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**Three Grades of NEOFロン™ ETFE Fluoropolymer
Developed for Wire Insulation Applications
-Superior Performance in High-Temperature Durability and Mold Processing-**

Daikin Industries, Ltd, has developed two grades (EP-546 and EP-526) of NEOFロン™ ETFE ※¹ fluoropolymer used in electrical wire insulation that exhibit exceptional high-temperature durability along with another grade (EP-506) that allows greater mold processability. These new products are scheduled to go on sale from the start of September of this year.

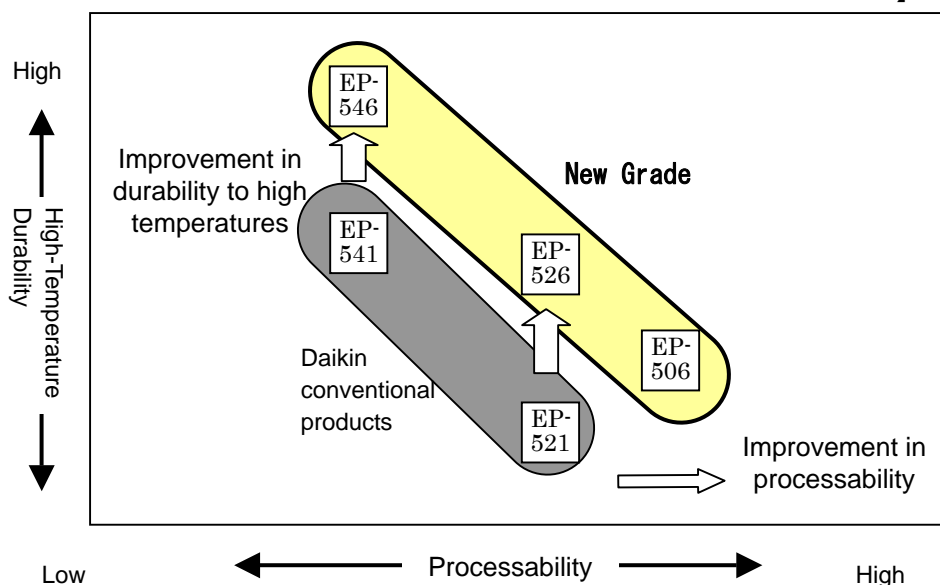
Even among fluoropolymer excelling in electrical insulation properties and resistance to chemicals, NEOFロン™ ETFE fluoropolymer features ease in processing and is strong to bending and twisting. For this reason, it has become the material of choice for insulating electrical wiring used in electrical systems of industrial robotic equipment, which is subject to extreme vibration and movement, along with electrical systems of automobiles and aircraft.

These recently developed two grades of NEOFロン™ ETFE (EP-546 and EP-526) are particularly durable to high temperatures and improve high-temperature durability※² to more than 2.5 times that of conventional products. Exposure to constant stress from such factors as heat, bending, and twisting often becomes a cause of material degradation for general plastic material, but through this new improvement in durability to high temperatures the level of reliability and safety is further raised for electrical system devices incurring heat and vibration. Because electric and hybrids automobiles necessitate higher electrical voltages than conventional gasoline models, expectations are high for insulating material that withstands the large amount of heat generated by high voltage.

Moreover, the grade (EP-506) with high processability has surpassed conventional Daikin products prioritizing production efficiency with a wire insulation thickness of around 100 microns (0.1 millimeters) to achieve thinner electrical wire and enable a thickness of approximately 30 microns (0.03 millimeters). Use of this grade in the internal wiring of mobile devices such as personal computers and mobile cell phones will contribute to further miniaturization and weight reduction of the main body of devices.

In using the fluorine technology cultivated for many years that maintains such characteristics such as strength against bending and twisting, Daikin has performed molecular designs that improve both high-temperature durability and mold processability and has succeeded in commercializing these products. Sales are to be expanded globally and include various uses such as surface coating film of solar panels and material for electrical wire insulation for devices with internal sensors that are seen increasing from now. In fiscal year 2012, sales of approximately 5 billion yen are foreseen.

【Comparison of New Grade NEOFロン™ ETFE and Conventional Products】



【Supplemental Explanation】

- ※ 1 ETFE: Formally known as a copolymer of ethylene tetrafluoroethylene
- ※ 2 Improvement in high-temperature durability that exceeds conventional products by approximately 2.5 times: results based on tests measuring the number of times material could be bent before breaking after material had been heated at 200°C for two weeks.

NEOFロン™ ETFE		High-Temperature Durability		Processability
		Number of Times Bent before Breaking		MFR ^{※ 3}
		Prior to Heating	After Heating	(g/10 min.)
New	EP-546	79,000	76,000	6
Conventional	EP-541	21,000	20,000	6
New	EP-526	24,000	17,000	13
Conventional	EP-521	17,000	6,500	13
New	EP-506	13,000	11,000	32

*The above values are approximated.

< Measurement Conditions for High-Temperature Durability >

Measured the number of times material could be bent before breaking after material had been heated at 200°C for two weeks.

Sample: Thickness 0.22mm x Width 13mm

Measurement conditions: Tensile load=9.8N, Bend angle=135°

Bending speed=175 times per minute

< Processability (MRF Value) Measurement Conditions >

Measured according to ASTM D 3159

Measurement conditions: temperature=297°C, load=5kg,

orifice diameter =2.095 mm, orifice length =8.000 mm

Although numerical values are actual values measured by Daikin, they do not indicate guaranteed performance.

※ 3 MFR (Melt Flow Rate) :

This is the amount of resin extruded every ten minutes from a cylinder container at an opening located at the bottom of the container when heat and pressure are applied internally by a heater at a temperature that has been determined for fixed amounts of synthetic resin. Resins with large values are considered superior in mold processability.

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