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

Properties of the Materials

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