

NORTH AMERICA

Schlegel Electronic Materials, Inc.

1600 Lexington Ave
Suite 236A Rochester NY 14606
Tel No: +1 585-643 2000
Fax No: +1 585-427 7216
Email: schlegelemi.na@schlegelemi.com

EUROPE

Schlegel Electronic Materials, bvba

Slijpesteenweg 28
8432 Middelkerke (Leffinge)
Belgium
Tel No: +32 59 560 270
Fax No: +32 59 560 271
Email: schlegelbe@schlegelemi.com

ASIA

Schlegel Electronic Materials Asia Limited

Unit 3, 3/F., Block A, New Trade Plaza,
6 On Ping Street, Shatin, N.T., Hong Kong
Tel No: +852-2686 9872
Fax No: +852-2686 9728
Email: schlegelemi@emeigroup.com

Schlegel (Dongguan) Electronics Limited

No. 8 Qiaoxin Road, Qiaotou, Dongguan,
Guangdong, China
Postal Code: 523525
Tel No: +86-769-8356 5686
Fax No: +86-769-8334 5656
Email: schlegelemi@emeigroup.com

Schlegel (Shanghai) Electronics Limited

4/F, 79 Parts, 111 Meisheng Road, F.T.Z.,
Pudong, Shanghai, China
Postal Code: 200131
Tel No: +86-21-5868 3383
Fax No: +86-21-5868 3386
Email: schlegelemi@emeigroup.com

Taiwan Schlegel Electronics Limited

5F., No. 41, Lane 76, Rei Kuang Rd. Nei - Hu Dist,
Taipei, Taiwan R.O.C
Postal Code: 11466
Tel No: +886-2-2793 9055
Fax No: +886-2-2793 9501
Email: schlegelemi@emeigroup.com

OpTIM™
Manufacturing and Processing Facility of Thermal Interface Material

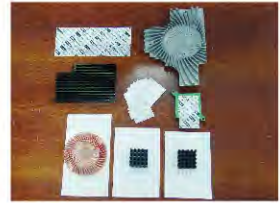
It is widely recognized in the electronics industry that thermal interface materials (TIMs) are crucial in maintaining reasonable life and reliability of many heat generating electronic components. As electronic components require increasing watt densities, Schlegel Electronic Material's line of high performance TIMs can provide design engineers with solution of thermal management problems.

Schlegel Electronic Materials' OpTIM™ products are a line of thermal interface materials that offer a wide range of thermal performance and physical properties, and can resolve even the most challenging thermal problems. These TIMs have already been widely used in various electronic equipments / components including advanced micro-processors, high speed memory modules, micro heat pipe assemblies and LED lighting.

Our manufacturing facilities located in Dongguan, China is ISO 9001 certified, and supported by our North American and European facilities to provide worldwide product coverage. Coupled with the capability of die-cutting products into any shape and size, Schlegel can provide the designer with cost effective and easy-to-use thermal management solutions.

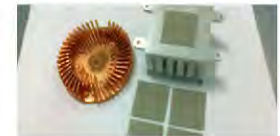
Schlegel's vow is to uphold our attitude of excellent customer service and technical support. We stand ready to meet your thermal needs.

OpTIM™ Thermally Conductive Gap Fillers (*)



Product	Color	Thickness Range [inch/(mm)]	Thermal Conductivity [W/mk]	Hardness [Shore 00]	Operation Temperature [°C]
TCR 200	Multi-color	0.02" (0.50)~0.40" (10.1)	1.2	40	-40 - 200 °C
OP-8100	Blue	0.01" (0.25)~0.40" (10.1)	1.2	60	-40 - 200 °C
★ OP-8100 Spec 02	Grey	0.01" (0.25)~0.20" (5.08)	3.0	60	-40 - 200 °C
OP-8100 Spec 06	Grey	0.01" (0.25)~0.03" (0.75)	2.5	60	-40 - 200 °C
OP-8200	Light Grey	0.01" (0.25)~0.40" (10.1)	1.5	60	-40 - 200 °C
OP-8200 Spec 03	Light Grey	0.01" (0.25)~0.40" (10.1)	1.5	40	-40 - 200 °C
OP-8300	Blue	0.01" (0.25)~0.40" (10.1)	1.5	25	-40 - 200 °C
OP-8300 Spec 02	Sky Blue	0.01" (0.25)~0.40" (10.1)	1.5	20	-40 - 200 °C
OP-8300 Spec 03	Sky Blue	0.01" (0.25)~0.40" (10.1)	1.8	20	-40 - 200 °C
OP-8300 Spec 05	Blue	0.01" (0.25)~0.40" (10.1)	1.0	10	-40 - 200 °C
OP-8400	Pink	0.01" (0.25)~0.40" (10.1)	2.5	40	-40 - 200 °C
OP-8400 Spec 05	Pink	0.012" (0.30)~0.40" (10.1)	2.5	20	-40 - 200 °C
OP-8400 Spec 06	Pink	0.01" (0.25)~0.40" (10.1)	2.0	40	-40 - 200 °C
OP-8400 Spec 07	Pink	0.01" (0.25)~0.40" (10.1)	2.5	15	-40 - 200 °C
OP-8400 Spec 08	Pink	0.01" (0.25)~0.40" (10.1)	2.5	25	-40 - 200 °C
OP-8400 Spec 10	Pink	0.01" (0.25)~0.03" (0.76)	2.0	80	-40 - 200 °C
OP-8500	Violet	0.01" (0.25)~0.40" (10.1)	3.0	40	-40 - 200 °C
OP-8500 Spec 01	Violet	0.01" (0.25)~0.40" (10.1)	3.0	25	-40 - 200 °C
OP-8500 Spec 02	Violet	0.012" (0.30)~0.40" (10.1)	3.2	50	-40 - 200 °C
OP-8500 Spec 03	Violet	0.01" (0.25)~0.40" (10.1)	2.8	15	-40 - 200 °C
OP-8500 Spec 04	Violet	0.02" (0.50)~0.40" (10.1)	4.0	45	-40 - 200 °C
OP-8500 Spec 05	Violet	0.02" (0.50)~0.40" (10.1)	5.0	45	-40 - 200 °C
OP-8500 Spec 07	Violet	0.02" (0.50)~0.40" (10.1)	3.5	35	-40 - 200 °C
OP-8500 Spec 09	Violet	0.02" (0.50)~0.40" (10.1)	7.0	55	-40 - 200 °C
OP-8500 Spec 10	Grey	0.03" (0.76)~0.40" (10.1)	9.0	60	-40 - 200 °C
OP-8600	Pink	0.01" (0.25)~0.40" (10.1)	3.2	45	-40 - 200 °C
OP-8700	White	0.02" (0.50)~0.40" (10.1)	3.2	45	-40 - 200 °C
OP-8800	Yellow	0.01" (0.25)~0.40" (10.1)	6.0	70	-40 - 200 °C
OP-9400	Grey	0.02" (0.50)~0.40" (10.1)	7.0	60	-40 - 200 °C
OP-9400 Spec 01	Grey	0.02" (0.50)~0.40" (10.1)	7.0	50	-40 - 200 °C
OP-9400 Spec 02	Grey	0.02" (0.50)~0.40" (10.1)	7.0	55	-40 - 200 °C
OP-9700	Grey	0.03" (0.76)~0.40" (10.1)	10	60	-40 - 200 °C

OpTIM™ Thermally Conductive Non Silicone Gap Filler (*)



Product	Color	Thickness Range [inch/(mm)]	Thermal Conductivity [W/mk]	Hardness [Shore 00]	Operation Temperature [°C]
OP-6200	Grey	0.02" (0.50)~0.12" (3.0)	2.0	60	-40 - 110 °C
OP-6300	Dark Grey	0.02" (0.50)~0.20" (5.0)	3.0	50	-40 - 125 °C
OP-6500	Grey	0.04" (1.0)~0.20" (5.0)	5.0	60	-40 - 125 °C

OpTIM™ Phase Change Materials (*)



Product	Color	Thickness Range [inch/(mm)]	Thermal Conductivity [W/mk]	Phase Change Temperature [°C]	Operation Temperature [°C]
OC-800	White	0.005" (0.13)~0.02" (0.5)	2.5	50 °C	-40 - 130 °C
OC-7300	Grey	0.005" (0.13)~0.02" (0.5)	4.0	55 °C	-40 - 130 °C
OC-9100	White	0.01" (0.25)~0.02" (0.50)	1.0	50 - 65 °C	-40 - 130 °C

OpTIM™ Thermally Conductive Insulators (*)



Product	Color	Thickness Range [inch/(mm)]	Thermal Conductivity [W/mk]	Hardness [Shore 00]	Operation Temperature [°C]
OI-1000	Grey, Green Yellow	0.01" (0.25)~0.018" (0.45)	1.2	70 (Shore A)	-40 - 240 °C
OI-2000	White	0.01" (0.25)~0.03" (0.76)	5.0	80	-40 - 200 °C
OI-2000 Spec 01	White	0.01" (0.25)~0.03" (0.76)	3.0	80	-40 - 200 °C

OpTIM™ Thermally and Electrically Conductive Gap Filler (*)



Product	Color	Thickness Range [inch/(mm)]	In-Plane Thermal Conductivity [W/mk]	Through-Plane Thermal Conductivity [W/mk]
OP-400	Black	0.002" (0.05)~0.06" (1.5)	>400	>5

OpTIM™ 2-Part Thermally Conductive Gap Fillers (*)



Product	Color	Viscosity [cP]	Thermal Conductivity [W/mk]	Hardness after cured [Shore 00]	Cure Time @ 25°C	Cure Time @ 80°C
OP-3300	White, Black (Part A) Grey (Part B)	7500 (Part A) 7500 (Part B)	1.0	75	8 hr	15 min
★ OP-3300 Spec 01	White, Black (Part A) Grey (Part B)	22000 (Part A) 22000 (Part B)	1.5	75	8 hr	15 min
OP-3300 Spec 02	Grey (Part A) White, Black (Part B)	25000 (Part A) 25000 (Part B)	2.0	75	8 hr	15 min
★ OP-3300 Spec 03	Dark Grey (Part A) White (Part B)	4000 (Part A) 6000 (Part B)	0.85	70	4 hr	15 min
OP-3500	White (Part A) Blue (Part B)	78000 (Part A) 87000 (Part B)	3.0	55	12 hr	10 min

OpTIM™ Thermally Conductive Grease (*)



Product	Color	Density [g/cm³]	Thermal Conductivity [W/mk]	Operation Temperature [°C]
★ OG-850	White	2.30	3.0	-40 - 160 °C
OG-860	White	2.30	0.85	-40 - 160 °C
OG-870	Grey	1.98	7.0	-40 - 160 °C
OG-880	White	1.26	5.5	-40 - 160 °C

OpTIM™ Thermally Conductive Putty (*)



Product	Color	Thickness Range [inch/(mm)]	Density [g/cm³]	Thermal Conductivity [W/mk]	Operation Temperature [°C]
OU-802	White	-	3.0	3.5	-40 - 180 °C
OU-806	Grey	-	3.3	6.0	-40 - 180 °C
OU-809P	Grey	0.04" (1.0)~0.40" (10.1)	3.4	9.0	-40 - 180 °C

Note: OU-802 Flow Rate [g/min, 30cc syringe under 90psi] : 22
OU-806 Flow Rate [g/min, 30cc syringe under 90psi] : 10

Thermally Conductive Ceramic Insulator



Product	Density [g/cm³]	Thermal Conductivity [W/mk]	Hardness [HRA]
Thermally Conductive Ceramic Insulator	>3.5	20-25	>80

*: Halogen Free.

Specifications and appearances may change without notice. All statements, technical information and recommendations herein are based on tests that we believed to be reliable, but the accuracy and completeness are not guaranteed. Before using, user should determine the suitability of the product for its intended use, and the user assumes all risks and liabilities whatsoever in connection therewith. Neither the seller nor the manufacturer shall be liable for any loss or damage, direct, incidental or consequential, including loss of profits or revenues arising from the use or inability to use the product. Any statements or recommendations shall have no effect unless contained in an agreement signed by authorized personnel of the seller and manufacturer.

