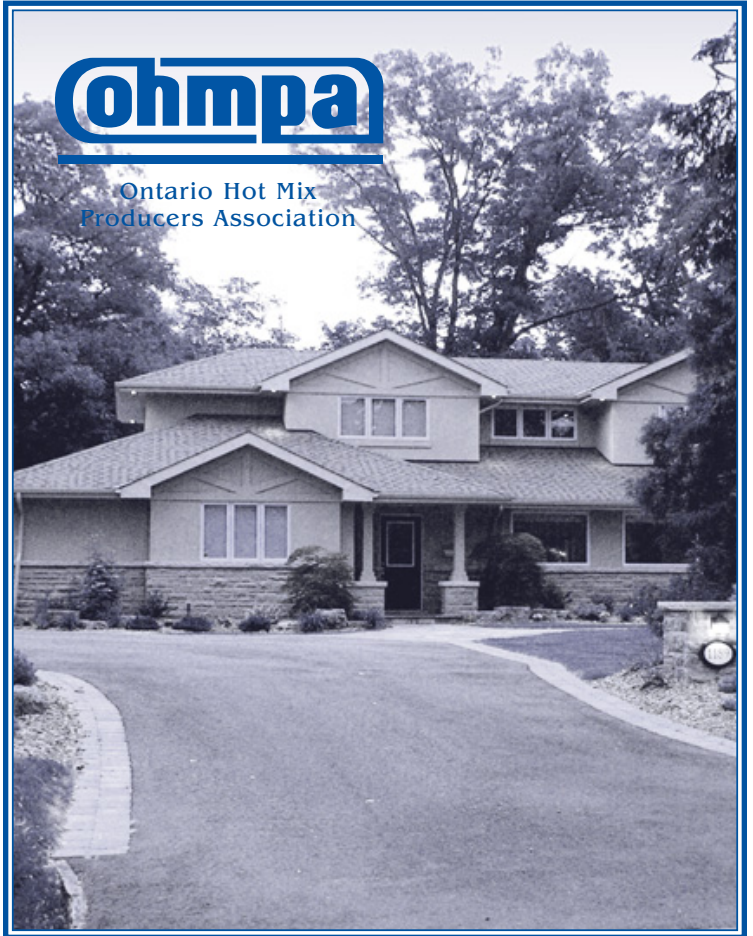


The ABCs of

DRIVEWAYS



Ontario Hot Mix
Producers Association



The ABCs of Driveways

An asphalt driveway is more than just the quickest route from the road to your garage.

It's a great place to show off your new car to the neighbourhood; ideal for a game of hoops; perfect for road hockey; and the best spot for a hopscotch court (try drawing lines and numbers on a gravel driveway and see how far you get).

But most of all, a well-built well-maintained asphalt driveway adds curb appeal to your house. It just looks right. And for those with a designer flair, coloured and patterned asphalt pavements offer a nice alternative to basic black.

Asphalt driveways are easy to keep free of snow and ice in the winter and relatively dirt-free in the summer. They are economical, durable and long lasting. And they are easy to maintain.

So for driveways, lanes and small parking lots, how do you get the perfect asphalt pavement for your property? It's as easy as ABC:

A. Good design

B. Good materials

C. Good construction

Good Design

A well-designed driveway will give virtually trouble free service for up to 20 years.

The Base: Driveways are built from the ground up so you need to start with a solid base.

- ▲ The subgrade (the ground on which the driveway is laid) must be smooth, firm, and even and contoured to match the layout of the drive. It should be free of organic material and topsoil.
- ▲ Use between 6 inches (150mm) and 8 inches (200mm) of properly compacted crushed granular base aggregate on top of the subgrade.
- ▲ For re-grading or widening driveways, specify enough crushed granular base aggregate to ensure proper drainage.

The Pavement: What you see is not necessarily what you get. Just because it is smooth doesn't mean it's good. It is the thickness and the compaction of the pavement that define quality.

- ▲ Driveways need a minimum compacted thickness of 2 inches (50mm) of hot mix asphalt.
- ▲ As a rule of thumb the compacted thickness of each asphalt layer is typically about three quarters the thickness of loose hot asphalt mix. Every driveway contractor should quote the compacted thickness of the pavement in the contract to eliminate any confusion and avoid any disputes.
- ▲ For a more durable driveway use a 2 inch (50mm) HMA base course followed by a 1.5 inch (40mm) surface course.

Drainage: Since water drains off asphalt pavement, keeping it away from buildings and from the sub-grade is critical.

- ▲ The pavement should have a slope from crown to edge - typically a quarter of an inch per foot (2cms for each metre of width).
- ▲ An 18-inch (460mm) fall is recommended for every 100 feet (30 metres) of driveway.

- ▲ Drainage must be away from buildings and water must not be allowed to rest on the edges of the pavement.
- ▲ Underdrains are not usually needed.

Good Materials

While to the untrained eye, all asphalt pavements look alike, there is in fact a wide range of hot mix asphalt mixes, each with specific properties to meet specific conditions.

- ▲ For driveways where strength is not a particular concern, conventional HMA mixes are perfectly acceptable. Typically an HL-8 mix (19mm Superpave mix) works well as the base course. An HL-3 mix (12.5mm Superpave mix) used for roads and parking lots can be used for the surface course although many prefer driveway mixes such as HL-3 Fine or HL-3A (finer 12.5mm Superpave mixes) for their finer appearance.
- ▲ A good asphalt hot mix producer will ensure that the asphalt hot mix is appropriate for local environmental conditions. The asphalt cement needed for the relatively balmy temperatures of Windsor, for example, is not the same as the asphalt cement needed for the more frigid climates of Kapuskasing.
- ▲ For the best asphalt hot mix for your driveway, make sure your contractor gets hot mix asphalt from an established reputable producer (OHMPA members are a good place to start).

Good Construction

Most driveway paving contractors are in business for the long term - providing durable, well built driveways. And while good contractors come in all shapes and sizes, they all share the same basic characteristics: well-maintained equipment, well-trained employees, and an interest in using only the best construction practices.

- ▲ The subgrade should be smooth and firm. The contractor should remove soft areas and repair with compacted crushed aggregate.
- ▲ For new houses, make sure that the ground has settled first even though it may mean waiting several months before starting construction.

- ▲ The granular base must be spread and compacted to a uniform thickness.
- ▲ Weed killer sprayed on the base can prevent weeds growing through any small cracks in the pavement.
- ▲ The hot mix asphalt must arrive at the job at the proper temperature. If the mix is too hot (look for blue smoke), you may get some surface ravelling and possible premature hardening. If the mix is too cold, it will not compact properly. For best results, pave when the weather is warm and dry.
- ▲ Driveway contractors should not lay down more than 2 inches (5cm) of compacted asphalt hot mix in a single lift.
- ▲ Unless access is severely limited, contractors should avoid hand placement of the asphalt hot mix.
- ▲ Rolling and compaction should start as soon as the hot mix asphalt can be compacted without displacement and continue until the mix is thoroughly compacted and all roller marks have disappeared

Tips for Home Owners

Most people know as much about asphalt pavement as they do about programming their VCR, which is to say not very much. And that's to be expected. After all, how many roads or driveways does the average person build?

So when it comes to getting a new driveway, how can an average homeowner make sure that the paving contractor does a good job? Here are a few suggestions.

- ▲ Deal only with reputable contractors. If someone knocks at your door offering a special price because they happen to have some asphalt left over from a job down the street, shut the door as quickly as possible.
- ▲ Get at least three quotes and make sure that everyone is quoting on the same quantities and the same specifications. Take special care to make sure that the asphalt thickness quoted is compacted thickness. And remember that the lowest price is not always the best price.

- ▲ Get references before you pick the winning bid.
- ▲ Check the contract for extras. Who is responsible for moving fences, lights or overhead wires? What about damage to grass, plants, bushes or trees?
- ▲ Make sure that the contract includes:
 - starting and completion dates
 - the contractor's responsibility for workmanship
 - the depth of crushed aggregate to be provided
 - the number of millimetres or inches of compacted asphalt
 - the types of hot mix that will be used
 - the dimensions of the pavement
 - provisions to be made for drainage
 - the warranty period and what it covers
- ▲ Check with utility companies to find out if there are any buried utilities before you start.
- ▲ Make sure that you have a permit if needed and that the new construction will meet city codes and placement requirements.
- ▲ Check your property boundary before you begin. If you don't, you may end up paving your neighbour's lot.

Rejuvenating Driveways

Not every driveway needs to be completely rebuilt.

Overlaying can rejuvenate an older driveway with excellent results as long as the existing driveway is still structurally sound.

The contractor should patch or repair any holes, cracks or areas where the existing asphalt may have softened (usually due to spills of petroleum based products) before paving otherwise the trouble spots can make their way up through the new asphalt. Distresses such as alligator cracking must be repaired otherwise they will reappear in the new asphalt.

The old asphalt should be thoroughly cleaned and sprayed with a tack coat before the new overlay is applied. The tack coat will bond the new asphalt to the existing driveway.

The new asphalt surface course should be 1-1/2 to 2 inches thick (40mm to 50mm) and shaped to provide adequate drainage.

Removing and replacing the asphalt is also an option for rejuvenating old driveways.

Typically additional granular is required to provide proper grade and drainage.

Any areas where the base has failed must be repaired. The contractor should remove the existing granular and soft subgrade and replace it with compacted crushed granular aggregate.



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The Fine Print: This brochure is designed as a general guide. It is not a design manual. Professional engineers should be consulted to ensure that pavements are not only designed functionally but also economically to fit your budget requirements.