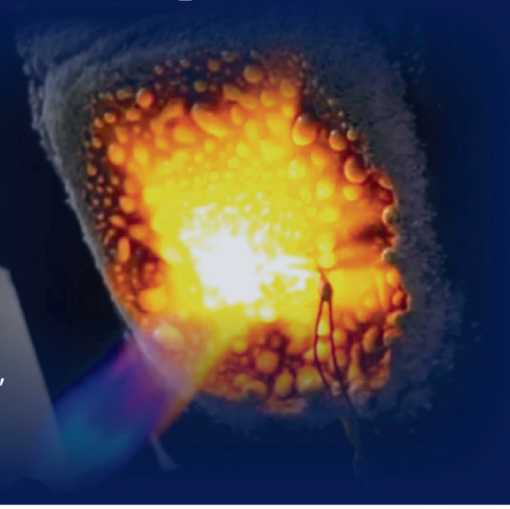
Pyrophobic® Systems Ltd.

lithium prevent

Solution for Lithium-Ion Battery Thermal Runaway



Patented intumescent thermoplastic polymer that expands with heat, preventing and containing thermal runaways in lithium-ion batteries at the cell and module levels.

Shared Properties

Intumescent fire protection

PVC base resin

Injection Molding

LithiumPrevent 200R (LP200R)

- Cylindrical cell holders / spacers
- Module covers
- Thermal barriers
- Busbar terminal caps
- Busbar overmolding

V-0 at 1 mm

UL 94 vertical burn



Extrusion

LithiumPrevent 200REX (LP200REX)

- Flat sheets
- Prismatic or pouch cell spacers
- Module lids
- Side panels
- Busbar channels

V-0 at 2 mm

UL 94 vertical burn



Supports designs for UL 9540A & UL 1973 requirements.*

*Application-specific testing and validation required.

Three stages that defend against thermal runaway propagation

1. FIRE RETARDANT

<200°C

Endothermic reaction

2. PHASE CHANGE

~200-250°C

Water vapor release

3. THERMAL RESISTANCE

>250°C

Expansion & char formation

Formulations

LP200R: injection molding / LP200REX: extrusion

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PROPERTY / UNIT	TEST STANDARD	LP200R	LP200REX
UL 94 vertical burn	UL 94 Section 8	**V-0 at 1 mm**	**V-0 at 2 mm**
Comparative tracking index	ASTM D3638-21	**≥ CTI 600**	**CTI 561**
High-current arc ignition	UL 746A Sect 33	**PLC-0**	**PLC-0**
Hot wire ignition	ASTM D3874-20	**PLC-0**	**PLC-0**
Density (g/cm^3)	ASTM D792-20	**1.43**	**1.19**
Start expansion temperature (°C)	Internal	**200**	**200**
Expansion rate (original volume)	Internal	**2-3x**	**2-3x**
Dimensional stability (%)	ASTM 1204-14	**-1.1**	**-2.3**
Tensile modulus (MPa)	ASTM D638-22	**3330**	**2150**
Tensile strength (MPa)	ASTM D638-22	**36.4**	**24**
Elongation at break (%)	ASTM D638-22	**6.3**	**3.3**
Izod notched impact strength (J/m,C)	ASTM D256-23 Method A	**50**	**53**
Heat deflection temperature (°C)	ASTM D648-18	**66.8**	**63.8**
Linear thermal expansion (/°C)	ASTM D696-16	**6.13E-05**	**6.541E-05**

Bring your design to our team.

Discuss materials, prototypes and request samples.

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Scan for product details

LP200R

LP200REX