

# CELANESE PORTFOLIO OF ROBUST SOLUTIONS ENABLES SAFE AND RELIABLE ELECTRICAL INSULATION SYSTEM COMPONENTS



## HIGH-QUALITY INSULATION MATERIALS ARE CRUCIAL

Most people do not realize the variety of components and materials used in everyday electronics and electrical systems. Any device, appliance, machine, or electrical system we power on has intricate components like switches, relays, solenoids, motors, or transformers. Celanese understands that the materials used to make these components are crucial for safety and reliability.

Electronic insulation materials are specially designed to remain chemically compatible over a wide range of temperatures, be heat resistant, and reduce risk of electrical failure or fire hazards. Customers depend on Celanese for versatile and reliable materials to help ensure that the devices and systems that power our homes, workplaces, and cities are reliable and safe.



## CELANESE PRE-TESTED SOLUTIONS

Electrical Insulation Systems (EIS) are made up of Electrical Insulation Materials (EIM) that are validated through UL and IEC testing to verify chemical compatibility at a wide temperature range. This makes sure that the materials are able to reduce the risks of electrical failure or fire hazards.

With over 400 pre-approved EIMs, Celanese helps customers ensure reliability and safety of components, speed up product launch time, and reduce product testing cost.

Celanese's portfolio includes some of the most trusted brands and well-known products on the market. Crastin® PBT, Rynite® PET, and Zytel® PA have helped set the industry standard for superior chemical compatibility and ability to withstand high temperatures for a variety of EIS components.

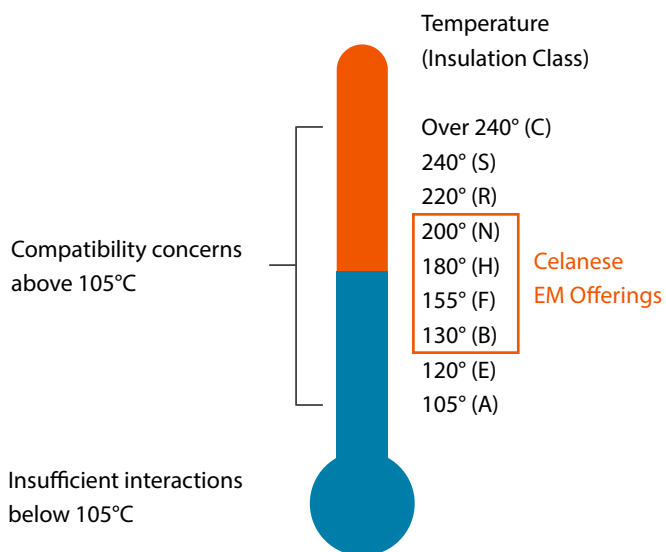
## CELANESE KEY SOLUTIONS

With a robust portfolio of thermoplastics and nylon resins, Celanese is ready to partner with manufacturers and suppliers to create reliable and safe electrical components.

| Application                            | Materials                         | MW26,<br>MW28 | MW26,<br>MW80 | MW35          |
|--|-----------------------------------|---------------|---------------|---------------|
|  |                                   | Class 130 (B) | Class 155 (F) | Class 180 (H) |
| Transformer, Invertors, SMPS – Bobbins | Rynite® PET FR530/FR543/FR945     | R150          | R250          | R340          |
| Motor                                  | Zytel® PA 101L                    | Z150          | Z200          |               |
|  | Zytel® HTN FR52G30BL              | LZ100         | LZ200         |               |
| Solenoid                               | Zytel® PA 103HSL/70G33HS1L        | Z150          | Z200          |               |
|  | Crastin® PBT T845FR               | C190          | C200          |               |
|  | Rynite® PET 530/FR530/815ER/830ER | E102N         | E200N         | E300N         |
| Relay                                  | Zytel® PA 70G33L/FR50             | Z110E         | Z250          |               |
|  | Zytel® HTN 51G35HSL               | Z180E         |               |               |
| Non-Halogen (New EIS)                  | Rynite® PET FR530/FR531           | R150          | R250          | R380          |
| Non-Halogen (New EIS)                  | Rynite® PET FR533NH/FR530         | RZ110         | RZ200         |               |
|  | Zytel® HTNFR52G30NH               |               |               |               |
|  | Zytel® PA FR50                    |               |               |               |
|  | Zytel® PA FR95G25V0NH             |               |               |               |

## UL 1446 / IEC 85 ENCAPSULATED INSULATION SYSTEMS

| SYSTEM | CLASS             | BOBBIN                                  | ENCAPSULANT                             | MAGNET WIRE    |
|--------|-------------------|---|---|----------------|
| E101   | 130°C/<br>CLASS B | Rynite® PET FR530<br>Rynite® PET FR530L | Rynite® PET FR530<br>Rynite® PET FR530L | MW 28,75,79,80 |
| E101N  | 130°C/<br>CLASS B | Rynite® PET FR530                       | Rynite® PET FR530                       | MW 28,75,79,80 |
| Z180E  | 130°C/<br>CLASS B | Zytel®<br>HTN51G35HSL                   | Zytel®<br>HTN51G35HSL                   | MW 28,75,79,80 |
| E200   | 155°C/<br>CLASS F | Rynite® PET FR530<br>Rynite® PET FR530L | Rynite® PET 815 ER                      | MW 79,80,82,83 |
| E200N  | 155°C/<br>CLASS F | Rynite® PET FR530<br>Rynite® PET FR530L | Rynite® PET 815 ER                      | MW 79,80,82,83 |
| E300   | 180°C/<br>CLASS H | Rynite® PET 530HTE<br>Rynite® PET 830HR | Rynite® PET 530HTE<br>Rynite® PET 830ER | MW 35,73,74    |



## CUSTOMIZED SOLUTIONS

Celanese has 10 major Research & Development Centers around the globe where we collaborate with OEM and supplier customers on customized solutions for electrical insulation materials and systems. Ask how our application development engineers and specialists can help you develop durable, high-performing, and innovative electronic components.

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