



深圳市三科斯电子材料有限公司

Shenzhen 3KS Electronic Material Co., Ltd.

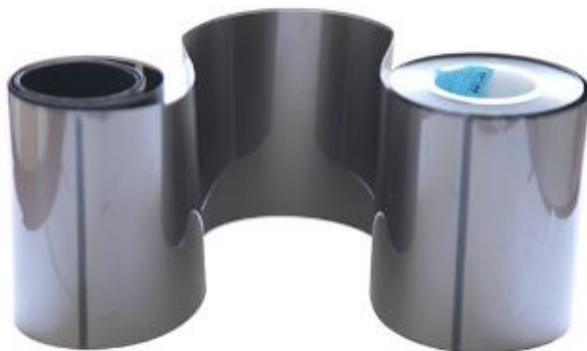
Natural graphite is sintered with flake graphite and earthy graphite, and its carbon content reaches 99% ~ 99.99%. Graphite sheet is a new material, with heat conduction along with two directions, shield heat and component which improving consumer electronic products performance

## Features of natural graphite sheet:

- \* Excellent thermal conductivity: up to 500 W/m•K
- \* Lightweight: Specific gravity: 1.0 to 1.3 g/cm<sup>3</sup>  
(30% lighter than aluminum, 80% lighter than copper in the same size)
- \* Flexible and easy to be cut. (Withstands repeated bending)
- \* Low thermal resistance
- \* Low heat resistance with flexible graphite sheet
- \* Low repulsion and easy to keep the product's shape after attaching
- \* Siloxane free
- \* Rohs, reach, halogen compliant

## Application of graphite sheet

- High-temperature furnace
- Metal industry
- Glass refractories
- Petrochemical industry
- Automobile industry
- Mechanical engineering
- Electric discharge
- Semiconductor industry
- Photovoltaic power generation



## Datasheet of Natural graphite sheet

| Item                                 | 3K-SBP-TR0003              | 3K-SBP-TR0005              | 3K-SBP-TR0007              | 3K-SBP-TR0010              |
|--------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Thickness(mm)                        | 0.03±0.003                 | 0.05±0.003                 | 0.07±0.003                 | 0.1±0.003                  |
| Carton content                       | 99.8%                      | 99.8%                      | 99.8%                      | 99.8%                      |
| Thermal conductivity X-Y axis(w/m.k) | 500W/M.K                   | 450W/M.K                   | 400W/M.K                   | 400W/M.K                   |
| Thermal conductivity Z axis(w/m.k)   | 15~20W/M.K                 | 15~20W/M.K                 | 15~20W/M.K                 | 15~20W/M.K                 |
| Density(g/cm <sup>3</sup> )          | 1.5                        | 1.5                        | 1.5                        | 1.4                        |
| Hardness(Shore A)                    | 85                         |                            |                            |                            |
| Color                                | Dark grey                  |                            |                            |                            |
| Tensile strength                     | 650psi                     |                            |                            |                            |
| Adhesive+pet film                    | v                          | v                          | v                          | v                          |
| Working temperature(°C)              | -40~+400                   |                            |                            |                            |
| Thermal resistance@100psi            | 0.07°C-in <sup>2</sup> /w  | 0.08°C-in <sup>2</sup> /w  | 0.09°C-in <sup>2</sup> /w  | 0.1°C-in <sup>2</sup> /w   |
| Volume resistivity                   | 1.1*10 <sup>4</sup> ohm-cm | 1.1*10 <sup>4</sup> ohm-cm | 1.1*10 <sup>4</sup> ohm-cm | 1.1*10 <sup>4</sup> ohm-cm |
| Flammability                         | V-O                        |                            |                            |                            |

| Item                                 | 3K-SBP-TR0020              | 3K-SBP-TR0030              | 3K-SBP-TR0050              | 3K-SBP-TR0100              |
|--------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Thickness(mm)                        | 0.2±0.003                  | 0.3±0.003                  | 0.5±0.003                  | 0.1±0.003                  |
| Carton content                       | 99.8%                      | 99.8%                      | 99.8%                      | 99.8%                      |
| Thermal conductivity X-Y axis(w/m.k) | 400W/M.K                   | 400W/M.K                   | 300W/M.K                   | 250W/M.K                   |
| Thermal conductivity Z axis(w/m.k)   | 15~20W/M.K                 | 15~20W/M.K                 | 15~20W/M.K                 | 15~20W/M.K                 |
| Density(g/cm <sup>3</sup> )          | 1.3                        | 1.2                        | 1.15                       | 1.1                        |
| Hardness(Shore A)                    | 85                         |                            |                            |                            |
| Color                                | Dark grey                  |                            |                            |                            |
| Tensile strength                     | 650psi                     |                            |                            |                            |
| Working temperature(°C)              | -40~+400                   |                            |                            |                            |
| Adhesive+pet film                    | v                          | v                          | v                          | v                          |
| Thermal resistance@100psi            | 0.15°C-in <sup>2</sup> /w  | 0.2°C-in <sup>2</sup> /w   | 0.3°C-in <sup>2</sup> /w   | 0.37°C-in <sup>2</sup> /w  |
| Volume resistivity                   | 1.1*10 <sup>4</sup> ohm-cm | 1.1*10 <sup>4</sup> ohm-cm | 1.1*10 <sup>4</sup> ohm-cm | 1.1*10 <sup>4</sup> ohm-cm |
| Flammability                         | V-O                        |                            |                            |                            |

