

The Commercial Inspector

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Did you know?

Materials Used for Parking Lots

Paving has been used for centuries to create solid surfaces. The ancient Romans used brick to pave their roads. Today, a variety of products are used for paving.



A paved surface receives the traffic weight and transfers the load to the base, but it also protects the base. Pavements are classified in two categories: flexible and rigid. Flexible pavements are resilient surfaces that distribute loads down to the sub-base in a radiant manner. Rigid pavements distribute imposed loads over a broader area and require a thicker wearing surface and a thinner base. Asphalt is an example of a flexible surface; concrete is an example of a rigid surface.

Some examples of the different materials:

- » Asphalt is composed of aggregates bound together with asphalt cement. The mixture is heated and

Snapshots from the field

What's wrong with this photo?



combined with hot asphalt cement and installed over a base, usually compacted aggregate.

- » Concrete is composed of cement, which is a mixture of lime, silica and gypsum. It is combined with an aggregate mixture and water. This is installed over compacted soil or aggregate base.
- » Brick is composed of clay or shale that is kiln-fired and installed over a compacted soil, sand or aggregate base. Brick has been used for hundreds of years for paving but has been phased out with the introduction of asphalt and concrete.
- » Stone is a durable paving surface available in either natural or synthetic form. Natural paving stone is graded based on its hardness, poros-

ity and abrasion resistance.

- » Gravel, crushed rock, crushed shells, decomposed granite, crusher fines, cinders and crushed brick can be used as aggregate that mixes with soil and water to create a fairly solid surface. This surface can be dusty and is not common for high-traffic areas.
- » Porous pavements are concrete grid pavers that can be installed to produce a flat, continuous, patterned concrete surfaces and are usually filled with crushed rock or stone to create the parking surface.

Other types of surfaces are being tested and may be used for parking and driveways in the future. But, as with any time-tested product, the cost of installation and maintenance and the durability still determine what will be used.



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ask the inspector

What does an inspector look for in parking lots and walkways on a commercial property?

During the inspection process, the inspector will describe the type of parking — for example, surface, parking garage or sub-surface.

The inspector will also describe the types of materials used to create the parking surface, usually concrete, asphalt or a combination of the two. A common parking lot design is to use concrete for the curb and gutter, and asphalt for the main part of the lot.

And, last but not least, the inspector will describe the condition of the parking, documenting potholes, pooling water, cracking and lack of sealant.

Walkways are usually concrete, and the inspector is looking for cracking, settlement and signs of movement that may cause a trip hazard for a person using the walkway.



maintenance matters

Proper maintenance of your parking lot depends on the material it is constructed of:

Asphalt Lots

Asphalt pavement is used in lots because it is durable, cost-effective and fairly simple to install. When installed over a proper sub-base of crushed rock, it can withstand heavier loads, and when combined with proper asphalt maintenance, it can last for many years.

As soon as asphalt pavement is installed, it begins to cool and the aging process begins. When oxygen in the air and water combine with the asphaltic binder, a chemical reaction occurs. This reaction is necessary for

the pavement to create a solid surface, but if this process is not slowed, the asphalt will deteriorate. Gas, oil, sun oxidation, salt, water penetration, and hot and cold weather can break down the asphaltic binder.

To help protect against these elements, a seal coat is often used to protect the asphalt. Most seal coats are coal tar- or asphalt-based and should be applied on a regular basis every 24 to 48 months. When cracking or depressions are visible in the asphalt, repairs should be made to reduce the amount of damage. When water flows into the cracks in the winter, the freeze-thaw cycle can create even more damage.

Concrete Lots and Walkways

Concrete is one of the most common materials used in construction, especially for walkways and parking areas. It has an excellent service life if installed and maintained properly. As with asphalt, water can have an impact on the strength and durability of concrete. If water is allowed to undermine the substrate under the concrete or enter cracks in the concrete and go through the freeze-thaw cycle, the concrete usually deteriorates more rapidly.

Expansion control joints are used to control the movement and cracking of concrete. These joints and other cracks can be sealed to keep water out and protect the concrete from further cracking. If settlement occurs, the area may be mud-jacked. This is a process that stabilizes sunken concrete by pumping a slurry mix of cement through the concrete, pushing it up from below. In some areas, an epoxy coating can be applied to concrete to help seal and protect it from salt and other elements.