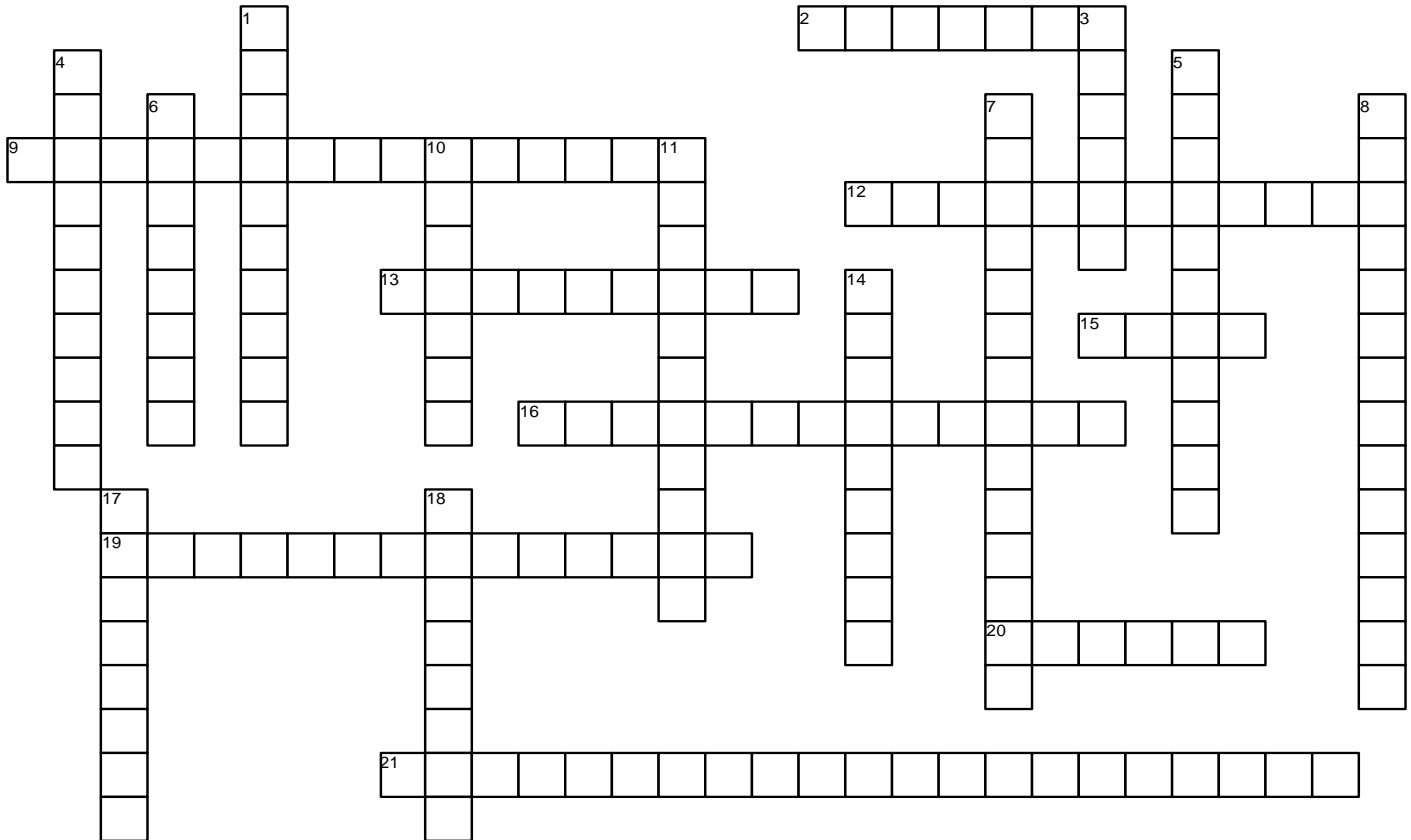


# Brake Principles And Friction Materials

## Chapter 97



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### ACROSS

- 2** Friction materials are often called \_\_\_\_\_ in the American aftermarket because they include \_\_\_\_\_ fibers, which are usually potassium titanite.
- 9** One measurement of the coefficient of friction is the \_\_\_\_\_ coefficient.
- 12** The term \_\_\_\_\_ refers to brake lining material that uses metal, rather than asbestos, in its formulation.
- 13** \_\_\_\_\_ can occur with repeated heavy braking that can overheat the brakes and cause a loss in effectiveness.
- 15** \_\_\_\_\_ is the transfer of energy from one physical system to another, especially the transfer of energy to an object through the application of

force.

- 16** \_\_\_\_\_ is a fundamental form of mechanical energy.
- 19** One measurement of the coefficient of friction is the \_\_\_\_\_ coefficient.
- 20** \_\_\_\_\_ is the ability to do work.
- 21** The amount of friction between two objects or surfaces is commonly expressed as a value called the \_\_\_\_\_.

### DOWN

- 1** \_\_\_\_\_ affects both drum and disc brakes and occurs when the friction material overheats to the point where its coefficient of friction drops off.
- 3** \_\_\_\_\_ is a soft metal with very high thermal and electrical conductivity and

is used in most brake lining/pads.

- 4** Most vehicles have a forward \_\_\_\_\_, which means that even when stopped, more than 50% of their weight is supported by the front wheels.
- 5** To maintain braking power, the brake shoes must move farther outward, which requires additional brake \_\_\_\_\_.
- 6** Washington State mandates that after January 1st, 2015 that all brake pads and shoes have a \_\_\_\_\_ icon indicating the level of compliance with state friction material content legislation.
- 7** Inertia, in the form of \_\_\_\_\_, plays a major part in a vehicle's braking performance.
- 8** \_\_\_\_\_ occurs

when a brake drum overheats and expands away from the brake lining.

- 10** \_\_\_\_\_ is defined by Isaac Newton's first law of motion, which states that a body at rest tends to remain at rest, and a body in motion tends to remain in motion in a straight line unless acted upon by an outside force.
- 11** Brake pads and linings that use synthetic material such as aramid fibers instead of steel can be referred to as \_\_\_\_\_.
- 14** The \_\_\_\_\_ follow the SAE standard J866a.
- 17** \_\_\_\_\_ is the term used to describe naturally occurring silicate minerals that consist of long fibers.
- 18** \_\_\_\_\_ is the resistance to movement between two surfaces in contact with one another.