


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## Benefits

- Reduces life cycle cost
- Provides increased durability and longer life
- Allows use of thinner insulation where space is at a premium

## PULSE ENDURANCE



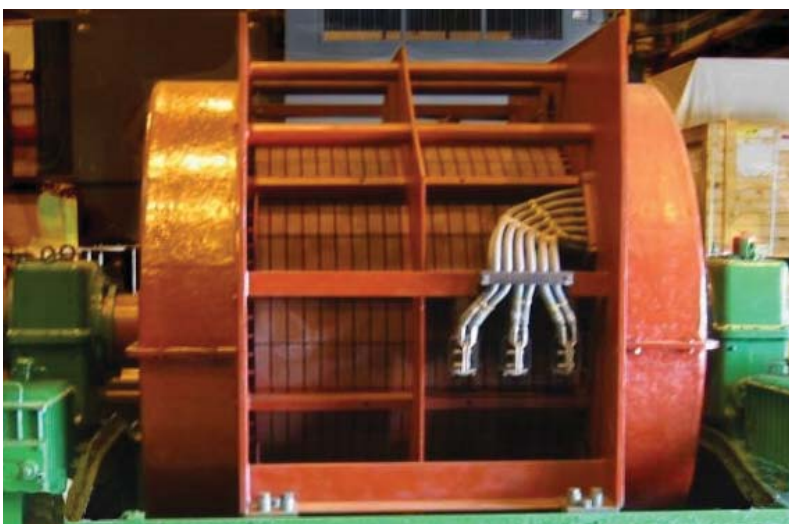
**Table 1. In pulse endurance testing, Kapton® FCR film showed superior performance when compared with other insulations.**

Commercial Insulation on 18 AWG Wire

## Applications

- Large industrial motors
- Traction motors
- Generators

## KAPTON® FCR HAS PROVEN TO BE THE INSULATION



### Large Industrial Motors:

American Electric Power has commissioned the rebuilding of 13.2kV fan motors with wire insulated with Kapton® FCR. Kapton® FCR has delivered reduced life cycle costs and improved life expectancy to AEP.



### Traction Motors:

The European rail industry adopted Kapton® FCR to improve the efficiency and durability of high-speed locomotives. This system replaced traditional insulation systems.

- Withstands continuous exposure to temperatures as high as 240°C
- Forms strong bond to magnet wire
- Delivers superior corona resistance under extreme conditions



If you are working with tight clearances, the extremely high insulation resistance provided by Kapton® allows the use of a thinner insulation and provides the space needed for a successful rewind.

## OF CHOICE FOR A WIDE RANGE OF APPLICATIONS.



and Kapton® FCR in the mid-1990's to replace the insulation on a number of AC traction motors on its fleet. Kapton® FCR has significantly outperformed



### Generators:

The Smith Mountain hydroelectric facility near Roanoke Virginia decided to up-date the capacity of one of its severe duty, 101,500 HP, 69MVA motor-generators. Because of its higher corona resistance & dielectric performance Kapton® FCR was chosen to replace the conventional insulation. The superior, thinner strand insulation provides improved efficiency and capacity and excellent long-term reliability.

*(Coils Manufactured by National Electric Coil)*

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