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| Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Properties of the Materials

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |  |  |  | 1  H |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | 2  T | H | E | R | M | A | L | E | X | P | A | N | S | I | O | N |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | R |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | D |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | N |  |  |  | 3  T |  |  | 4  T |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | 5  S |  |  |  | E |  |  |  | E |  |  | O |  |  |  |  | 6  M |  |  |  |  |  |  |
|  |  |  | 7  T | O | U | G | H | N | E | S | S |  | 8  E |  | N |  |  | R |  |  | 9  E |  | A |  |  |  |  |  |  |
|  |  |  |  |  |  |  | E |  |  |  | S |  | L |  | S |  |  | S |  |  | L |  | L |  |  |  |  |  |  |
|  |  |  |  |  |  |  | A |  |  |  |  |  | A |  | I |  |  | I |  |  | E |  | L |  |  |  |  |  |  |
|  |  |  |  | 10  T | H | E | R | M | A | L | I | N | S | U | L | A | T | O | R |  | C |  | E |  |  |  |  |  |  |
|  |  |  |  |  |  |  | S |  |  |  |  |  | T |  | E |  |  | N |  |  | T |  | A |  |  |  |  |  |  |
|  |  |  | 11  E | L | E | C | T | R | I | C | A | L | I | N | S | U | L | A | T | O | R |  | B |  |  |  |  |  |  |
|  |  |  |  |  |  |  | R |  |  |  |  |  | C |  | T |  |  | L |  |  | I |  | I |  |  | 12  D |  |  |  |
|  |  |  |  |  |  |  | E |  |  |  |  |  | I |  | R |  |  | S |  |  | C |  | L |  |  | U |  |  |  |
|  |  |  |  |  | 13  B | E | N | D | I | N | G | S | T | R | E | N | G | T | H |  | A |  | I |  |  | C |  |  |  |
|  |  |  |  |  |  |  | G |  |  |  |  |  | Y |  | N |  |  | R |  |  | L |  | T |  |  | T |  |  |  |
|  |  |  | 14  P | L | A | S | T | I | C | I | T | Y |  |  | G |  |  | E |  |  | C |  | Y |  |  | I |  |  |  |
|  |  |  |  |  |  |  | H |  |  |  |  |  |  |  | T |  |  | N |  |  | O |  |  |  |  | L |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | H |  |  | G |  |  | N |  |  |  |  | I |  |  |  |
|  |  |  |  |  | 15  F | U | S | I | B | I | L | I | T | Y |  |  |  | T |  |  | 16  D | E | N | S | I | T | Y |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | H |  |  | U |  |  |  |  | Y |  |  |  |
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|  |  |  |  | 17  C | O | M | P | R | E | S | S | I | V | E | S | T | R | E | N | G | T | H |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | O |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | 18  T | H | E | R | M | A | L | C | O | N | D | U | C | T | O | R |  |  |  |  |  |  |  |  |

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| **Across**  **2.** The increase in material volume in response to a heat input  **7.** The ability to absorb impact force without fracture  **10.** Prevents the transfer of heat through the material  **11.** Does not allow the flow of electricity through the material  **13.** The ability to resist forces that may bend the material  **14.** The ability to be permanently deformed and retain the deformed shape  **15.** The ability of the material to be fused or converted from a solid to a liquid or molten state  **16.** The mass of the material in a standard volume of space  **17.** The ability to withstand being crushed or shortened by pushing forces  **18.** Allows the transfer of heat energy through the material | **Down**  **1.** The ability to resist abrasive wear such as scratching, surface indentation or cutting  **3.** The ability to resist stretching or pulling forces  **4.** The ability to withstand twisting forces from applied tension or torque  **5.** The ability to resist sliding forces on a parallel line  **6.** The ability to withstand deformation by compression without cracking  **8.** The ability to be deformed and then return to the original shape when the force is removed  **9.** Allows the flow of electrical current through the material  **12.** The ability to be drawn out under tension without cracking |