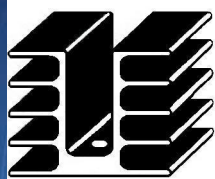


ADVANCED THERMAL INTERFACE MATERIALS AND SOLUTIONS

FOR E-MOBILITY



DISIPA
HEAT S.L.

C/PENEDES 47
POL. IND. CAN CASABLANQUES
08192 SANT QUIRZE DEL VALLES
TEL. (34)935115052 www.disipa.net

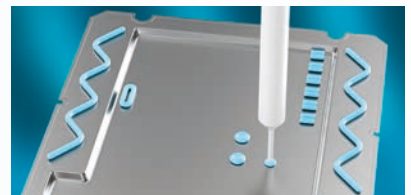


DISPENSABLE TWO PART GAP FILLERS

- Ultra-Conforming at almost ZERO Pressure
- Maximum Tolerance Compensation – from almost ZERO to some mm
- Excellent Thermal, Mechanical and Chemical Stability
- Minimized Siloxane Volatility for Silicone Sensitive Applications

OUR PRODUCTS:

TDG-L-SI-2C with 2.0 W/mK
TDG-T-SI-2C with 3.0 W/mK
TDG-U-SI-2C with 3.6 W/mK
TDG-W-SI-2C with 4.5 W/mK



STRIVING FOR OPTIMIZED THERMAL SYSTEMS

Innovative heat pipe solutions for heat transfer and heat spreading to meet a wide range of application challenges in Electric and Hybrid Vehicles.

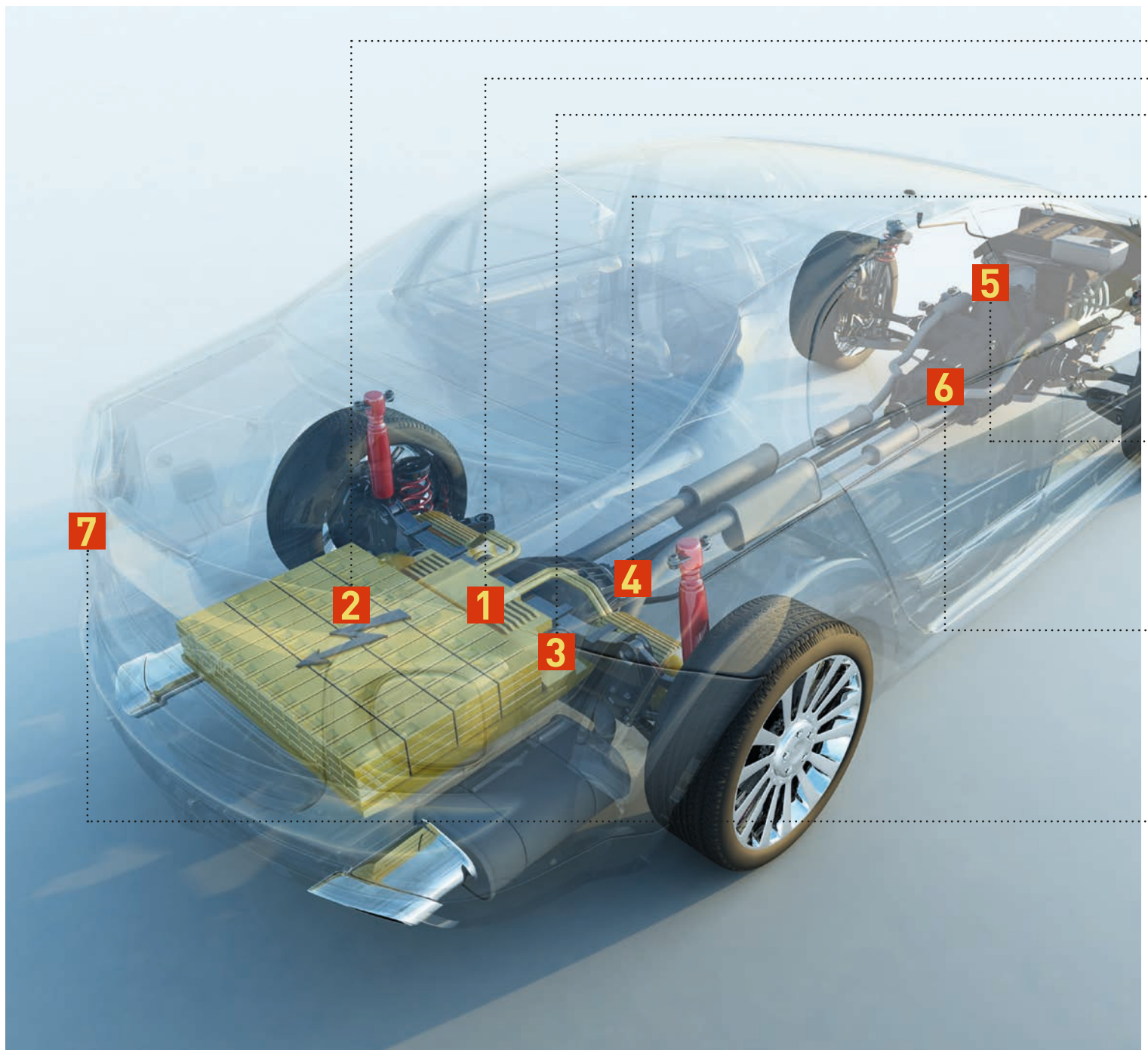


SOLUTIONS FOR E-MOBILITY

- Excellent Thermal Performance
- High Reliability under Harsh Conditions
- Lasting Mechanic, Thermal, Chemical Stability
- Stringent Cost-Efficiency
- Automated Assembly and Dispense
- Extending Life Time
- Reducing Power Consumption

EXTENDED RANGE OF THERMALLY CONDUCTIVE INTERFACE MATERIALS

- Gap filler pads
- Dispensable 2 part gap fillers
- Silicone caps
- PSA tapes
- Foils and highly dielectric films
- 1 part silicone adhesives
- 2 part silicone encapsulants
- Phase change films and compounds



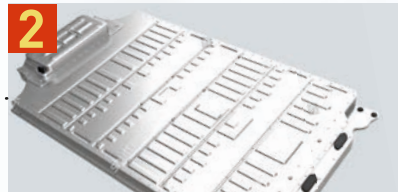
THERMAL INTERFACE MATERIALS AND SOLUTIONS

for Electric or Hybrid Vehicles

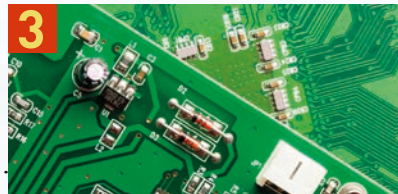
Battery Charger



Battery Packs



Battery Management Systems (BMS)



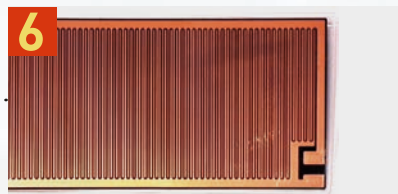
Power Converter / Inverter



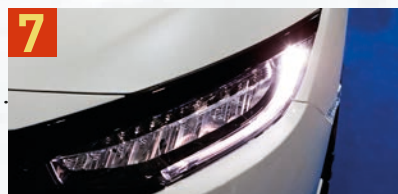
Motor / Generator

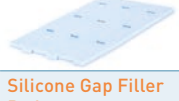
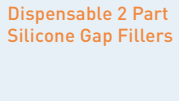
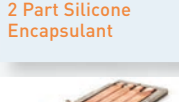


PTC Heater



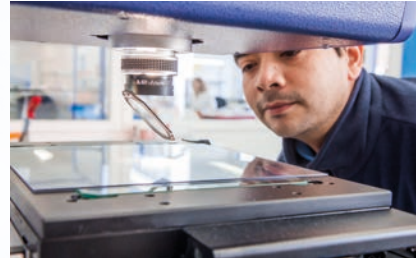
LED Systems



Type	Product	Data		
 Silicone Foils		Color	Thermal Conductivity [W/mK]	Thermal Resistance @ 0.2 mm 150 PSI [°C-inch²/W]
	TF0-X-SI	White	5.0	0.11
	TF0-K-SI	Grey	2.5	0.24
	TF0-Q-SI	Pink	4.5	0.20
	TF0-O-SI	Grey	3.0	0.22
 Highly Dielectric Silicone Foils	TF0-J-SI	Brown	2.0	0.31
	TF0-L-SI	Black	1.5	0.35
 Silicone Caps	TCP-J-PC	Pink	1.5	0.68
		Color	Thermal Conductivity [W/mK]	Hardness [Shore 00]
	TGF-WSS-SI	Grey	5.5	55
	TGF-TSS-SI	Purple	3.2	37
	TGF-M-SI	Blue	2.5	50
 Silicone Gap Filler Pads	TGF-JXS-SI-A1	Blue / Grey	2.0	15
	TGF-EXS-SI-GF	Brown / Grey	1.4	10
 Dispensable 2 Part Silicone Gap Fillers		Color	Thermal Conductivity [W/mK]	Hardness [Shore 00]
	TDG-W-SI-2C	Pink / White	4.5	60
	TDG-U-SI-2C	Blue / White	3.6	38
	TDG-T-SI-2C	Blue / White	3.0	55
	TDG-L-SI-2C	Green / White	2.0	52
 PSA Tapes		Color	Thermal Conductivity [W/mK]	Thermal Resistance [°C-inch²/W]
	TAT-J-PE	White	0.7	0.50
	TAT-H-CO	White	0.4	0.78
 1 Part Silicone Adhesives		Color	Thermal Conductivity [W/mK]	Hardness [Shore A]
	TAD-P-SI-1C	Grey	2.30	67
	TAD-O-SI-1C	Grey	2.10	56
	TAD-I-SI-1C	White	1.55	65
	TAD-G-SI-1C	Grey	1.40	67
 2 Part Silicone Encapsulant		Color	Thermal Conductivity [W/mK]	Hardness
	TCR-I-SI-2C	Grey / Grey	1.55	45 (Shore 00)
	TCR-D-SI-2C	Beige / Black	0.68	32 (Shore A)
 Phase Change Film		Color	Thermal Conductivity [W/mK]	Thermal Resistance @ 150 PSI [°C-inch²/W]
	TPC-W-PC	Grey	3.5	0.01
	TPC-T-AL-CB	Black		0.01
 Heat Pipe Assembly		Function	Thermal Conductivity [W/mK]	Heat Pipe Material
		Heat Transfer Heat Spreading	> 5000 W/mK	Copper

Where to be used in an Electric or Hybrid Vehicle

Dielectric Breakdown @ 0.2 mm [kV (AC)]	Glass Fibre Mesh Reinforcement	Optional 1-side Adhesive	1 Battery Charger	2 Battery Packs	3 Battery Management Systems (BMS)	4 Power Converter / Inverter	5 Motor / Generator	6 PTC Heater	7 LED Systems
3.0	X	X	XX		XX	XX		XX	XX
2.0	X	X	XX		XX	X		X	X
4.8	X	X				X		XX	
5.5	X	X	X		X	XX		XX	X
5.5	X	X	XX		X	X		X	X
10			X			X			
Dielectric Strength [kV/mm]	Glass Fibre Laminate Reinforcement	Optional 1-side non tacky							
10		X	XX		XX				
15			XX		X				
10		X	X		XX				
10			X	XX	X				
6.0	X			XX					
Dielectric Strength [kV/mm]	Density [g/cm³]	Viscosity Brookfield mixed @ 10 rpm [Pas]							
10	3.10	310	X		X				
10	2.85	260	X	X	X				
10	2.75	275	XX	XX	XX				
10	1.90	260	XX	XX	XX		XX		
Dielectric Breakdown [kV (AC)]	Peel Off @ Al [N/cm]	Thickness [mm]							
8.9	6.1	0.20							XX
9.5	6.0	0.19							X
Curing	Density [g/cm³]	Viscosity Brookfield [Pas]							
Condensational	2.11	350	X		X	X			XX
Additional	2.18	140	XX		XX	XX			
Condensational	2.24	350	X		X	X			X
Additional	2.06	43	XX		XX	XX			
Curing	Density [g/cm³]	Viscosity Brookfield mixed [Pas]							
Additional	1.63	30					X		
Additional	1.60	4.5					XX		
Phase Change Temperature	Carrier	Thickness [mm]							
45		0.1, 0.2, 0.3	X		X	XX			X
50	Aluminum	0.076, 0.102	XX		X	XX			XX
Temperature Range	Filler	Assembly							
0 to 200 °C	Deionidised water	Aluminum / Copper	XX		XX	XX	X		XX



HALA CONTEC GMBH & CO. KG

Hans-Böckler-Straße 15
D-73230 Kirchheim unter Teck

Phone +49 7021 73141-0
Fax +49 7021 73141-99

Siemensstraße 5
D-85521 Ottobrunn

Phone +49 89 665 477-83
Fax +49 89 665 477-85

contec@hala-tec.de
www.hala-tec.de

