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Thermal Insulation Systems

HS433
Multi-functional Cell Separator

- Battery Electric Vehicles (BEV)
- Plug-in Hybrid Electric Vehicles (PHEV)
- Fuel Cell Electric Vehicles (FCEV)

Automotive

HS433

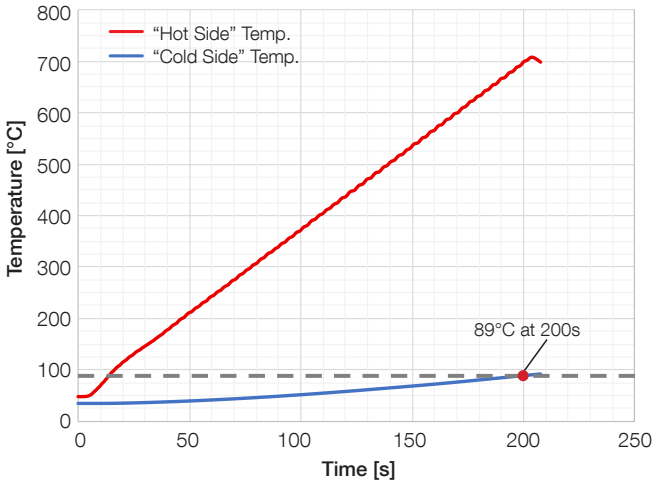
Multi-functional Cell Separator Combining Swelling Compensation with Thermal Insulation

HS433 enables cell breathing with superior thermal runaway protection throughout the full life cycle. Our thinner and lighter cell-to-cell barrier allows better flexibility in battery pack / module design. We offer fully engineered solutions that meet customer requirements.

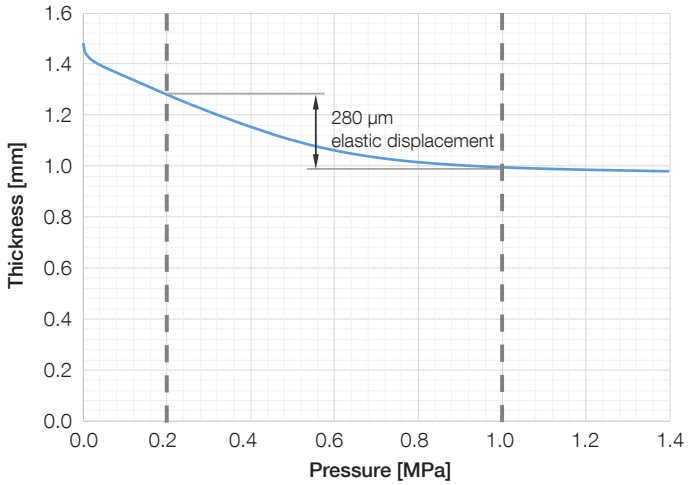
Benefits of HS433:

- Highest thermal insulation between cells
- Ultra-thin, lightweight insulation material
- Accommodates cell breathing due to charge / discharge
- Sustained protection throughout life cycle
- Maximizes pack energy density

Thermal Characterization @ 0.05 MPa



Mechanical Characterization



Specifications

Thermal Properties	Applied Surface Pressure	Temperature on Cold Side at 200s	Test Method
Heat transfer measurement with linear increasing temperature to 700 °C on "Hot Side"	0.05 MPa 0.37 MPa 0.74 MPa	89 °C 92 °C 99 °C	ST-I-DE-017

Electrical Properties			
Breakdown voltage		> 32 kV	ST-I-DE-015

Mechanical Properties			
Thickness	Initially	1.55 mm	ISO 23529
Thickness	Assembled	1.40 mm	ISO 23529
Elasticity: Pressure increase from 0.2 to 1.0 MPa	Swelling Compensation	280 µm	ST-I-DE-018
Plasticity: Applied pressure of 1.0 MPa for 48 hours	Compression Set	< 15 µm	ST-I-DE-018

Contact us to solve your e-mobility thermal insulation challenges at **insulation@oerlikon.com**.

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