**Material parameters :**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Nom | |  |  |  |  |  |  |
| Type of material | Density (kg/m3) | Rho (1/MPa) | DRP (1/K) |  |  |  | Type and densities |
|  | TC1 (W/(mK)) | TC2 (W/(mK)) | HP1 (W/m3)10^6 | HP2 | C (J/(kgK) |  | Thermal parameters |
|  | U (ppm) | Th (ppm) | K (ppm) |  |  |  | Chemical Parameters |
|  | T° solidus (°C) | T° liquidus (C°) | EMELT (J/kg) |  |  |  | Melt parameters |
|  | RB (Byerlee) | RPP | RAE | RAV | RN | RDEF | Rheological parameters |

**Matériaux utilisés :**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Upper Crust | |  |  |  |  |  |  |
| Basement | 2850 | 0.0002 | 3.5D-5 |  |  |  | Type and densities |
|  | 3. | 1.55D-3 | 2. | 0. | 1650. |  | Thermal parameters |
|  | 0. | 0. | 0. |  |  |  | Chemical Parameters |
|  | 800 | 1850 | 420000 |  |  |  | Melt parameters |
|  | 60. | 0.35 | 250000. | 0. | 3. | 1.D-15 | Rheological parameters |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Lower Crust |  |  |  |  |  |  |  |
| Basement | 3000 | 0. | 3.5D-5 |  |  |  | Type and densities |
|  | 2.5 | 0.80D-3 | 0.3 | 0 | 1550. |  | Thermal parameters |
|  | 0. | 0. | 0. |  |  |  | Chemical Parameters |
|  | 1050 | 1800 | 420000. |  |  |  | Melt parameters |
|  | 60. | 0.35 | 250000. | 0. | 3. | 1.D-15 | Rheological parameters |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Oceanic Crust | |  |  |  |  |  |  |
| Basement | 2900 | 0. | 3.5D-5 |  |  |  | Type and densities |
|  | 2.5 | 0.80D-3 | 0.2 | 0 | 1550. |  | Thermal parameters |
|  | 0. | 0. | 0. |  |  |  | Chemical Parameters |
|  | 1310 | 1800 | 420000. |  |  |  | Melt parameters |
|  | 60. | 0.35 | 250000. | 0. | 3. | 1.D-15 | Rheological parameters |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Conti. Litho. |  |  |  |  |  |  |  |
| Mantle | 3200. | 0. | 3D-5 |  |  |  | Type and densities |
|  | 2.3 | 0.87D-3 | 0.02 | 0. | 1400. |  | Thermal parameters |
|  | 0. | 0. | 0. |  |  |  | Chemical Parameters |
|  | 1200 | 2000 | 420000. |  |  |  | Melt parameters |
|  | 60. | 0.35 | 250000. | 0. | 3. | 1.D-15 | Rheological parameters |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Oceanic Litho. | |  |  |  |  |  |  |
| Mantle | 3250. | 0. | 3D-5 |  |  |  | Type and densities |
|  | 2.3 | 0.87D-3 | 0.02 | 0 | 1400. |  | Thermal parameters |
|  | 0. | 0. | 0. |  |  |  | Chemical Parameters |
|  | 1200 | 2000 | 420000. |  |  |  | Melt parameters |
|  | 60. | 0.35 | 250000. | 0. | 3. | 1.D-15 | Rheological parameters |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Asthenosphere | |  |  |  |  |  |  |
| Mantle | 3270 | 0. | 3D-5 |  |  |  | Type and densities |
|  | 45.0 | 0.000 | 0.02 | 0. | 1400. |  | Thermal parameters |
|  | 0. | 0. | 0. |  |  |  | Chemical Parameters |
|  | 1450 | 2000 | 420000. |  |  |  | Melt parameters |
|  | 60. | 0.35 | 250000. | 0. | 3. | 1.D-15 | Rheological parameters |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Air |  |  |  |  |  |  |  |
| Sediment | 1,25 | 0 | 3D-5 |  |  |  | Type and densities |
|  | 26,4D-3 | 0 | 0 | 0 | 1006 |  | Thermal parameters |
|  | 0 | 0 | 0 |  |  |  | Chemical Parameters |
|  | 0 | 0 | 420000 |  |  |  | Melt parameters |
|  | 60 | 0,35 | 250000 | 0 | 3 | 1.D-15 | Rheological parameters |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Ignimbrite |  |  |  |  |  |  |  |
| Sediment | 2750 | 0.0002 | 3.5D-5 |  |  |  | Type and densities |
|  | 3. | 1.55D-3 | 2 | 0 | 1650. |  | Thermal parameters |
|  | 0. | 0. | 0. |  |  |  | Chemical Parameters |
|  | 850 | 1100. | 420000. |  |  |  | Melt parameters |
|  | 60. | 0.35 | 250000. | 0. | 3. | 1.D-15 | Rheological parameters |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Hydrated Litho. | |  |  |  |  |  |  |
| Mantle | 3200. | 0. | 3D-5 |  |  |  | Type and densities |
|  | 2.3 | 0.87D-3 | 0.02 | 0 | 1400. |  | Thermal parameters |
|  | 0. | 0. | 0. |  |  |  | Chemical Parameters |
|  | 950 | 1800 | 420000. |  |  |  | Melt parameters |
|  | 60. | 0.35 | 250000. | 0. | 3. | 1.D-15 | Rheological parameters |